HOW SHOULD 'INFORMAL SETTLEMENT' BE UNDERSTOOD IN BEIJING CHINA?

LING GE

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ABSTRACT

Informal settlements have become an essential part of urban habitation patterns both globally and in China. This research reviews the interaction of industrialisation, urbanisation, migration and the informal economy alongside institutional factors that have encouraged the development of informal settlements in Beijing. Then it asks and attempts to answer the research question: How should 'informal settlement' be understood in Beijing, China?

This research develops the empirical study in three phases. Firstly, it explores government approaches to informal settlements and their spatial distribution in Beijing from political and academic elites' perceptions. Secondly, it profiles the functions that different types of informal settlements perform currently in Beijing through a survey. Thirdly, it investigates the needs of informal settlement dwellers, and how Beijing fits with the global conceptual understandings of informal settlements.

This research makes four key findings to our understanding of informal settlements in Beijing. First, it maps out the spatial configuration of informal settlements, which are dispersed throughout Beijing, and documents diversity in physical manifestation of informal settlements, including evolved new types and changing complications within each type. In this sense, it provides an overall picture of Beijing informal settlements geographically and typologically. Second, it expands the understanding of informal settlements that to define the informal is not only determined by norms, regulations or laws, but also by the extent to which they are enforced; and the intensity of their enforcement depends on how government officials choose to interpret policies. Third, it suggests informal settlements satisfy dweller's housing need because they are merely a sleeping place rather than home, and dwellers care more about socio-economic needs such as earning/saving money and social networks. Finally, it predicts the unstoppable trend of informal settlements in Beijing considering the enormous income gap between urban and rural China, together with the existence of informal economy.

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DECLARATION

I declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for an award at this, or any other, University. All source are acknowledged as Bibliography.

CHAPTER 1: INTRODUCTION

1.1 Background and the relevance of this research

Along with the process of rapid urbanisation and rural-to-urban migration, urban housing in China is becoming unaffordable. In addition, the Chinese *hukou* (household registration) system has been used as a basis for deciding who has access to urban services (Wu, 2002). This means that many migrants who reside in cities are ineligible for support and become 'outsiders', excluded from benefits related to housing subsidy, stable employment, health care and so on which local residents enjoy (Chan, 2009; Li, Li & Chen, 2010).

As a result, unprecedented sub-standard housing sprawl in and around Beijing has occurred, with evidence suggesting that millions of migrant workers are living in underground basements, urban villages, and subdivided flats. Moreover, Beijing, as China's capital city, has additional challenges with high population density but limited land and housing resources. As an essential part of urban inhabitation patterns (Davis, 2006; Milbert, 2006), informal settlements have become a major concern for the Beijing government. On the one hand, informal settlements make up for the inefficiencies of public land management and provide millions of migrants with affordable and habitable shelter; on the other hand, they are associated with problematic issues such as inappropriate infrastructure, insecure land tenure, spatial segregation, inequalities and social exclusion.

This study reviews urban governance literature about the development of informal settlements in both the global and the Chinese context to explore its theoretical foundations and develop specific research questions; it then examines the drivers of informal settlements in China and Beijing, including the key debate within authorities regarding whose responsibility it is to accommodate this group of dwellers. The following research gaps in the theoretical understanding, empirical knowledge and methodological approach have been identified:

Gaps in theoretical understanding: There have been a small number of research studies (Feng, 2007; Zhao & Yan, 2008) which have outlined informal settlement concepts in general referring to settlements which are unauthorised and which disobey common regulations influenced by the formal/informal dichotomy. But in terms of understanding how informal settlement is also determined by the local legal system, limited research has

investigated how Beijing fits with the global conceptual understanding of informal settlements considering the local government's attitudes as well as the dwellers' perspectives.

Gaps in empirical knowledge: Despite the large amount of published work on informal settlements in other cities of China, there is very limited empirical data on Beijing. The existing literature on informal settlements in Beijing has largely focused on segmented cases (types) of informal settlement, for example the urban village study – its evolvement, development and reconstruction (Zheng & Han, 2003; Zhang, 2005), and the underground basement study – its physical characteristics and changing policies towards it (Zhang & Pan, 2009; Li, 2011; Guo, Lv & Yang, 2015). Even so, there is lack of knowledge on what is happening in Beijing currently, how many informal settlements are there, where they are located and whether there are changing types of them in Beijing as a whole picture.

Gaps in methodological approach: Quantitative methods (such as surveys) have been adopted by several studies (Beijing Academy of Social Science, 2005; Li, 2011) to investigate the physical conditions or socio-economic status of people living in informal settlements. However, no qualitative data have been collected from the perspectives of dwellers who actually live in informal settlements, of neighbours who live around informal settlement dwellers sharing public areas and services with them, or of those elites, both government authorities and academic experts, who understand why policy has developed in the way that it has. Indeed, most existing evidence has come from qualitative methods such as interviews with informal settlement dwellers, or is based on news reports which are unlikely to have been conducted in a rigorous manner with attention to reliability and validity.

1.2 The development of research questions

This current study differs from previous research since it explores the key question 'How should "informal settlement" be understood in Beijing?' In order to answer this question, the following five sub-questions are investigated in the thesis:

1. What is the spatial distribution of informal settlements in Beijing?

2. What functions do various types of informal settlement perform in Beijing?

This will also be explored from different perspectives considering:

3. What are elites' understanding of the development and governance of informal settlements in Beijing?

4. What are informal settlements dwellers' views about where they live?

5. How does Beijing fit with the global conceptual understandings of informal settlements?

The first four questions were answered through fieldwork, which was designed to make an empirical contribution to knowledge. Fieldwork consisting of analysis of documentary materials and elite interviews was carried out in order to establish the spatial distribution of informal settlements in Beijing. The fieldwork also acquired empirical evidence through interviews with political and academic elites, surveys of informal settlement dwellers, and in-depth interviews about their life in informal settlements. Three principal types of informal settlement in Beijing were explored, urban villages, underground basements and group-rented housing, and different perspectives were gathered at both elite and dweller level.

After drawing out the findings from these four questions, it became possible to answer the fifth question, gaining a more systematic understanding of informal settlements in Beijing and contrasting this with existing global concepts and theories of informal settlements. Based on the findings and on discussion of all the questions, this study will suggest likely future trends of informal settlement development and seek to offer policy recommendations to the Beijing government.

1.3 Methodological approach

A mixed-method design was applied in this study, combining both quantitative and qualitative approaches, to understand the issue more completely (Sandelowski, 2000; Creswell, 2002). A three-phase, sequential, mixed-method design was applied which combined sequential and concurrent investigation and is most commonly used in studies which have numerous questions being explored to advance one programmatic objective. The rationale for choosing a three-phase, sequential design was that this study examined a problem "through an iteration of connected quantitative and qualitative studies that are sequentially aligned, with each new approach building on what was learned previously to address a central programme objective" (Creswell & Clark, 2007: 100). It was intended that the quantitative data and their subsequent analysis would provide a general and overall

understanding of the research problem. The qualitative data and their analysis refined and explained the statistical results by exploring participants' views in more depth.

A visual model of the procedures for the three-phase, sequential, mixed-method design in this study is presented in Figure 1-1. The contents include the five sub-questions and specific questions under each sub-question, as well as the data collection methods and their relevance to the research questions. The sequence of each method was conducted as follows: the quantitative and qualitative methods in phase 1 were integrated for the start of phase 2, in terms of providing a sample-frame for the subsequent survey; then in phase 3, qualitative interview questions were derived from the survey results to collect dwellers' opinions and experiences over three distinct periods, before, during and after living in an informal settlement; based on the three phases, the acquired data were then integrated for discussion of the outcomes of the whole study and in order to identify implications for further study.

Figure 1-1 Visual model of three-phase sequential mixed methods design
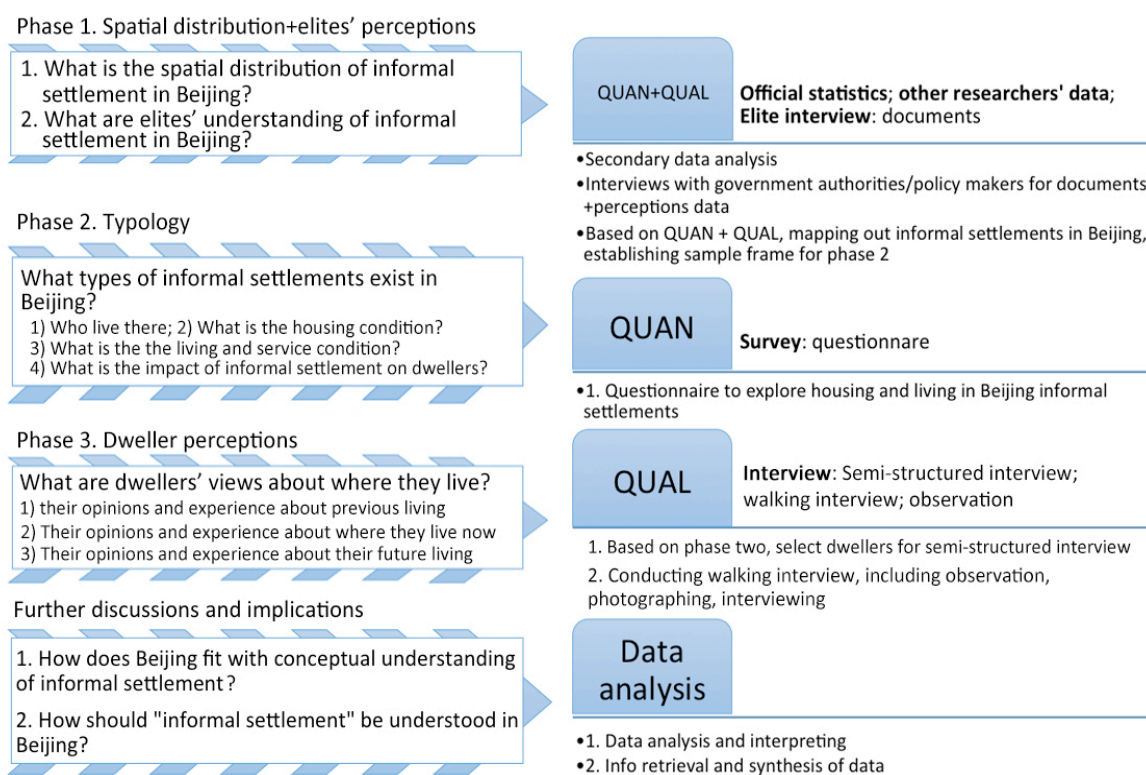
Note:

1. The capital letters of 'QUAN' and 'QUAL' and the small letters of 'quan' and 'qual' indicate the priority of each methodology: 'QUAN' signifies higher priority than 'qual'. 2. '+' and '/' indicate the implementation of quantitative and qualitative methodology: '+' signifies concurrently and '/' signifies chronologically.

Source: created by the author

1.4 Structure of the research

Figure 1-2 outlines the eleven chapters of this research:

Figure 1-2 Structure of the research
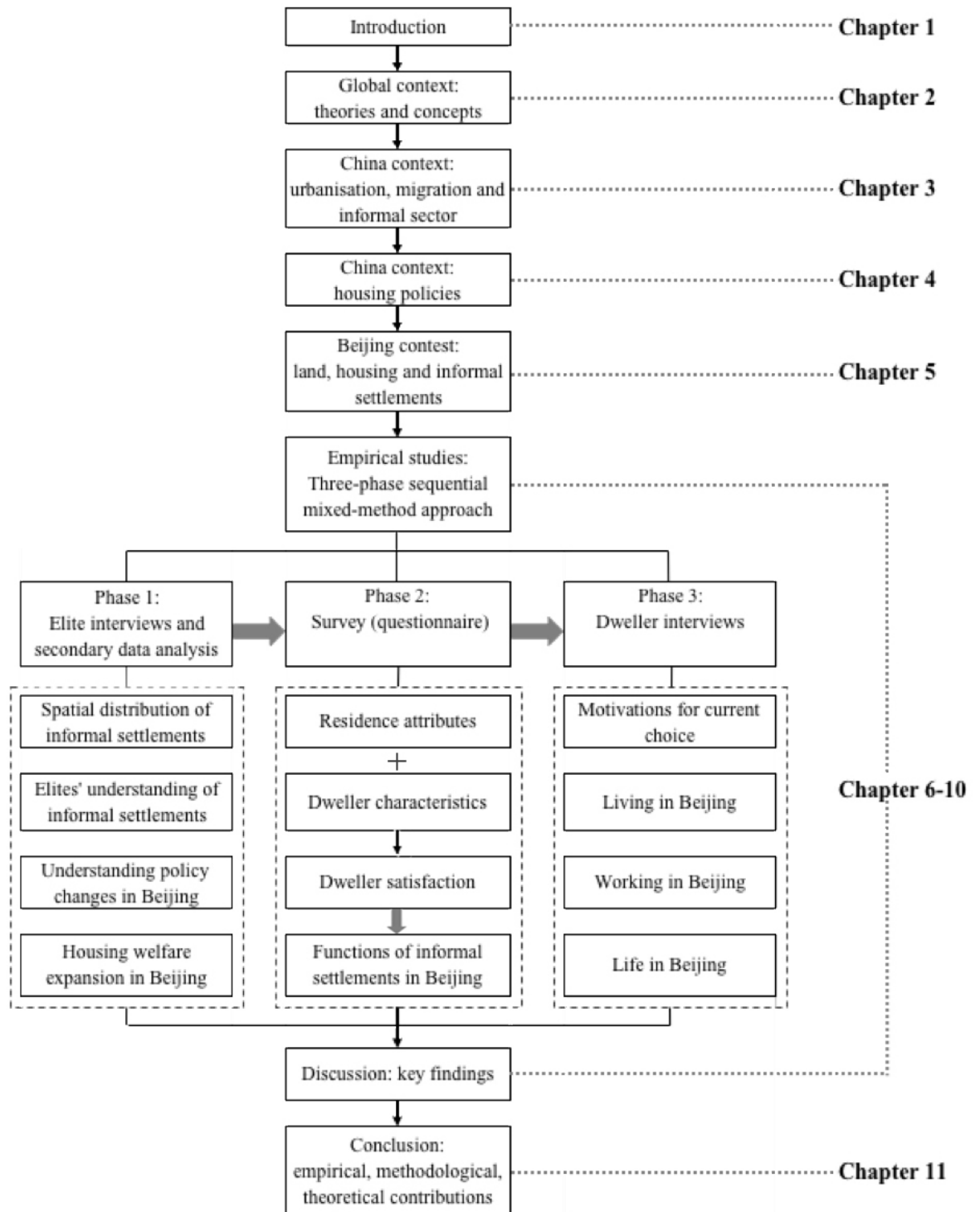
Source: created by the author

Following this introductory chapter, the next four chapters, from Chapter 2 to Chapter 5, review the literature and provide the background of this study in order to identify the research gaps. Chapter 2 explores informal settlements in a global context in terms of the theoretical foundation for informal settlement studies and its worldwide concept. Chapters 3 and 4 discuss the Chinese context, including urbanisation, migration, the informal sector and housing policies, and explain how these driving forces interact with each other and result in the emergence of informal settlements in China. Chapter 5 further introduces the Beijing context with its specific capital city background.

Chapter 6 begins with an explanation of the rationale of this study by identifying the research gaps and research questions which the study is designed to address. Then it outlines the empirical studies through a three-phase, sequential, mixed-method research design, followed by the findings from phases 1, 2 and 3. Chapter 7 shows the results of phase 1 and explores the understanding of elites on informal settlements and the government's attitudes towards informal settlements. Chapter 8 presents a data analysis of phase 2 and explains how residence attributes and dweller characteristics influence people's satisfaction of their living experience, in order to conclude what functions and how informal settlements perform in Beijing. Chapter 9 explores the dwellers' perspectives of their motivation for living and working in Beijing.

Chapter 10 presents a discussion of the answers to the five sub-questions summarised from the findings chapters, including the spatial configuration of informal settlements in Beijing, the government's approaches to informal settlements from the political and academic elites' perceptions, the functions and social attributes of informal settlements in Beijing, and the needs of the people living there. Based on these discussions, it addresses the key research question of different understandings from four perspectives—geographical, legal, implementation and dweller—integrated to capture current informal settlements in Beijing.

Chapter 11 summarises the empirical, methodological and theoretical contributions which this research has made. The limitations of this research are also discussed and implications for further study are presented at the end of the chapter.

CHAPTER 2: INFORMAL SETTLEMENTS: A GLOBAL PHENOMENON

2.1 Introduction

Because cities serve as the social and economic centres of modern life, the population of cities and urban centres has increased tremendously in recent decades and they have become the most densely populated regions in the world (Galeon, 2008). In recent years, urban settlement problems in developing countries have reached overwhelming proportions. Linn (1983) commented that the urban housing problem is probably the most distinctive facet of the difficulties with which developing countries are confronted in their process of transition from rural to urbanised economies, and from traditional to modern societies. In addition, informal settlements in particular have increasingly become a major concern of governments, politicians, professionals and urban anthropologists of various disciplines, as well as of funding agencies. The UN-Habitat (2003) noted that in 2003, the global estimate of informal settlement dwellers was 924 million and that number is projected to increase to 2 billion by 2030 if no major changes are made to the present policies and practices of urban management.

For many years, much scholarly effort has been given to discussing the causes and implications of informal developments, and to considering the nature and context of the public policies necessary to confront it through both regularising existing informal settlements and preventing the phenomenon from expanding (Barry & Mayson, 2000; Barry & Rüther, 2005; Fernandes, 2011). Academics have also focused on the classification of typologies of settlements, on the identification of settlement characteristics, and on the generalisation of the strategies which can be adopted to deal with these problems (Kombe & Kreibich, 2000; Durand-Lasserve & Royston, 2002; Barry & Rüther, 2005).

In this chapter, I shall first outline the theoretical foundation of informal settlement studies. I shall then conceptualise informal settlement in a global context by discussing the definition, typology and characteristics of informal settlements: terminology and criteria selection will be explored to define informal settlements; the different standards for classifying informal settlement typologies will be summarised; and the physical, socio-economic, legal and dweller aspects will be analysed to characterise the nature of informal settlements. Finally, I

shall consider the phenomenon of informal settlements in China's context and explain the selection of terminology for this current study.

2.2 Theoretical foundation of informal settlement studies

Urban housing studies can be dated back to the nineteenth century and can be found in Engels's book *The Condition of the Working Class in England* (1993) in which he studied the social living space model in Manchester at that time. In the early development of urbanisation, With rapid urbanisation and migration, more scholars began to study this special habitat type (Burgess, 1925; Hoyt, 1939; Harris & Ullman, 1945). As informal settlements were part of the urban living space, scholars brought it into urban housing studies and formed different theoretical schools. In the early twentieth century, informal housing and informal settlements became an essential part of urban habitation patterns (Davis, 2006; Milbert, 2006), which aroused wider concerns in academia from various disciplines including sociology, anthropology, architecture, geography, economy and urban planning (Macedo, 2000). The three principal theoretical aspects can be summarised as follows.

Urban spatial structure.[1] The early explanation for the development of informal settlements can be seen in the findings from the Human Ecology Theory, in which researchers looked into the early urban spatial structure model and put forward spatial types of urban housing such as 'transitional zones', 'low-income residences' and 'substandard residences' (Burgess, 1925; Hoyt, 1939; Harris & Ullman, 1945). Later, McGee (1967) also studied urban spatial structure in developing countries and found some existing informal settlements, such as 'squatter' areas. Furthermore, the behaviourist school conducted in-depth investigations into individuals' residential preferences in order to explore the formation and evolution mechanism of urban living spatial structures at the micro level (Clark & Cadwallader, 1973; Knox, 2000).

Spatial economics. Neo-classical theory analysed spatial economic behaviour in order to explain the residential preferences of different income groups. Those findings opened up the economic perspective for explaining the formation of different types of residence (Alonson, 1964; Muth, 1969). Castel and Harvey, however, suggested another School of Marxism.

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[1] Urban spatial structure is the city in a variety of materials, energy and social culture accumulation in space distribution and combination of the state. It is a natural environment under the condition of the product of social and economic development and population agglomeration, but is also a city of social and economic activities in geographical space (Tian, Zu & Yuan, 2015).

They suggested that the key issues of housing preference and the real motivation for urban development and evolution are determined by the dynamic process of capital and state intervention in the reproduction of labour power (Harvey, 1973).

Housing class. The Institutional School advocated 'housing class' and Parr proposed the notion of the 'city gatekeeper' at the same time (Zhao, 2005). These concepts emphasised the differences which different groups of people confronted when they got access to housing, which was called the housing class characteristic (Rex & Moore, 1967).

As can be seen from the studies briefly discussed above, different schools have analysed and explained the formation and development of urban living space from different stances, which established the theoretical foundations for further studies of informal settlements.

2.3 Conceptualising informal settlements in a global context

2.3.1 Definitions of informal settlements

One manifestation of the complexity of informal settlements can be seen in the different names variously used to refer to them in different countries. Different languages name informal settlements differently, such as *barrios piratas* (Colombia), *favelas* (Brazil), *barrios marginales* and *pueblos jovenes* (Peru), *bidonvilles* (South Africa), *gecekondus* (Turkey), *bustees* (India and Pakistan), *setinggans* and *rumah harrams* (Malaysia), *barong-barongs* (the Philippines) and *kampungs* (Indonesia) (Saleh, 1999). Researchers have also adopted different terminologies to study settlements not within the realm of planning and legality: unplanned, informal, spontaneous, popular and irregular (El Kadi, Deboulet, cited in El-Batran and Arandel 1998). In addition, implicit descriptions are also found in previous studies, such as slum, shantytown, squatter area, spontaneous community, self-help housing and unconventional buildings. As those settlements continue to change in terms of location, quality, way of occupation and tenure issues, the terminologies used in different studies have shown the diversity of the phenomenon in different contexts across the world.

The list of informal settlement terminologies indicates the numerous types of informal settlements in different countries. UNCHS (1987:14-15) suggested that within the broad types there may be so much variation as to defy generalisation. So there is lack of definition consistency of 'informal settlement' across the world. Researchers have found that the difficulty in agreeing a consistent worldwide definition resulted from variances in the

relative importance of factors within different contexts, such as the official attitudes to existing or new illegal settlements (Hardoy & Satterthwaite, 1989); norms and procedures, regulations for the subdivision of land and building, and the extent to which they are enforced (Ashenfelter & Smith, 1979; Hardoy & Satterthwaite, 1989; Yaniv, 2001; Kanbur, 2009); and the provision of infrastructure and services in different cities and towns (Hardoy & Satterthwaite, 1989: 66-67, 72).

The following paragraphs review the variations in the criteria for defining informal settlements in the global context. On the one hand, this serves to introduce briefly how informal settlements are referred to in other countries; on the other hand, it enables a better understanding of informal settlements for this current study by including the contextual background of China and specifically of Beijing, to capture the common features from the same area and district, under unified governmental regulations, and within one legal system.

Different criteria for defining informal settlements

It is suggested that the definitions in the UN-Habitat programme are the most widely applicable (WHO, 1999). That programme defined informal settlements as:

> "1) Residential areas where a group of housing units has been constructed on land to which the occupants have no legal claim, or which they occupy illegally;
>
> 2) Unplanned settlements and areas where housing is not in compliance with current planning and building regulations (unauthorized housing)." (UN, 1997)

It can be seen from the UN definition that housing informality covers both land and property. Macedo (2000) also found informal settlements developing from land occupation to property right acquisition, which is contrary to the flow of formal housing development. Figure 2-1 shows a comparison of these two development models, and informal settlements show a 'back to front' development process, from land occupation to housing construction to infrastructure construction to planning to property rights security. In order to gain legal land and property rights, informal settlement dwellers have to gamble with governments and landowners (Macedo, 2000; Majale, 2008). A special 'resistance space' has been formed along the battle lines between community and governments to fight for urban living space (Skuse & Counsins, 2007). This space is comprised of dwellers' needs for a habitat that allows them to pursue what may be described as 'instrumental' housing needs. These 'needs'

simply refer to a basic living space which is not costly and therefore allows for the savings to be sent back to their hometown.

Figure 2-1 Development model for informal and formal settlements
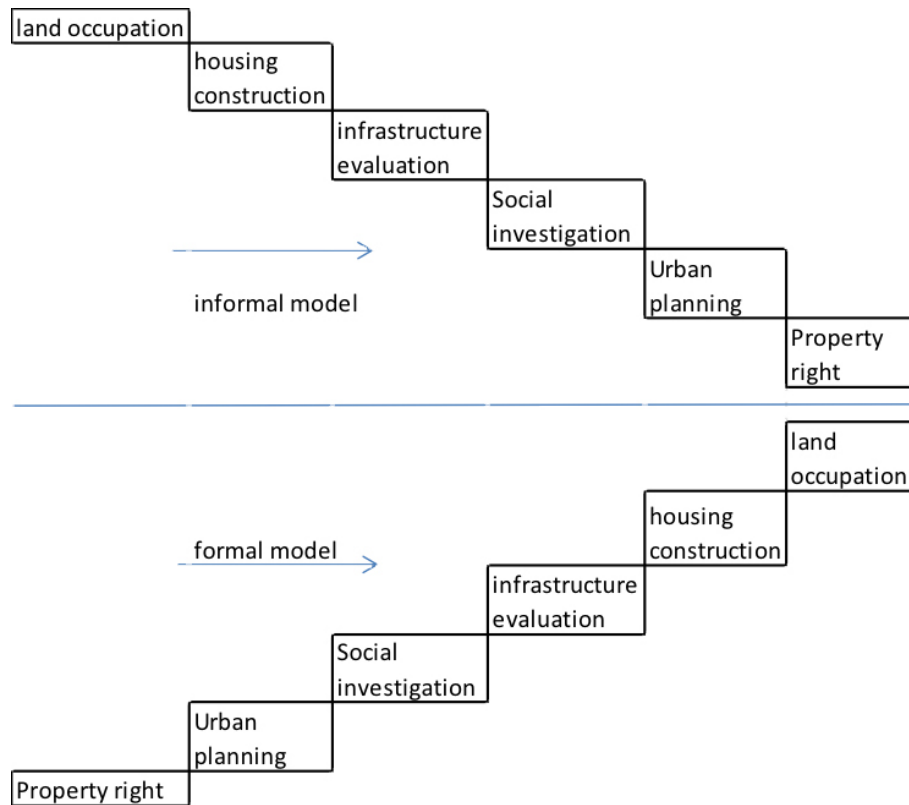
Source: Macedo, 2000

Much scholarly effort has also been put into defining informal settlements by exploring the physical, social and legitimate aspects. The following paragraphs follow Macedo's (2000) informal settlement development process and summarise different scholars' definitions of informal settlements.

From the aspect of the land on which informal settlements are built, Abbott and Douglas (2003) suggested that informal settlements are usually developed either by people squatting on land or by the illegal subdivision of land by land developers. A number of researchers have preferred to use 'illegal occupation of land' rather than simply 'squatting' to define housing informality (Wang, 2008; Wang & Long, 2009; Li *et al*., 2012). But Fernandes (2011) found that in some areas, residents in informal settlements developed on private land often have bills of sale or related documents, and that these properties are bought and sold regularly. It was identified from UNSTAT programmes (2006) that 'informal settlements'

referred to land subdivision without legal permission which often happens when land in peri-urban areas is invaded.

From the aspect of construction, it has been largely emphasised that informal settlements are a spontaneous housing construction (Wang & Long, 2009) and can be informal on several levels (Magrinyà, 2005). Mason *et al*. (1997) described them as informal because they are intensive self-built houses on original living areas or informal housing property areas. UN-Habitat (2005) further found that most of these houses are constructed on land without permission from landowners and are often built from materials which do not meet conventional construction standards. Magrinyà (2005) considered housing construction as informal when it is provided by construction firms which are not licensed and whose work is not subject to guarantees. In turn, such housing construction is less likely to conform to the relevant planning and building regulations.

From the aspect of infrastructural services, informal settlements are often constructed without formal planning, as well as without the most basic facilities and services (Abbott & Douglas, 2003). Yan and Zhao (2009) stated that the habitat areas of informal settlements are occupied by substandard housing, such as slums. Even though some slums are built on legally leased land, they typically have inadequate public facilities such as sanitation and water supply, but high population density.

From the perspective of social investigation, informal settlement dwellers are usually a group of individuals living in poverty, and informal settlements are the products of their housing needs for temporary residence (Mason *et al*., 1997; Cabane, 2007). In addition, Cabane (2007) found that some residents are informal migrants with no authority to be there. That is why they often find places located on the urban fringes or grey zones in terms of regulation within cities. So one definition of informal settlements implies the application of social value by a particular group of a particular social class (Feng 2007). In this respect, although an informal settlement is unauthorised and lacks formal regulation, it nevertheless follows some form of rules which have not yet been recognised by the authorities.

From the aspect of legitimacy, scholars have regarded housing as informal when it does not conform to the laws and regulatory frameworks set up in the environment in which it spontaneously occurs (Hardoy & Satterthwaite, 1989; Nabutola, 2004). Yan and Zhao (2009) specified the core feature of informal settlements as the absence of legal rights. As well as

the land rights discussed above, Dowall (1991) showed that the lack of property rights also causes housing informality. For example, squatting refers to illegally occupying land without property rights or the permission of the landowners (UK GOV, 2014). Fernandes (2011) suggested that the absence of a *de jure* or legal title is the key aspect of informality, although many urban residents feel secure just with customary rights.[2] Dowall (1991) stated that it is the increasing incapability of the formal sector to deliver affordable housing to low- and moderate-income households that leads to this particular kind of 'affordable housing', which is developed and operated outside the legal system and beyond government control.

Table 2-1 summarises the typical definitions suggested by the different scholars discussed above in chronological order. Their statements also indicate that to understand informal settlements is context-specific and multi-dimensional, covering physical, socio-economic and legal aspects, and that these intensively growing settlements are also accompanied by a series of social problems and ecosystem issues.

Table 2-1: Typical definitions of informal settlements

Scholars	Definition
Cymet,1992	disordered land occupation; unauthorised; lack of property rights; residential mobility; inadequate infrastructure
UN-Habitat, 1993	1) residential areas where a group of housing units has been constructed on land to which the occupants have no legal claim, or which they occupy illegally; 2) unplanned settlements and areas where housing is not in compliance with current planning and building regulations (unauthorised housing)
Dowall, 1991	special kind of 'affordable housing' which lacks property rights and legal regulation
Mason, 1997	intensive self-built houses on an original living area or informal housing property area; products of the need of the urban poor for housing; temporary housing constructed with all kinds of materials growing intensively, accompanied by a series of social problems and ecosystem issues.

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[2] This refers to *de facto* property rights of ownership based on customary practices.

Macedo, 2000	unplanned; lack of infrastructure; occupied instinctively or purposefully
Fekade, 2000	self-planned residence
Castillo, 2002	ways taken by a group of stakeholders (residents, developers, planners, landowners and governments) to acquire land and housing in order to meet the demands for urban living
Abbott & Douglas, 2003	developed either by people squatting on land or by the illegal subdivision of land by land developers; constructed without formal planning and without even the most basic facilities and services.
Nabutola, 2004	does not conform to the normal laws and regulatory frameworks; can be informal on several levels
UNSTAT, 2005; 2006	does not meet the requirements of relevant housing laws and regulations in local areas; illegal or semi-legal urbanisation; land subdivision happening when land in peri-urban areas is invaded without legal permission
Smart, 2007	the emergence of unregulated buildings in low-income countries resulting from rapid urbanisation, poverty and the lack of local government's regulation and management
Cabane, 2007	temporary residences built by informal migrants without authority, usually located on the urban fringe or grey zones in terms of regulation within cities
Van Gelde, 2007	unauthorised self-help construction
Yan & Zhao, 2009	no legal rights; spontaneous housing not approved by local governments
Fernandes, 2011	no formal tittle

Source: summarised by the author

2.3.2 Typologies of informal settlements

As the terms for informal settlements and slums, squats and low-income residences have regularly been used interchangeably by governments and organisations, it is necessary to clarify or systemise the typology and characteristics of informal settlements. Table 2-2 summarises all their points of view and shows the classification of informal settlement types.

Turner (1969) classified four types of informal settlement in terms of their development level and property rights: exploratory settlements; incipient squatter settlements; semi-squatter settlements; and provisional squatter settlements. Exploratory settlements represent the initial stage of illegal occupiers' aim to establish permanent habitats; incipient squatter settlements show the second stage, characterised by unfixed property rights but with investment in fixed assets; semi-squatter settlements indicate the advanced semi-formal stage which has more fixed property rights and material investment; and provisional squatter settlements have no or little construction investment.

The informality of property rights also became a criterion for classifying types of informal settlement. Ward (1983; 1986) and Azuela (1987) divided informal settlements into three types: unauthorised subdivisions of private property; invasions of either public or private property; and the subdivision of agrarian community lands.

According to the living conditions, informal settlements can be classified into different types. Based on 173 cities' statistics from 1990 to 2003, the UN-Habitat (2004) classified slums[3] into four categories: type D (the worst living conditions) mainly found in Africa, especially in areas with political unrest and serious armed conflicts; type C (worse living conditions) is typical for Africa but also exits in China and India with the main characteristic of lack of sanitation; type B (better living conditions) is much better in sanitation than type C; the main problems are the low level of the water supply network and inadequate living space. This type appears mostly in India and Indonesia but is partly found in western Africa and Central America; type A (the best living conditions) has the lowest level of living rights deprivation and the best living conditions; Latin America, the Caribbean, east Asia, west Asia and north Africa mostly have most this type of residence.

According to the urban forms and building types which have been identified (Fekade, 2000), informal settlements consist of two types: one is the result of the informal development process raised by low-income residents. This development process represents a horizontal increase in house construction and urban density through the addition and transformation of people's own dwellings. Limited finance and technology restrict its vertical densification. The other is entrepreneurial or formal, such as development led by land developers and real-estate enterprises which construct flats or buildings in informal settlement areas. This

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[3] The term 'slum' here refers to the informal settlements in most UN Habitat programmes

development process represents a vertical increase in house construction form with a high utility of land density.

Kombe (2005) proposed a three-stage classification of informal settlement development:

1. The young or initial stage; in this period, residents who need housing turn agricultural land in the urban fringe into residential land;

2. The rapid development stage; the land market has gradually become more popular, attracting the attention of middle- and upper-class buyers and the housing density is also higher than in the previous stage;

3. The asymptotic stage; the land for housing construction in this period is almost exhausted. New housing can only be built by increasing the density or by the limited erosion of open space.

Table 2-2 Classification of informal settlement types

Scholar	Classifying standard	Types and examples
Turner, 1969	Developing level and property rights characteristics	Exploratory settlements; Incipient squatter settlements; Semi-squatter settlements; Provisional squatter settlements.
Ward, 1983; 1986; Azuela, 1987	Informality of property rights	Unauthorized subdivision of private land; Public or private land occupation; Community land subdivision
Fekade, 2000	Urban forms and building types	Horizontal densification by low-income residents; Vertical densification by land developers and real-estate enterprises.
UN-Habitat, 2004	Living conditions	Type A (the best living conditions); Type B (better living conditions); Type C (worse living conditions); Type D (the worst living conditions).
Kombe, 2005	Development stage	Young or initial stage; Rapid development stage;

		Asymptotic stage.

Source: summarised by the author

Majale (1993) noted the multiplicity of urban informal settlements in developing countries and found that there can also be extreme variation within the generic types. So treating all types as a single category creates confusion and makes it impossible to understand the dynamics of informal settlements in developing countries and their housing markets (UNCHS, 1987:15). There is also classification according to unique features consisting of different sets of informal characteristics. Slums and squatter settlements are widely investigated under this premise.

Slums and squatter settlements

UN-Habitat (2004) suggested that the term 'slums' in general describes a wide range of low-income settlements or poor human living conditions. That is why, in many studies, the definition of 'slum' has been regarded as the same as that of 'informal settlement'; the two terms are used interchangeably (Macedo, 2000; Majale, 2008). For instance, an informal settlement in Thailand is defined the same as slum, which is characterised as being overcrowded and shabby, insalubrious or the result of illegal action (UNCHS, 2004). According to the Brazilian Institute of Geography and Statistics (IBGE), 'slum' refers to a situation where there are more than fifty households' inhabiting one area with disordered housing construction, squatters on public or other owners' land, and a lack of basic infrastructures and services (UN-Habitat, 2006). A broad sense of slum includes not only the crowded low-income residential areas with the poorest condition in urban areas, but also squatters' homes in the urban fringes (Viratkapan and Perera, 2006).

In 2003, a study of UN-Habitat programmes suggested that a slum household could be defined as a group of individuals living under the same roof and lacking one or more of the five conditions below. The precise definitions presented in Box 2-1 are the results of comparing the UN-Habitat and WHO standards that are widely accepted:

1) access to an improved water supply;
2) access to improved sanitation facilities;
3) sufficient living area, not overcrowded;
4) structural quality/durability of dwellings; and

5) security of tenure.

In 2004, UN-Habitat (2004) characterised slums on spatial criteria (high densities), physical criteria (substandard housing both in structure and infrastructural services) and social and behavioural criteria ('squalor'). Slums were also divided into two broad classes (UN-Habitat, 2004: 9):

'1. Slums of hope: 'progressing' settlements, which are characterized by new, normally self-built structures, usually illegal (eg squatters) that are in, or have recently been through, a process of development, consolidation and improvement; and

2. Slums of despair: 'declining' neighbourhoods, in which environmental conditions and domestic services are undergoing a process of degeneration.'

Box 2-1 Detailed definitions of acceptable urban conditions

Access to improved water:
A household is considered to have access to improved drinking water if it has sufficient amount of water (20 litres/person/day) for family use, at an affordable price (less than 10% of the total household income), available to household members without being subject to extreme effort (less than one hour a day for the minimum sufficient quantity), especially to women and children.

- Piped connection to house or plot
- Public stand pipe serving no more than 5 households
- Bore hole
- Protected dug well
- Protected spring
- Rain water collection

Access to improved sanitation:
A household is considered to have access to improved sanitation, if an excreta disposal system, either in the form of a private toilet or a public toilet shared with a reasonable number of people, is available to household members.

- Direct connection to public sewer
- Direct connection to septic tank
- Pour flush latrine
- Ventilated improved pit latrine.

Sufficient-living area, not overcrowded
A dwelling unit is considered to provide a sufficient living area for the household members if there are fewer than three people per habitable room. Additional indicators of overcrowding have been proposed: area-level indicators such as average in-house living area per person or the number of households per area; housing-unit level indicators such as the number of persons per bed or the number of children under five per room

may also be viable. However, the number of persons per room has been shown to correlate with adverse health risks and is more commonly collected through household surveys (UN-HABITAT (1998), "Crowding and Health in Low Income Settlements of Guinea Bissau", SIEP Occasional Series No. 1).

- Fewer than 3 persons per room (minimum of four square meter)

Structural quality/durability of dwellings
A house is considered as "durable" if it is built on a non-hazardous location and has a structure permanent and adequate enough to protect its inhabitants from the extremes of climatic conditions such as rain, heat, cold, and humidity:[a]

- Permanency of Structure
- Permanent building material for the walls, roof and floor
- Compliance of building codes
- The dwelling is not in a dilapidated state
- The dwelling is not in need of major repair
- Location of house (hazardous)
- The dwelling is not located on or near toxic waste
- The dwelling is not located in a flood plain
- The dwelling is not located on a steep slope
- The dwelling is not located in a dangerous right of way (rail, highway, airport, power lines).

Security of tenure
Secure Tenure is the right of all individuals and groups to effective protection by the State against arbitrary unlawful evictions:[b]

- Evidence of documentation that can be used as proof of secure tenure status
- Either de facto or perceived/protection from forced evictions

Source: UN-Habitat, 2003

Squatter settlements have formed around large cities throughout the world, mushrooming particularly in developing countries (Smart, 2003). The key feature of squatting is the illegal occupation of land without the owner's permission (Macedo, 2000). Squatting has a close relationship with the government's land management and land use policies. Because of the inadequacy of conventional housing provision, low-income groups in urban areas look for places which they can occupy illegally to meet their housing need. Compared with slums, squatting is an illegal way to occupy property (Viratkapan, 2006) and has the characteristic of the least stable property right. Squatting has therefore been regarded as a form of informal settlement. This does not mean that informal settlements are completely illegal, and the level of illegality is influenced by different countries' legal systems.

Residents of slums and squatter settlements have also been defined in terms of their marginal positions in the city. They were geographically marginal as they resided in peripheral settlements in cities; they were economically marginal as they contributed little to production and even less to economic growth; they were socially marginal because they were unable to participate in or were excluded from formal organisations and other urban institutions; they were culturally marginal because their origins, customs, values and behaviour prevented them from entering the mainstream of urban life; and being unable to influence the process of decision-making or of resource allocation, they were also considered to be politically marginal (UNCHS 1987:13).

2.3.3 The characteristics of informal settlements

Informal settlements are spatial representations of urban informality in developing countries. They have shown dynamic characteristics within different environments and contexts and they also have different influences on their surroundings (Macedo, 2000). The plurality of informal settlements has been created outside the formal planning system on the social, economic and, frequently, physical margins of the formal sector (Majale, 1993). However, Smart (2007) suggested that they are the same in nature. In this section, therefore, I shall characterise the nature of informal settlements from the physical, socio-economic, legal and dweller's aspects.

Physical characteristics

The physical environment of informal settlements generally features low-level living conditions, overcrowded living space and poverty, and they exist at the margins of

conventional urban development. They are disadvantaged by the lack of basic infrastructures such as sanitation and drainage, public facilities such as roads and transportation, and community services such as an effective water and electricity supply (UNHSP, 2003). Dwyer (1975) found another feature – that informal settlements are not exclusively residential. He demonstrated cases of small-scale industries and small factories being infiltrated into residential sites and found that commercial activities were prevalent within them. This industrial development, as well as some forms of commercial activity, has been recognised as likely to exacerbate the difficulties of the residents of settlements with a high degree of mixed land-use (Dwyer, 1975: 37, 40-41).

Socio-economic characteristics

Zhao and Yan (2008) listed socio-economic indicators as dwellers' literacy, education, health, mortality rate, income and employment to demonstrate that informal settlements connect with poverty in that dwellers have low incomes and their living conditions are poor. However, Fernandes (2011) found that informal settlement residents represented a wider range of socio-economic categories, such as that in high-value, established urban locations, many informal residents were considered as middle-class; and in formal settlements there were also poor people living there. He also suggested that informal employment is a hallmark of informal settlements.

Grant (2006) suggested exploring informal settlements from the perspective of economic geography because they are not only used for residential purposes but also for business activity, which is an essential function for informal settlements as well as for the global economy. Special attention has been paid to the role which informal settlements play in the economy. However, Li and Deng (2008) remarked that few studies have focused on the close relationship between business activity and informal settlements, or the relationship between them and the urban economy. Furthermore, Fernandes (2011) found from the case of Rocinha, Rio de Janeiro's largest *favela*, that informal settlements also contained a dynamic and diversified informal economy involving social and capital networks, as well as the increasing presence of formal providers of consumption goods and services.

Legal characteristics

By definition, informal settlements have fundamental problems of illegality: they lack full land rights and fully secure tenure. So informal settlements are frequently at risk of being

demolished, which exposes the inhabitants to eviction by the public authorities or landowners and to 'negotiated' relocation (Porio & Crisol, 2004). However, Fernandes (2011) remarked that forced eviction was a regular public policy in some Brazilian cities in the past, but had been largely abandoned after the political democratisation in the 1980s and 1990s.

To some extent, informal development is a result of the prevailing legal order, but misunderstanding it fosters an assumed legal status which excludes people. Studies have shown that informal settlement dwellers are deprived of basic citizenship rights; in many cases, they do not even have an official address, which makes it virtually impossible for them to have access to credit in shops and banks, to receive mail, to prove they are city residents, or to require the police to have a warrant to enter their premises (UN-Habitat, 2005; Sheuya, 2007; Fernandes, 2011).

Smart (1986), however, found that although the government emphasises that the construction of informal settlements has no legal basis either in space or structure, the people in them do have some legal rights in terms of owning or occupying housing. In fact, illegal building always finds a way to survive in cities. Other scholars have argued that acknowledging the illegality of informal settlements does not mean that the dwellers have no rights, or that they should be repressed or evicted (Macedo, 2000; Porio & Crisol, 2004). In some cases, they may not have land rights of their own or the right to stay on the land which they occupy, but they almost always have other rights resulting from their occupation status. These rights need to be recognised by policy-makers and judges: for example, in the case of eviction, the residents' rights to be fairly compensated for their own building construction and community facilities (Fernandes, 2011). These studies have demonstrated that the legal dimensions of informal developments should not be dismissed, underestimated or taken for granted by policy-makers. Fernandes (2011) suggested constructing a legitimate and inclusive legal order which respects the informal process of distributive justice, rather than opposing legitimacy and legality.

Dweller characteristics

Informal settlement dwellers are found vulnerable not only because they are faced with eviction and deprivation of rights, but also because they lack the financial and other resources such as literacy, information, education, networking and access to lawyers, which

are often necessary to have access to the administrative and judicial systems (Porio & Crisol, 2004; Fernandes, 2011; Tong, Li & Li, 2014).

Apart from the deprivation, informal settlement dwellers are typically members of low-income groups from cities or migrants from rural areas to urban areas, and engaged in the informal sector. It is difficult for informal settlement dwellers to live a high-standard life and to acquire legal employment and tenure rights (Magigi and Majani, 2006). The environment and housing circumstances, such as infrastructure, social exclusion and discrimination, land transaction and the risk of deprivation discussed above, have been found to be the most important factors influencing the satisfaction level of informal settlers (Peck and Kay, 1985; Westway 2006; Zebardast, 2006).

2.4 Towards the phenomenon of informal settlement in China

In the Chinese context, 'form' has been identified as rules and authorised regulations based on the existence of judgement on right or wrong. 'Formal' usually refers to what is conventional or official. The opposite to 'formal', 'informal' in housing issues has been recognised as unauthorised form; unofficial; without regulations; disobeying common rules and generally unacceptable (Feng, 2007). This indicates that judging a settlement to be informal has been determined by national and local legal systems in China. However, laws and regulations show variations in different regions and areas in China. Consequently, the concept of informal settlement represents a regional problem. Different cities in China have been found to have different impacts on housing regulations. Moreover, even in the same area, regulations will change over time and in different surroundings. In the light of this, it is suggested that the informal settlement phenomenon is a problem of process. In addition, the boundaries between formal and informal settlements are determined by the Chinese government developing and changing rules and constantly showing dynamic changes. There also exists a 'fuzzy zone' between formal and informal settlements, which increases the complication in China.

In summary, defining informal settlements in China depends on the specific historical and regional background. Although the number and extent of informal settlements is undoubtedly of major consequence when it comes to policy articulation, limited research has been conducted in China and these aspects have been unknown until now. This is largely because of their informal status and the spontaneity with which they develop. Furthermore,

no research studies have investigated the overall situations of informal settlements in China and the predominant literature has discussed urban villages as informal settlement studies in China. These studies raised concerns about the diversity of informal settlements in China, and about whether it is possible to typologise or classify them or to understand the informality in specific regions.

Based on the discussions above, it is necessary to select one term for this current study, considering the relevance of various terms to the China context. Table 2-3 lists the terminologies chronologically, which shows clearly the flow of how they have changed. Also, the scope of each term's application could explain how relevant it is to the context of China. The relevance grows stronger as the colour changes from light to dark green. Informal settlements are known by a multitude of other names in various countries and whereas some of the terms may be appropriate in particular contexts, they can be delusory in others (Majale, 1993). Nonetheless, the diverse nomenclature is, above all, indicative of an important characteristic of such settlements, namely their extreme heterogeneity. For the purposes of this current study, the term *informal settlements* will be adopted.

Table 2-3 Comparing terminologies and selecting one for this research

Terminology	Scope	Relevance to China context	Note
Squatter settlements	as they are built on land that does not belong to those who build the houses		Mangin, 1967
Spontaneous settlements	in reference to the absence of governmental control and aid		Dwyer, 1975
Marginal settlements	in reference to their location within the city and the role the residents are assumed to play		Peattie & Aldrete-Haas, 1981
Slums	because of the squalor of the buildings and environment		Singh, 1986
Popular settlements	in recognition of the fact that they are inhabited by low income households		Risbud, 1988; Aina, 1989
Transitional settlements	as an expression of a positive view that they can, over time, become consolidated and permanent settlements		Oxfam, 2005; Leon et al, 2009
Shantytowns	in reference to the poor quality of construction		Galiani et al, 2009
Informal settlements	as they are built without formal planning permission and outside the formal construction		UN, 1997

Source: summarised by the author

2.5 Summary

In this chapter, I have discussed informal settlements as a global phenomenon in some detail. As an essential part of the urban inhabitation pattern, informal settlements arouse interdisciplinary concerns in academia, such as urban studies. Three main theoretical aspects have been summarised as the foundation for further studies, in terms of urban spatial structure, spatial economics and the housing class of informal settlements.

Based on these theories, in this chapter I have conceptualised informal settlements by providing definitions, classifying typologies and characterising the nature of informal settlements. First, there are a variety of terminologies used to refer to informal settlements and no consistent world-wide definition. Different criteria have been applied to define

informal settlements, in terms of land occupation, housing construction, infrastructural services, social investigation and legitimacy. The UN-Habitat (1997) definition is the most widely applicable as it refers to the illegal occupation of land and unauthorised housing. Second, the previous literature has shown five generally accepted standards for classifying the types of informal settlements: development level and property rights; the informality of property rights; urban forms and building types; living conditions; and stage of development. There are also two distinct types of informal settlement which have been primarily investigated for their unique features: slums and squats. Third, informal settlements are, on the whole, characterised by physically insalubrious and dehumanising living conditions; a wider range of socio-economic categories in that dwellers are mostly poor-class but partly middle-class, and a dynamic and diversified informal economy is involved; land and housing illegality, but the occupants do have other rights, enabling such dwellings always to find a way to survive; and vulnerable dwellers who are mostly low-income migrants engaged in the informal sector and deprived of the related rights.

Finally, it has been demonstrated that the informal settlement phenomenon has not been the subject of any systematic research in China. The predominant research in this area has been about urban village studies. However, informal settlements in China show a dynamic variety between regions, over time and surroundings, and in their sheer diversity. So understanding informal settlements in China depends on each instance's specific historical and regional context. This underlines the importance of the analysis of China's context in the following chapters, including urbanisation, migration, the informal sector and housing background, as well as the specific context in Beijing.

CHAPTER 3: INFORMAL SETTLEMENT EVOLVING IN CHINA: URBANISATION, MIGRATION AND INFORMAL SECTOR

3.1 Introduction

The previous chapter discussed informal settlements from a global context to the specific Chinese phenomenon and showed how contextual differences have resulted in different situations and different understandings of informal settlements. This chapter will develop the China context by exploring the driving forces behind the emergence of informal settlements in China. Over the last thirty years, China has undergone rapid industrialisation and urbanisation. During that time, there has been a dramatic increase in production activity using machines and technology which has required relative labour concentrations. Additionally, attracted by the wages for labour in industry, people in rural areas have migrated rapidly to central areas. The resulting concentration of population brought about market activities such as business undertaking, and service industries emerged which in return created more job opportunities. The interaction of all these factors led to the process of industrialisation, urbanisation, marketisation and the so-called 'modernisation' which generates the background to the driving forces behind the emergence of informal settlements in China.

The purpose of this chapter is to explore these driving forces behind the emergence of informal settlements in China. In order to provide a picture of the different factors which are interacting, it firstly discusses in particular the urbanisation in China arising from the process of industrialisation. Then it explores the huge internal migration in China and analyses the institutional barrier of the *hukou* system. Following this, the emerging urban informality, including informal employment and informal settlements, will be discussed.

3.2 Industrialisation

Industrialisation is thought to be an inevitable historical stage to achieving modernisation (Zhang, 2007). So developing industry and taking the road of industrialisation is not only the core of achieving economic growth but also the necessary choice for the Chinese government to fully realise the goal of creating an affluent society. It is therefore necessary

to review the historical development of industrialisation and its relationship with urbanisation in China.

Following the establishment of the People's Republic of China in 1949, the political leaders adopted two important development strategies: heavy industrial development to catch up with developed western countries and a grain self-sufficiency policy to reduce China's reliance on international markets (Lin *et al.*, 1996).

China established a basic industrial system in 1957 through a strategy of 'Giving the development priority to heavy industry' (the 1st Five-Year Plan[4] 1953-1957), which marked the shift from agricultural to industrial development. Then China experienced many social and political changes, policies and important events which had a great impact on the industrialisation and urbanisation process. The 'Great Leap Forward' from 1958 to 1960 was instigated to boost steel and other heavy industrial output at the expense of agricultural production to support industry through 'price scissors' (Ren, 2005). However, as land and labour were diverted from agricultural production, there was an accompanying sharp decline in arable land and sown areas. This led to a serious food shortage, triggering the Greatest Chinese Famine from 1959 to 1961 (Lin, 1990). In reaction to this, grain self-sufficiency emerged as a priority in government policy. One way to meet this goal was to reduce the urban population and keep the demand for land for non-agricultural purposes under control. To achieve this, state workers and urban high school students were sent to the countryside for 're-education' by participating in agricultural production (Selden, 1992). This was part of the Cultural Revelation which started in 1966 and continued to 1976, during which higher education institutions were all forced to close, which badly affected the development of China's economy (Yu, 2000).

These people returned to the cities in 1976 at the end of the ten-year Cultural Revolution and rural enterprises began to have access to urban technology in order to embrace rural industrialisation (Lin & Yao, 2001). In addition, the rural reforms also released a large amount of labour from agriculture and provided a base for industrial development. Since the mid-1980s, the Chinese government has fostered the development of Town-and-Village Enterprises (TVEs), the aim of which was to promote the industrialisation of rural areas by

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[4] The 'Five-Year Plan' refers to a series of social and economic development initiatives established by the Chinese government. Now China is in its 13th Five-Year Plan 2016-2020.

making the farmers "leave their rice-fields without leaving their hometown" and "move to manufactories without moving into cities" (Song & Zhu, 2012). The growth of TVEs made it possible to absorb much of the surplus labour in rural areas. Developing rural industry became a major objective for many local governments (Rozelle & Boisvert, 1995). Kung and Lin (2007) stated that the development of most TVEs occurred in coastal areas, which also experienced fast-growing urbanisation. For inland provinces, however, the dual economy was still dominant, characterised by lower levels of industrial development and large surpluses of rural labour. Most farmers had to stay on their land because of limited local non-farm opportunities and the potential cost of migration across regions (Zhang, Mount & Boisvert, 2012).

Since the launch of the economic reform and opening-up policy in 1978, China has undergone rapid industrialisation. The industrial structure also changed and focused more on the service sector (Song & Zhao, 2012). Wu (2015) calculated the value-added GDP in three sectors using data from NBS (various years) and found that the output shares in these three sectors, agriculture, industry and service, suggested the increasing development of service sector in China (*see* Figure 3-1). It can be seen in Figure 3-1 that services in China exceeded agriculture in 1985 and overtook the industrial sector (consisting of manufacturing, construction and utilities) in 2013.

Figure 3-1 Output shares in the Chinese economy's three sectors, 1978-2014
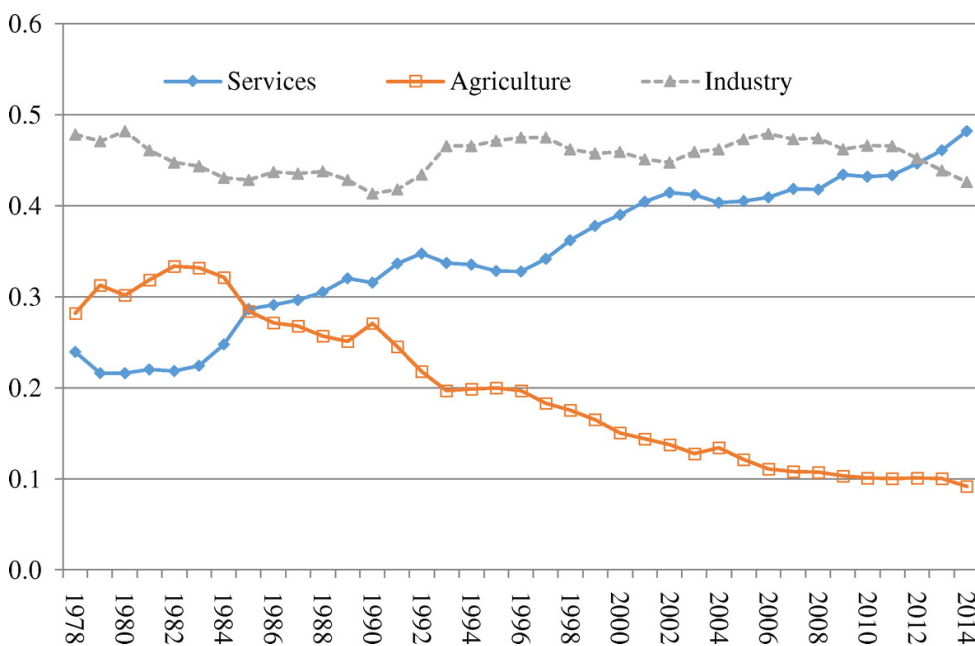
Source: Wu, 2015: 619

3.3 Urbanisation

3.3.1 Urbanisation in general

According to the Glossary of Environment Statistics (UN, 1997), *urbanisation* is defined as 1) an increase in the proportion of a population living in urban areas; and 2) the process by which a large number of people become permanently concentrated in relatively small areas, forming cities. The definition indicates that the measurement of the level of urbanisation is by the proportion of the urban population in the total population, including people living both in rural and in urban areas. As the definition shows, the rise in a country's urbanisation level could be caused by faster population growth in urban areas than in rural areas, and also by migration from rural to urban areas according to the second point in the definition.

From the eighteenth to the mid-twentieth century, most western developed counties has almost completed the process of urbanisation, which means that they had formed an established living pattern for most people inhabiting a specific region (Li, 2002). The global urban population exceeded the global rural population for the first time in history in 2007, and the world population has remained predominantly urban ever since (*see* Figure 3-2). In 2014, 54% of the world's population was urban, which demonstrates that globally more people live in urban areas than in rural areas (UNWUP, 2014) (*see* Map 3-1 for global urbanisation rates). The urban population is expected to continue to grow and by 2050, the world is estimated to be two-thirds urban (66%) and one-third rural (34%), roughly the reverse of the global rural/urban population distribution of the 1950s (UNWUP, 2014).

Generally, the process of evolution in developed counties can be classified into two stages. The first stage is characterised by 'concentration' (Bertinelli & Strobl, 2007), which means the continuous and extensive concentration of both industry and population, the growing number of cities and even big cities, and expanded scales. The second stage represents the feature of 'decentralisation' (Chen & Jia, 2006). Since the 1960s, western countries have seen the phenomena of suburbanisation and subsequent ex-urbanisation, which means that large numbers of residents migrate to the outskirts of urban areas. On the one hand, this happens because of the environmental pollution in cities. On the other, modern urban transportation has also enabled people to commute more easily. In this stage, the development mode shows a cessation of the growing population in urban areas and an expansion of the areas surrounding cities, as well as residential regions. Then rapid

development of metropolitan areas, cities proper and urban agglomerations[5] have emerged around cities (Li, 2002).

Figure 3-2 Urban and rural population of the world, 1950-2050
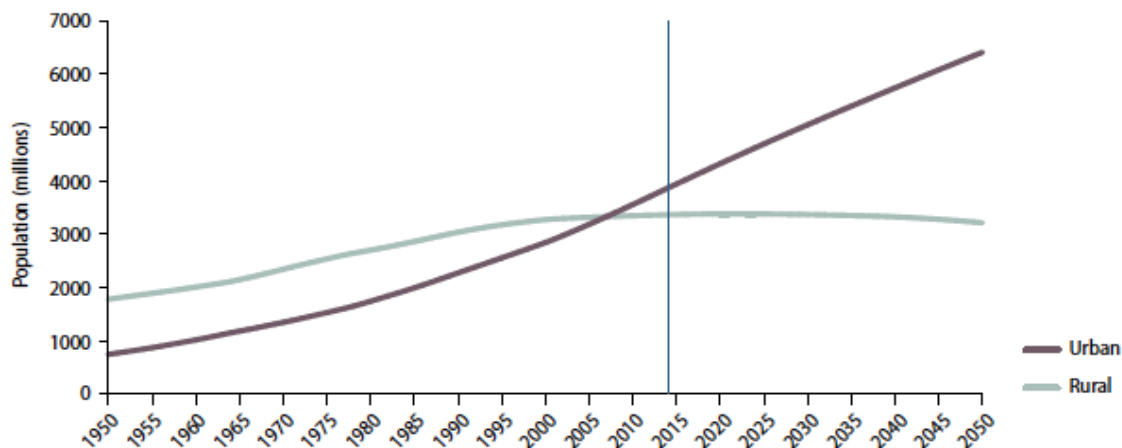
Source: UNWUP, 2014

Figure 3-3 World urbanisation rates and location of urban agglomerations with at least 500,000 inhabitants, in 2014
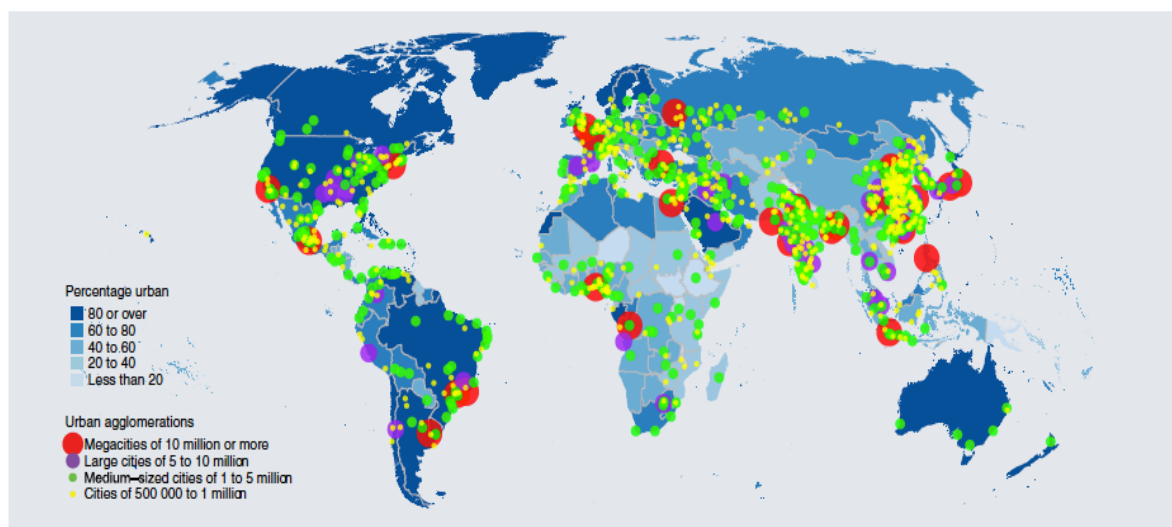
Note: The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Source: UNWUP, 2014

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[5] The term 'urban agglomeration' refers to the population contained within the contours of a contiguous territory inhabited at urban density levels without regard to administrative boundaries. It usually incorporates the population in a city or town plus that in the suburban areas lying outside but adjacent to the city boundaries. However, some countries do not produce data related to the concept of urban agglomeration but use instead that of a metropolitan area or a city proper. If possible, such data are adjusted to conform to the concept of urban agglomeration.

As Figure 3-3 shows, the levels of urbanisation vary greatly across regions. Figure 3-4 shows a comparison of the proportions of the urban population in five regions in 2005, and demonstrates that although Asia had the largest population of both rural and urban areas, the urbanisation rate (45%) was much lower than that of North America (83%, the highest), Latin America (80%) and Europe (73%). However, in 2014, updated statistics showed that Asia was urbanising more rapidly than other regions of the world. Over the coming decades, the level of urbanisation is expected to increase in all regions (referring to major areas), with Asia urbanising faster than the rest, to reach 64% urban by 2050 (UNWUP, 2014).

Figure 3-4 Urbanisation rates for various world regions

	North America	Latin America	Europe	Africa	Asia
■ Rural Population (Millions)	59	123	188	637	2380
■ Urban Population (millions)	301	510	532	477	1970

Source: ɪUN DESA, 2005

http://news.bbc.co.uk/1/shared/spl/hi/world/06/urbanisation/html/urbanisation.stm
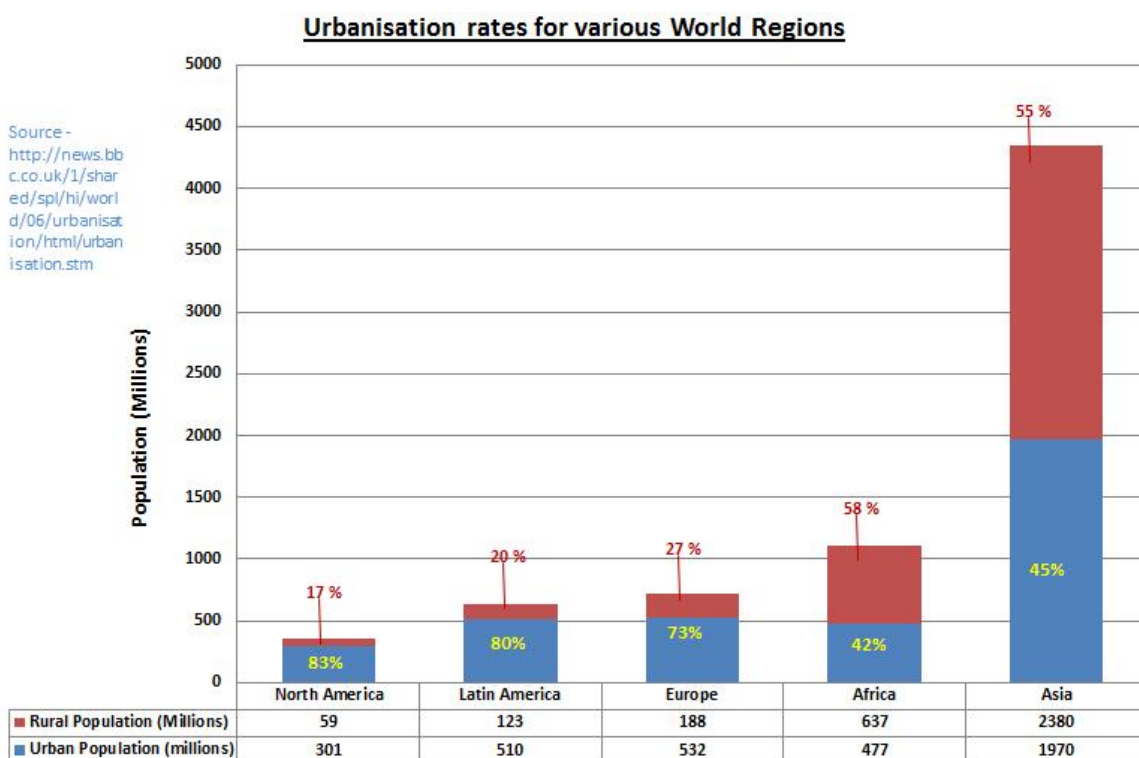
3.3.2 Urbanisation in China

China has also experienced a dramatic scale of rapid urbanisation due to the policy of economic reform and opening up initiated in 1978. From 1949 to 2012, the urbanisation process in China has been divided into three stages, based on China's National Human Development Report (UNDP, 2013). Figure 3-5 demonstrates the evolution of the country's urbanisation in detail.

Figure 3-5 Three stages of China's urbanisation
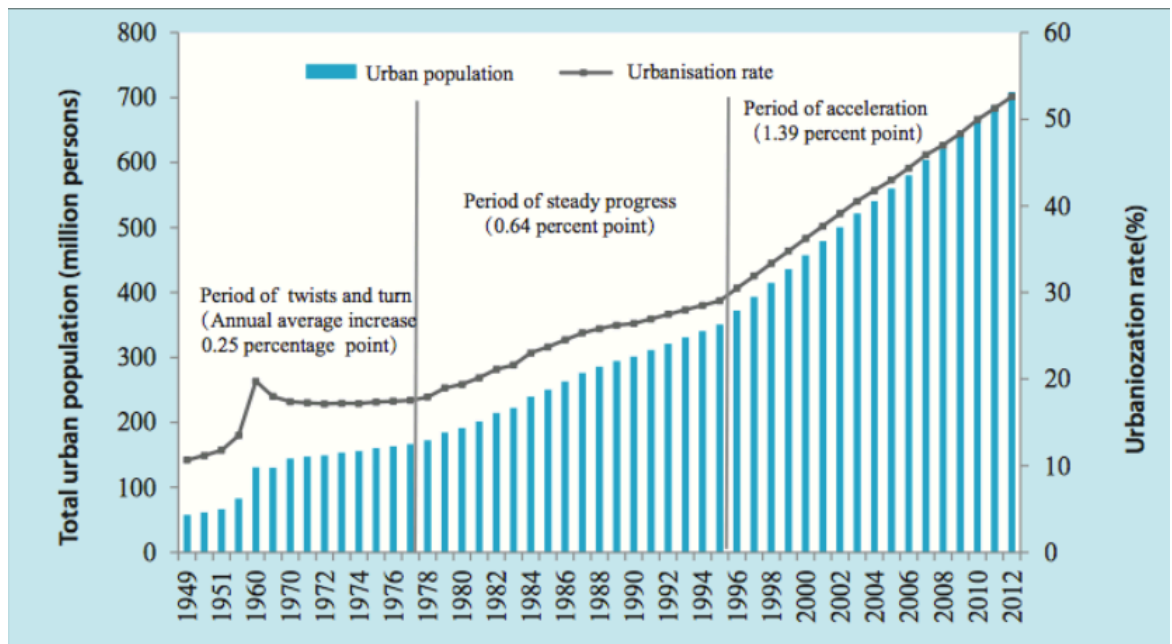
Source: UNDP, 2013:16

From 1949 to 1977, urbanisation changed with the increasing industrialisation, influenced by the social and political changes discussed previously (*see* section 3.2). The curve shown on the graph fluctuates because of the Great Leap Forward from 1958 to 1960 and the Three Years of Great Chinese Famine from 1959 to1961, to form a peak, and then the cultural revolution from 1966 to 1976 to form a decline. Furthermore, the *hukou* (household registration) system set up in 1958 also made migration from rural to urban areas virtually impossible (Chan, 1995) (*see* section 3.5 for more details).

From 1978 to 1995, the urbanisation rate increased from 17.9% to 29% under the reform and opening-up policy and the relaxation of the *hukou* policy (*see* section 3.5). In addition, the pace of urbanisation was accelerating too, and the urbanisation rate grew by 0.64% each year (NBS, China Statistical Yearbook, 2010). *The National Urban Planning Conference Minutes* approved by the state council advocated the need "to control the scale of big cities, to rationally develop medium-sized cities, to actively develop small cities", by various industrial projects such as TVEs (*see* section 3.2). So rapid urbanisation can also be observed in the increase in the number of cities.

From 1996 to 2012, China's urbanisation underwent a stage of acceleration with an increase in the urban population of 338 million in sixteen years. Furthermore, the urbanisation rate grew to 51.27% in 2011 when the urban population surpassed the rural population for the

first time (NBS, 2011). This showed that China had transformed from a predominantly rural to a predominantly urban country (Zhang, 2014). It has also been found that the process of urbanisation varies across regions in China. Figure 3-6 shows the urbanisation rate mapped out across China,[6] which to some extent manifests the 'tier' system for ranking Chinese cities[7] using different classification methods such as Gross Domestic Product (GDP), political administration, development of services, infrastructure and so on. The Chinese government has no official definition for the tiers, but Chinese cities are administrative entities and officially designated according to political status, economic development level and total population (NBS, 2000). In 2010, the National Urban System Plan was issued and five major cities were designated as national central cities: Beijing, Chongqing, Guangzhou, Shanghai and Tianjin (China National Human Development Report cited in Zhang, 2013). Beijing is very obviously in tier 1, as well as having the highest level of urbanisation rate of over 70% (*see* Figure 3-6).

Figure 3-6 The urbanisation rate across regions in mainland China
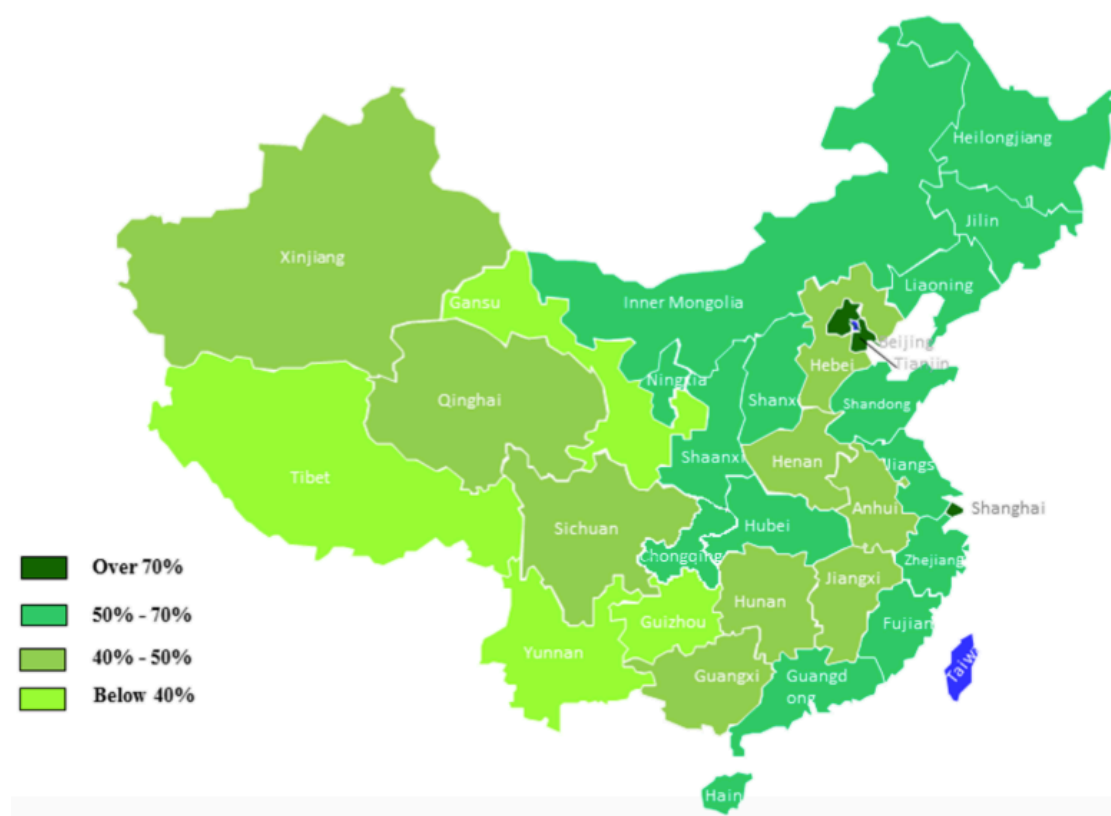
Source: Guan, 2017: 28

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[6] The special administrative regions of Hong Kong and Macau are not included.

[7] The special administrative regions of Hong Kong and Macau are not classified within the tier system.

3.3.3 The relationship between industrialisation and urbanisation

As the State Economic and Trade Commission (2003) agreed, the process of industrialisation is essentially the process of economic restructuring and industrial structure upgrading. At the same time, the concept of urbanisation also reflects the decline of agricultural activities and the increase of non-agricultural movements. The urbanisation process comprises economic, social and spatial aspects. In reality, like industrialisation, urbanisation is also the process of spatial reconfiguration for factories and industries, during which fundamental changes happen in social production and in people's living style and this creates an urban civilisation. The core of urbanisation in China is the transformation of the employment structure, the industrial structure and the rural/urban community structure (Zhang, 2007).

Based on this discussion, industrialisation and urbanisation are considered as two important indicators for economic development and they have had a close relationship since the industrial revolution. On the one hand, urbanisation is been promoted by industrialisation and the process of industrialisation is also the process of areas being urbanised. On the other, industrialisation is the vehicle for realising urbanisation, and in return, urbanisation has an impact on industrialisation. If urban cities can meet the goals of industrialised development, this will also either speed up the process of industrialisation or become an obstacle to slow industrialisation down. The relationship between industrialisation and urbanisation is like that between an engine and an accelerator in a car. This means that to promote industrialisation and urbanisation at the same time requires combining the two.

3.4 Migration

China has undergone an accelerating development period of urbanisation (Zhou, 1995). Economic reforms since the early 1980s allowed the rural population to work temporarily in cities through individual or collective contracts with urban work units. This generated a large influx of migrants in most big cities (Liang and Ma, 2004; Wu, 2002). From the years 1995 to 2000, the majority of migrants were moving from poorer provinces in central and western China to eastern regions, particularly to Beijing, Tianjin, and the Pearl River Delta (Fan, 2005). As of 2005, the National Statistics Bureau estimates that 0.12 billion migrants live in Chinese cities, the majority of whom are not permanent residents and confront a variety of disadvantages in healthcare, the education system, pension allowance, and the housing distribution process (He, 2005). China's floating population has reached 0.2 billion,

according to a forum at the Shanghai Expo Park on World Population Day in 2010. It was estimated that 0.4 billion of the rural population will transfer to urban cities in China by 2050 (Li, 2008; Lu & Fan Eds., 2011). The rural surplus labour has entered into a new phase of migration between different cities rather than staying in the hometown (Zhu, 2005).

According to classic economic theory, urban growth positively enhances the total output of society and thus increases economic growth (Berliner, 1977). A nation must therefore experience large-scale migration to urban areas before it can become a modem (industrial) society (Bradshaw & Fraser, 1989). In China, different patterns of migration influenced the policy arrangements, especially the state benefit distribution, and identifying the scope of migrants and the factors influencing their movement is significant for understanding the public policy design in host cities.

3.4.1 Patterns of migration in China

China's urbanisation over the past three decades has been a massive phenomenon of scale and speed. By 2011, 700 million people (half of the total population) were living in urban areas, marking the largest-ever population movement in the history of mankind (Dragon-Star project, 2010). The concept of migrant population (*liudong renou*) is unique to China because it is related to the *hukou* system. Scholars have suggested dividing them into *hukou* migrants and non-*hukou* migrants (Chan *et al*., 1999). *Hukou* migrants refers to migrants with local residency rights who originated in urban areas and moved through formal channels. Non-*hukou* migrants were those without local residency rights, mostly from rural areas and with much lower education and who relied on informal sources of work.

Other scholars have suggested dividing them into 'rural-to-urban' and 'urban-to-rural' migrations. Like many less economically developed countries (LEDCs) cities, China is also experiencing massive rural-to-urban migration. Before 1980, China had a very low urbanisation level, with fewer than 200 million people of 'urban' population (a fifth of the total population). From 1958 onwards, rural-to-urban migration was controlled strictly through the *hukou* policy in that movement from rural to urban areas had to be approved by the receiving authority (Ma & Hanten, 1981; Johnson, 1988; Christiansen, 1990; Goldstein and Goldstein, 1990; Chan, 1996; Cook, 1999; Wang 2004). In 1985, for the first time, rural migrants were allowed to register as temporary residents in urban areas (Shen, 1995). At first, like other countries in the early stage of industrialisation, the rural-urban migration

turned out to be the predominant source of China's urban growth (Day & Xia, 1994; Liu & Liang, 1997; Davin, 1999; Yang, 2000; Shen *et al*., 2002). Since 1978, about 174 million people have moved from rural areas to cities, creating history's largest flow of internal migration in the world (Zhang & Song, 2003). This historically unprecedented migration constituted 75% of the total increase in urban population in that period. The contribution of the migration to urban growth in 1978-1988 (80%) was larger than that in 1989-1999 (69%). Following the route of migrating from rural to urban areas, most migrations took place across provinces, with more trends from the western inlands to the eastern coastal areas (Zhang & Song, 2003). Moreover, most inland migrants (72%) have been inter-province migrants. In contrast, migrants from coastal areas constitute a small part in the nation, and most of them (61%) limit their movements to within the home provinces.

Urban-to-rural migration happened in more economically developed countries (MEDCs) from the eighteenth century onwards on a large scale and then gradually slowed down. In fact, as discussed in the section on the urbanisation process, in many MEDCs the movement of people has reversed, and people move from urban areas back into the countryside as they search for the quiet life, which is known as anti-urbanisation (Moseley, 1984). In China, this flow of migrants might also include those returning to their place of origin because migrants face a complex set of rules and regulations and can fail to survive in cities. Fees also accompany all these procedures, and for many migrants the fees are sufficiently high to discourage compliance (Chang & Brada, 2006).

3.4.2 Factors to explain migration

Many factors have been identified in the literature to explain China's migration and urbanisation, such as economic reforms, relaxation of the migration-control policy (Wang, 2004), and the rural/urban income gap (Lu & Chen, 2004). Two important factors are classified as push and pull factors affecting migration (Qiang, 2003). A push factor refers to the pressure which can force people to move away from an area. It can include famine (as in Ethiopia in the 1980s), drought, flooding (as in Bangladesh where people became climate-change refugees and had to move to Dhaka), and poor conditions in the countryside, such as a lack of employment and economic opportunities, health, and the fragmentation of farmland. A pull factor is something which encourages people to move to another area. It includes the chance of a better job, better access to education and services, or a higher standard of living

(Zhao, 2002). These factors have contributed to millions of people in LEDCs moving to cities, creating mass urbanisation.[8]

Push factors

Early studies established how variations in farming practices, in the levels of infrastructure and in the operation of credit markets across villages led to significant differences in migration outcomes at the household level (Nabi, 1984). It has been suggested that the type of income earned through migration is important in explaining inter-regional migration patterns (Velenchik, 1993). Also, the covariance of the income earned through migration with other household income sources also plays a role in migration decisions (Stark & Levhari, 1982; Rosenzweig & Stark, 1989). In addition, household income from agricultural production often has a substantial random component due to weather and price shocks, and it has been shown that household member migration is positively correlated with the level of agricultural income variability (Rosenzweig & Stark, 1989). Another significant component of the migration activity observed in China is its seasonality. Because of the *hukou* barrier, it is difficult for migrant populations to get access to urban resources. So many maintain a high degree of attachment to their rural origin communities and households by remitting proportions of their earnings, by returning home regularly, and by marrying and even raising children in their origin communities. In this way, assimilation becomes a less relevant issue.

Pull factors

One pull factor appears to be determined by the demand side of the labour market. Those individuals who are best suited for the predominant types of employment have the highest probability of migrating, regardless of the circumstances of their households (Zhao, 2002). Second, according to Hare (1999), migration results from households' desires both to raise their income levels and to diversify their sources of income. Therefore, increased opportunities to earn cash income and income from non-agricultural sources help to stem some of the flow of labour out of rural China. For the time being, land entitlement is largely the only benefit available to individuals without urban residence status and is therefore

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[8] See BBC animation of urbanisation process:

http://news.bbc.co.uk/1/shared/spl/hi/world/06/urbanisation/html/urbanisation.stm

important both as a source of income and as a form of social security (Cook & Maurer-Fazio, 2013).

A large part of the migrant population represents the imbalance between regional economic development and the rapid urbanisation process. The challenges which urban cities face include not only urban management but also migrants' housing provision and job demands. The lack of formal access to resources in cities has forced the low-income migrants to acquire informal employment and informal housing to solve their problems. The rural migrant population forms the largest group of informal employment (Wang, 2006).

3.4.3 Theoretical framework to explain urbanisation and migration

Knox and McCarthy (2005) argued that urbanisation is the outcome of social, economic and political developments which lead to urban concentration and the growth of large cities. As can be seen from Figure 3-7, the demographic process demonstrates urban change, not only including natural population growth and decline, but also containing a population migrating from rural to urban, urban to urban and urban to rural areas. The administrative and physical process also shows different types of urban change in terms of the expansion, incorporation, reclassification, foundation and abandonment of cities. These changes then result in different types of settlement, ranging from hamlet to capital city, indicating the transformation from the rural to the metropolitan pattern of organisation and governance.

Figure 3-7 Urban changes

Source: UNWUP, 2011

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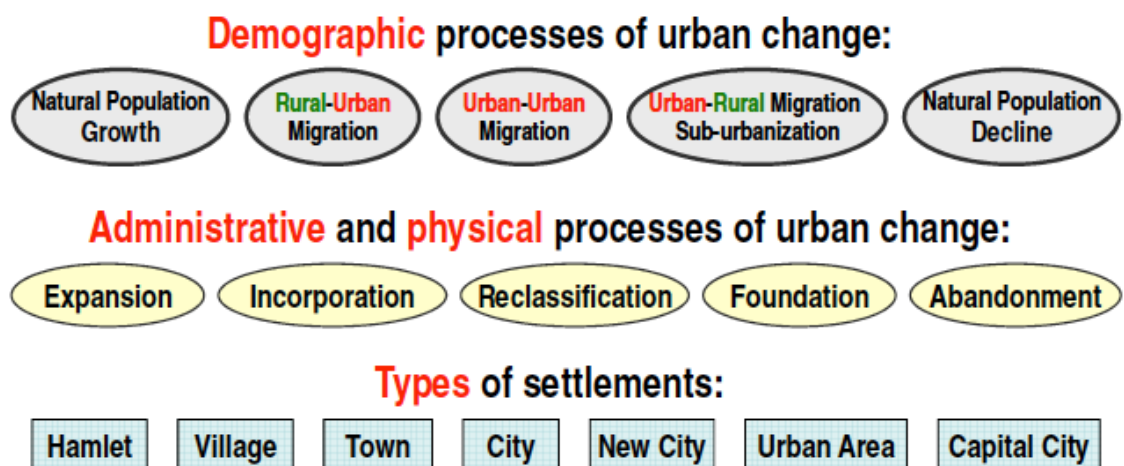
Another theory of migration and urbanisation in developing countries is the labour surplus model (Zhang & Song, 2003). This model assumes that two sectors exist in a developing economy: a traditional rural sector with zero marginal labour productivity and a modern urban industrial sector with high productivity. Central to the theory is that rural-urban migration is a natural and output/gain process in which surplus labour is withdrawn from the rural sector to provide needed manpower for urban industrial growth. Urbanisation thus augments the national income through short-run efficiency gains due to shifts of labour from low to high marginal productivity employment and long-run growth effects due to higher accumulation rates in urban sectors. Therefore, output growth, trend acceleration, and rising migration and urbanisation are likely outcomes of the labour surplus model.

The most influential model of rural-urban migration was suggested by Todaro (1969), which was extended by Harris and Todaro (1970), Zarembka (1972), Stiglitz (1974) and Corden and Findlay (1975). The model starts from the assumption that migration proceeds in response to rural/urban differences in expected income rather than actual earnings. The source of the rural/urban income differential is "a politically determined minimum urban wage at levels substantially higher than agricultural earnings" (Harris & Todaro, 1970: 126). Migrants consider the various labour market opportunities available to them in the rural and urban sectors and choose the one which maximises their expected gains from migration. The model predicts that migration rates in excess of urban job opportunity growth rates are not only possible but also rational and even likely in the face of wide urban/rural expected income differentials. This model explains the common phenomenon in most developing countries that high existing unemployment can never stop population mobility. To some extent, the high rate of unemployment in cities is the inevitable result of unequal urban/rural economic opportunities. At the same time, it also indicates why informal employment prevails in cities (Jing & Zhang, 2003).

The literature also suggests other factors which might influence the rural-urban migration and urbanisation (for example, Williamson, 1988). Of those factors relevant to China's experience in the last two decades, agricultural land scarcity may have pushed rural labour to the cities (Chen, 2007); the arable land shortage may account for heavy rural-urban migration because of the low level of per capita arable land in China (Tan *et al*, 2005). This shortage might generate a powerful rural push when the price of agricultural products remains unchanged institutionally; institutional factors might matter as well in the migration

to the city. Government policies which might also lead to migration include urban-bias measures, such as urban-oriented price distortions, government manipulation of capital markets, and public investment distributions (Zhang & Song, 2003). In order to further understand how China has been experiencing urbanisation, the following sections will explore these factors in more detail.

3.5 *Hukou* (household registration) system

China's household registration system has raised widespread concerns for years (Wing Chan & Buckingham, 2008). Since the reform and opening-up policy began in 1978, hundreds of millions of workers have migrated to big cities. However the *hukou* system continues to divide people into agricultural and non-agricultural populations, which makes it more difficult for the internal migrating population (the floating population) in China than for those in other developing countries. In this situation, no matter where those rural migrants move to, it will not change their original registered residential household place. This also means that they will be excluded from the benefits which local residents enjoy such as stable employment, health-care, social security and housing subsidy (Chan, 2009; Li, Li & Chen, 2010).

3.5.1 Brief overview of the *hukou* system

In July 1951, the *hukou* system was implemented initially in Chinese cities, with the official purpose of maintaining social peace, safeguarding people's security and protecting their freedom of residence and movement. In this situation, people were relatively free to travel or even to choose their place of residence (Cheng & Selden, 1994; Chan, 2009).

In 1955, however, the government established a comprehensive *hukou* system which covered not only cities but also rural areas, in order to manage the huge influx of farmers into cities. This directive marked a shift in emphasis from the use of the *hukou* system for simple registration purposes to explicit government policies to prevent unplanned migration and introduce formal administrative control over the rural influx to the cities and over intra-rural and intra-urban population movements (Liu, 2005). Now official sanction was required for any change of residence. Some scholars (for example, Wing Chan & Buckingham, 2008; Liu, 2005) agreed that the *hukou* system was a necessary component of the centrally planned economy as it required the government's ability to allocate human resources not only at the enterprise and sector level but also across geographic locations. Other researchers (for

example, Lin *et al*, 1995) have argued that the *hukou* system was crucial to the implementation of China's development strategy of pursuing the rapid expansion of heavy industry at the expense of agriculture and of developing cities at the expense of rural areas. At the same time, a rationing system was established which helped the *hukou* system to be more effective in controlling population movements. Under this system, the state labour bureau was responsible for job assignment and was authorised to allocate jobs only to local city residents. The benefits associated with an urban *hukou* included subsidised food and housing, urban employment, health-care, pensions, and other benefits such as education and welfare programmes. Conversely, rural residents had no such entitlements.

In 1958, the CCP implemented its first household registration system called the People's Republic of China Household Registration Ordinance. It classified households as agricultural and non-agricultural based on a person's entitlement to state-subsidised food (Chan & Zhang, 1999). It also classified people into urban and rural; each individual was required to register in one and only one place of residence. In cities, the unit of registration was a household. In rural areas, the unit of registration was a commune or village or state farm. Farmers were therefore bound not only to their families but also to the entire rural settlement (Liu, 2005). Table 3-1 shows the groupings of *hukou*.

Table 3-1 Major constituent groupings of agricultural and non-agricultural populations by *hukou* status and location

Hukou location	Agricultural *hukou*	Non-agricultural *hukou*
	A	**C**
Urban areas	Rural migrant workers Farm workers Dependents	Urban workers State cadres and professionals Dependents
	B	**D**
Rural areas	Rural (industrial) workers[a] Farmers Dependents	State farm workers[b] State cadres and professionals Dependents of above

[a] In township and village enterprises.
[b] In state-run agricultural enterprises.

Source: Liu, 2005, adapted from Chan & Tsui, 1992 and Chan, 1994

During the 1960s and 1970s, rural-urban migrants faced the crucial *hukou* conversion process. Most individuals in rural areas tried to obtain an urban *hukou* through employment

by state-owned enterprises (Cai, Du & Wang, 2001; Zhang, 2005; Wang & Cai, 2008). Other methods were acquiring a university degree, achieving stardom in sports or other disciplines, and demobilisation from military service (Bian & Li, 2014). Until 1998, children's *hukou* status was determined by their mothers' status (Liu, 2005).[9]

Since the 1980s, a more flexible *hukou* policy has been adopted in which two specific types of residential registration were introduced; one was a temporary residential permit and the other was a blueprint *hukou* or blue card. The design and implementation of these two types of *hukou* were administered by the local governments instead of the central government. Whereas a temporary resident's permit could be issued to anyone with a legitimate job or business in the city, the blue card was issued only to investors, buyers of property and professionals (Chen & Cai, 2004; Liu, 2005; Chen, 2009). The holders of a blue card usually had to pay a one-off entry fee, the urban infrastructural construction fee, which varied from a few thousand yuan in small cities and towns to 50,000 yuan in more attractive cities (Liu, 2005). The blue card functioned more like the regular *hukou*; its holders enjoyed most of the community-based benefits and rights. Most importantly, they had the opportunity to obtain a regular urban *hukou* after two to five years (Chen, 2009).

Since late 2005, the CCP began a so-called reform of the household registration system. Thirteen provinces, municipalities and autonomous regions removed the differences between agricultural and non-agricultural *hukou*. Experts have argued that these changes carried little meaning unless there were parallel changes to welfare, housing and other policies to remove inequalities (Zhao & Howden-Chapman, 2010).

In 2014, the CCP State Council issued 'Opinions to Further Promote the Reform of the Household Registration System', designed to eliminate the distinction between agricultural and non-agricultural *hukou*. As a result, blue cards and other types of *hukou* all became resident accounts. The State Council sought to unify the city and rural household registration system, adjust the household migration policy, innovate population management and create the Residence Permit System.

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[9] Therefore, a child with a rural *hukou* was forbidden to live in the city with a father who had an urban *hukou*. Applications for *hukou* conversion could be made on the grounds of family reunification but were granted only in special circumstances, for example, if the holder of an urban *hukou* is disabled and needs assistance with everyday life, and could take years to finalise.

3.5.2 The *hukou* dual classification

With China's equally complicated and changing 'urban' definitions and city designation criteria, the fine differences in the terminology – especially after translation – can easily be overlooked, leading to confusion and misunderstanding, particularly regarding the processes of urbanisation and migration. For an accurate understanding, it is essential to differentiate the following four terms, because changes to the system will have varying impacts on people based on their classification under this *hukou* system.

Socio-economic eligibility: 'agricultural' and 'non-agricultural' *hukou*

The first classification of *hukou* registration is the type or nature of the *hukou* (*hukou leibie*), commonly referred to 'agricultural' (*nongye*) and 'non-agricultural' (*fei nongye*) *hukou* (Chan & Tsui, 1992). It was this distinction between agricultural and non-agricultural status that determined a person's relationship with the state and eligibility for the state-provided socio-economic benefits (especially in the 1960s, 1970s and 1980s). Those benefits were state-provided housing, employment, grain rations, education, access to medical care and other social welfare benefits (Chan & Buckingham, 2008). People with non-agricultural status, regardless of their physical location or whether they resided in a town, small city or large city, were automatically entitled to these benefits, making non-agricultural status highly desired throughout the country (Yu, n.d.). This was also one factor which attracted many people wanting to gain an urban *hukou*. However, the agricultural population received very limited state benefits. They had no legal means of obtaining resources either inside or outside their registered location. Moreover, transferring status from agricultural to non-agricultural was subject to strict regulation and control by the central government.

Residential location: local and non-local *hukou*

In addition to the *hukou leibie*, individuals were also categorised according to their place of *hukou* registration (*hukou suozaidi*). This meant their official or 'permanent' residence. In other words, all citizens were also distinguished by whether or not they had a local (*bendi*) *hukou* with respect to an administrative unit (such as a city, town or village). In other words, *hukou leibie* defined the type of services and welfare available to individuals (usually stipulated by the central government), and the *hukou suozaidi* determined where individuals would receive them (Chan & Zhang, 1999).

As the discussion above shows, in any city there were four types of people, excluding foreign nationals, based on the dual classifications of *hukou* To clarify this point, Beijing (as one 'local' place) is going to be used here to provide an explanation of the four types of people: 1) those holding a local (Beijing) and non-agricultural *hukou* (including most Beijing 'urban residents', as they are commonly known); 2) those holding a local and agricultural *hukou* (most of whom live in Beijing's outlying districts and counties; 3) those holding a non-local (non-Beijing) and non-agricultural *hukou* (mostly migrants from other cities); and finally, those holding a non-local and agricultural *hukou* (mostly migrants from the countryside outside Beijing; a great majority of the migrant workers are in this category) (Chan & Buckingham, 2008).

3.5.3 The impact of *hukou* system

As noted in previous chapter, the terms 'native' and 'migrant' do not fully capture the meaning of residence status, and 'urban' does not necessarily mean 'native' and 'migrants' are not predominantly 'rural' in Beijing. One of the contributions here is to provide a more systematic classification of people by residence status.

An urban native is a person born in Beijing with urban registration (the official category is 'non-agricultural'). A rural native is born in Beijing but has rural registration (formally this is the 'agricultural' category). Urban migrants are persons born outside Beijing but have urban registration status, and these are further categorised as established or recent depending on whether their length of settlement in the current sub-districts is longer or shorter than five years. Rural migrants are persons born outside Beijing who have rural registration status. They are also further categorised as established or recent. Urban natives are the category most often treated as the advantaged insiders; recent rural migrants are the category closest to what the literature refers to as the floating population. Established urban migrants are an important and under-recognised category that must be distinguished from other types of migrants. Several scholars have noted that urban 'permanent' migrants have mostly moved to cities where they were assigned to a specific job. They tended to have overall high socio-economic status and access to resources (Wu, 2004), higher human capital and mobility resources and better patterns of labor market entry and mobility than urban natives (Fan, 2002). What is less clear from the existing literature is whether migrants with urban registration but who have more recently arrived in Beijing are also relatively advantaged, or whether their newcomer status is a disadvantage in the housing system.

Migrants face challenges to their assimilation into city life in every country. And migrants in China are additionally subject to the system of *hukou* (household registration) and related policies designed to restrain population movement. The system divides the population into a favored sector with full citizenship rights (people with urban registration in the city where they live) and a marginal sector with fewer and more transient rights (especially people with rural registration from a different province). In this way state policy in China magnifies inequalities associated with the rural-urban boundary for those who enter the city (Solinger, 1999). Most scholars agree that housing, an important element of urban amenities associated with *hukou*, remains difficult to attain for migrants (Chan & Zhang 1999; Solinger 1999; Wang & Murie 2000).

Except social welfare, the system also links with formal employment that migrants without local *hukou* do not have access to state-sector jobs and they also cannot acquire property. This situation is most obvious in the highly segmented urban labor markets (Chan & Zhang, 1999; Davin, 1999; Fan, 2001). Jobs in state and collective industries and institutions are available to local residents and permanent migrants with local *hukou*. Enterprises hiring labour migrants are required to obtain specific quotas from the municipal labor bureaus, although some companies avoided such rules in hiring migrants as a cost-cutting strategy. As a result, most temporary migrants are restricted to jobs undesirable to the local population, such as in construction, domestic services, factory and farm labor, and retail trade (Wu, 2002). Because of the large presence of migrants in small-scale trades and services, they also contributed to the formation of an urban informal sector (see Chapter 3) (Sassen, 1994). As a result, the *hukou* system separating temporary migrants from the urban population turns out to be a much more important factor than individual factors in counting for migrant disadvantages in housing (Wu, 2002).

3.6 Informal sector/informal economy

3.6.1 Theoretical background of informal sector studies

The term 'informal sector' was firstly in official record by ILO in 1972. Researchers became aware that people in developing countries were working in urban sectors including small traders, street vendors, shoeshine boys, self-appointed parking attendants, beggars, and others in somewhat shadowy activities, as well as carpenters, masons, tailors and other tradesmen, cooks, taxi-drivers, etc. Then ILO summarised criteria for the informal sector in

Kenya report (1972: p. 6; Bangasser, 2000: p. 10) as: '(a) ease of entry; (b) reliance on indigenous resources; (c) family ownership of enterprises; (d) small scale of operation; (e) labour-intensive and adapted technology; (f) skills acquired outside the formal school system; and (g) unregulated and competitive markets.' This research provides the theoretical foundation for informal sector studies by summarising the most influential theories under three main schools.

The Dualist School applied Lewis Dual Sector Model that conceived the economy as a duality of 'traditional' and 'modern' sectors (Lewis, 1954; Bauer, 1956) and currently it has a 'formal vs. informal' axis. In this sense, informal sector was considered as agricultural economy, underdeveloped and marginalised; while formal sector was representation of manufacturing industrial economy, developed and progressive (Moser, 1978; Fields, 2004; Li, 2005; Huang & Xue, 2011). The urban-rural differences in the economic attribute and expected earnings, resulted in the attraction of large rural labour surpluses into the urban areas. However, it was found that the dual sector model cannot explain the phenomenon in less developed countries that a significant group of people couldn't find a job immediately in the urban formal sector, but they lived on some other works.

The Harris-Todaro model captured this entry point for migrants to work in an urban sector that was not modern, which was recognised as what has come to be called 'urban informal sector' (Todaro, 1969; Harris & Todaro, 1970). This model improved on the previous dichotomy one and developed a two-stage rural labour transfer: first, the rural labour surplus entered the urban traditional sector labour market (known as informal sector now), and then they can maximised the chance to get a job in the modern industrial sector for expected future income (Huang, 1999).

Based on the received theory of rural-urban migration, Fields (1975) made extensions and indicated it was not simply the institutional division of rural and urban labour force market with single-sided labour movement. He firstly introduced the particular term - 'murky' urban sector to his three-sector model, and suggested that the agricultural sector, modern urban sector and murky urban sector were considered as a whole labour force market. Movement of workers between each labour market were resulted from equal economic effects and labour turnover consideration was included as well. The following Figure 3-8 shows the changing concept.

Figure 3-8 Changing concept
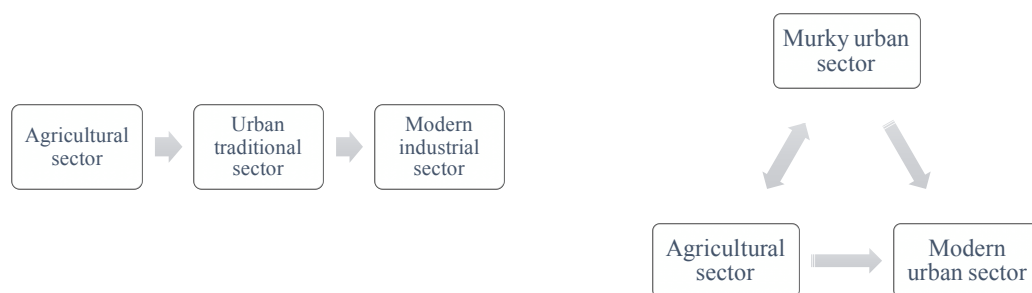
Source: summarised by the author

The Neo-Marxist school improved Marx's theory of Simple Commodity Production (also called 'petty commodity production') that simple commodity production will finally transform into capitalist production and disappear in the end (Moser, 1994). However, the transformation is not fully developed as expected and simple commodity production continues to occur on a large scale in the world economy. Under the changing capitalist economy, scholars reconsidered the informal sector as the possible new path to capitalist development in terms of the restructured production orgranisation (Rakowski, 1994).

With the global economic integration, the large enterprises' vertical industrial organisation structure gradually lost its leading role. It was gradually replaced by the horizontal paralleled network in social and economic activities (Huang & Xue, 2011). Business contract was used for economic relation between high and low level rather than the enterprise's internal administrative relation. And subcontracting became the new exchange relationship.

Besides, researchers from this school also criticised the segregated structure of dualism. The Structural School, promoted by Castells and Porters (1989), suggested that the formal-informal sectors were closely related and interdependent (Portes & Sassen-Koob, 1987; Castells and Porters 1989; Huang & Xue, 2011). For instance, within the informal sector, Portes and Sassen-Koob (1987) also found that 'the work and capital were not clearly separated, the contractual relationship is missing, there is paid labour, and also the working and payment conditions are missing (Ghai, 1999: p.63)'. Except the internal structure, informal sector also provided low cost goods and services to people and households in formal sector, so firms benefit from the wage cost reduction from their employees. Sometimes formal sector use subcontracting business through informal sector and flexible

employment (also called 'informal employment') to avoid institutional restraints so as to minimise their cost (Huang & Xue, 2011). Moreover, as the government reinforced regulations on health, safety and welfare of enterprises, they also took actions to avoid it and reduce cost burdens.

It is indicated from the above that, on one hand informal sector made contribution to the whole economy; on the other hand, it generated a way for capital accumulation through reducing costs and increasing company's profits (Portes, Castells & Benton, 1989). And the Marxist structural analysis reached to the conclusion that the informal sector will not disappear in the post-industrial world; on the contrary, it will be 'alive, growing and dynamic' (Waldinger & Lapp, 1993: p. 6).

The Neo-liberalism school represented by De Soto (1989) had widespread implications on informal sector researches in1980s. Based on Hayek's (1973) theory of 'spontaneous order' and 'artificial order', De Soto (1988) viewed the informal sector as the participants' rational choice because they were unsatisfied with the current excessive governmental interference in the private economy. It is the government's overregulation that triggered participation in informal economy (Huang, 1999). However informal economy was more self-governing, flexible and free, so it was participants' voluntary and initial choice (VanderBerg, 2014). He also suggested the informal sector was a positive alternative to the formal sector, by emphasising its ability to create social wealth and the entrepreneurship spirit. He argued that informal sector wouldn't cause social degradation or de-socialisation. It would help revitalise and improve the overall economy. For example, Bromley (2004) indicated informal sector provided the necessary products, service, and infrastructure like housing construction and transportation (agreed by the Neoliberal theorists). Therefore De Soto (1988) advocated that informal sector could help improve the government's overregulation and lead to the self-governing, democratic and real market-oriented economy.

3.6.2 Development of informal sector in China

Rural labour transfer

Since the founding of China in 1949, employment in different sectors has changed with the transitional economy. Figure 3-9 shows the development of employment in each sector. During the planned economy period from 1956 to 1977, China's public sector developed steadily and overwhelmingly. Since 1978, it has entred the transition shifting from planned

economy to market-orientated economy. Hu and Yang (2001) estimated that China was in the middle of transition, with both informal sector and newly-rising sector are rising rapidly. The ratio of employment in informal sector has increased from 0.16% in 1978 (Hu & Yang, 2001) to 58.85% in 2005 (Xue & Gao, 2012).

Figure 3-9 Comparing the employment in different sectors accross China's economic transitional stages
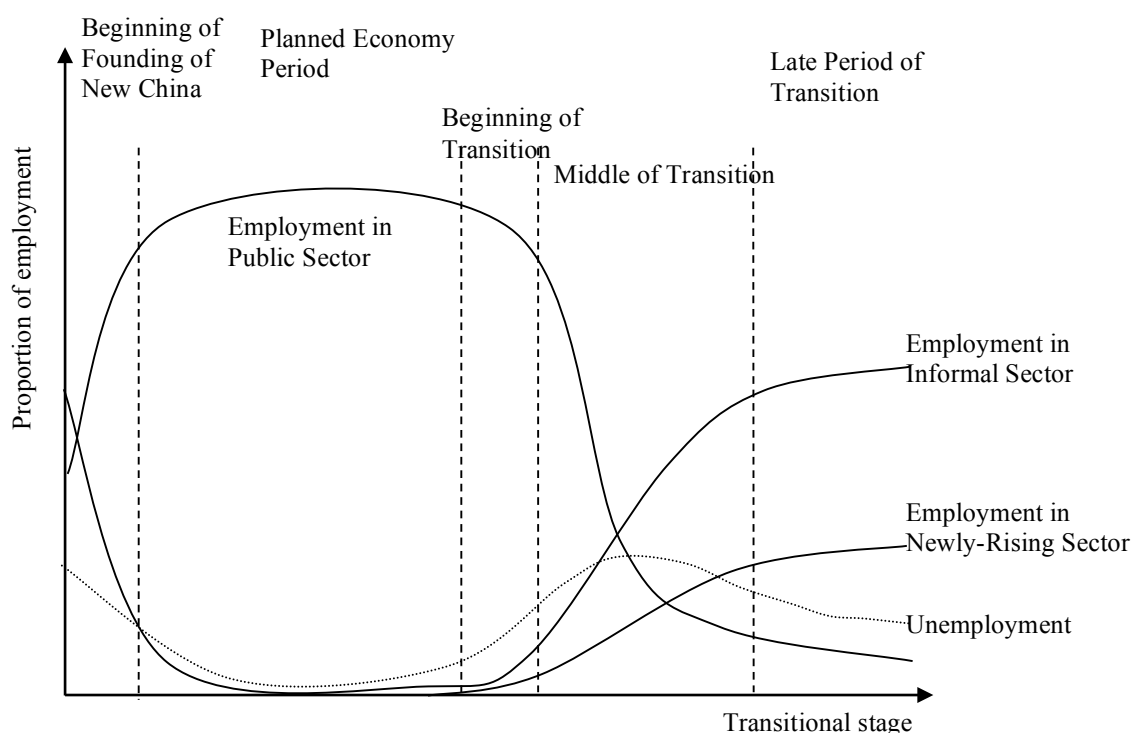
Source: adapted from Hu & Yang, 2001; Roy & AlSayyad, 2004

This economic development and structure revolution were also influenced by industrialisation and urbanisation at the same time (Long, Zou & Liu, 2009) Besides rural labour force change to non-rural labour force is the basis of industrialisation, and rural labour transfer to urban area is the core feature of urbanisation. Therefore, rural labour transfer is considered as an important factor influencing informal sector development in China (Zhang, 2007).

The Sixteenth National Congress held in 2002 reported that 'transferring the surplus rural labour to non-agricultural and urban sectors is the inevitable trend of industrialisation, urbanisation and modernisation' (Zhang, 2008). The famous Lewis model (Lewis, 1954)

also provided a good framework for evaluating the success of a developing economy: within a competitive market economy, it is only when the economy emerges from the first, labour-surplus, classical stage of the development process and enters the second, labour-scarce, neo-classical stage that real incomes begin to rise generally.

In order to investigate the relationship between labour transfer and the informal sector, surplus labour in rural areas was addressed. As can be seen from Figure 3-9, rural labour refers to people who hold rural *hukou* and at working age, including the agricultural labour force and non-agricultural labour force in rural areas. The rural surplus labour then consists of not only agricultural surplus labour, but also non-agricultural surplus labour. Even there is no agreement on the scope of rural surplus labour, it has been recognised as approximately equal to agricultural surplus labour in China (Liu, 2004).

Figure 3-10 Rural labour relationship
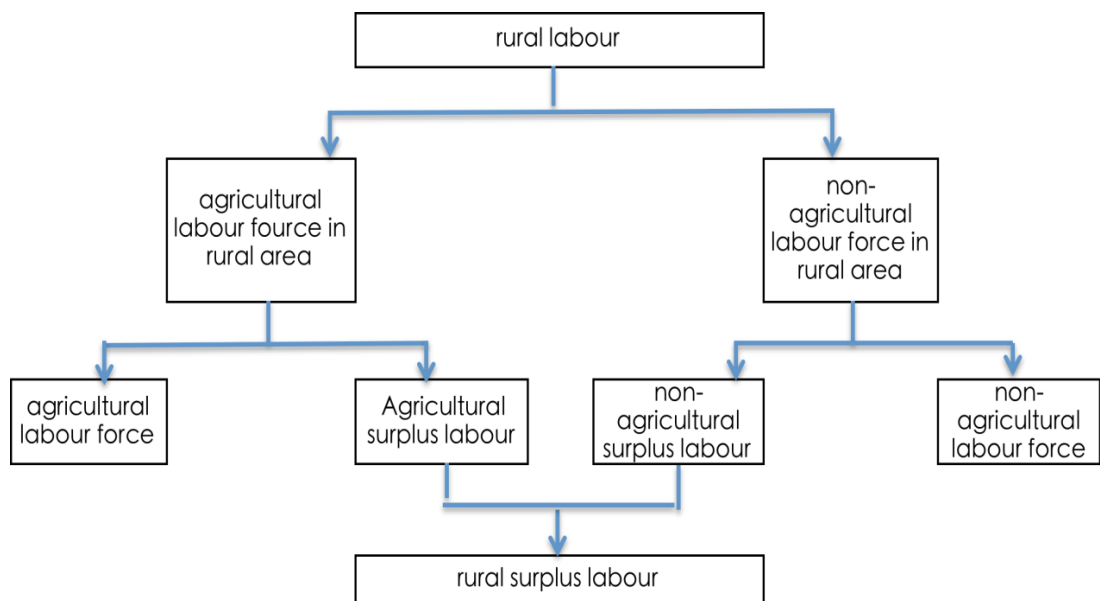
Source: Liu, 2004

Based on the previous discussion, the rural labour transfer then mainly refers to the rural surplus labour transfer from rural to urban cities; and from Primary sector to Secondary industry or Tertiary and quaternary industry. To be more specific, the spatial transfer can also means population rural-urban transfer or regional transfer; the latter also refers to industry transfer or employment structure transfer.

Characteristics of informal sector

China has been influenced greatly by the dual economy theory, which which represented the labour market segregation (Bauer, 1956; Moser, 1978). Scholars have distinguished informal sector from modern formal sector by comparing the characteristics of formal and informal sector in terms of their primary objective, organisation structure, production scale, operation site, working time, income, labour relation, social security and legitimacy (Chen, 2001; Wu & Zuo, 2001; Huang & Yuan, 2002; Tan & Li, 2003; Huang and Xue, 2009). Table 3-2 shows a synthesis and summary of the defining characteristics of informal sector and comparison with formal sector.

Table 3-2 Comparing characteristics of formal and informal sector

Characteristics	Formal sector	Informal sector
Primary objective	Create stable income and living standard	Create employment and generate income to make a living and survive; Subsistence economy.
Organisation structure	Highly organised	Low level of organization with simple structure; Little or no division between factors of production; Self-employment.
Ownership	Various types, such as state-owned	Individual and private mainly.
Production units	Fixed	Flexible workplace, only a few operate in small shops or stands etc; Household enterprises and family-based. Large amount of scattered production units.
Production of goods or services	Large scale	Small scale; Low techniques; Low productivity; Expenditure for production is indistinguishable from household expenditure.
Capital	Large scale;	Small scale; Low level;

	Clear division between capital and labour.	Little or no division between capital and labour; Capital goods are used indistinguishable for business and household purposes.
Legitimacy	Within the protection of law and regulation	Falling out of the law and regulations; Unnecessary deliberate intention of infringing legislation or administrative provisions
Labour (employers)	Fixed working hours; High and stable income	Flexible working hours; Low and unstable income; Low skills; Little or no division between capital and labour; Rural-urban migrants or floating population; Urban labour supply surplus.
Labour relation	Protected by law	Based mostly on casual employment, kinship or personal and social relations, rather than contractual arrangements with formal guarantees.
Working time	Fixed hours	Flexible hours; Part-time work is common
Income	High and stable	Low and unstable
Social security	Unemployment Security; Pension; Health care etc.	Lack of social security, especially in pension, labour and social security.
Subject of product and service	Stable formal income groups	Low income groups

Source: summarised by the author

The primary goal of informal sector is to create employment and generate income (Xue, 2003; Leng & Ding, 2000). Peng and Yao (2004) also indicated people entre informal sector to make a living. These economical activities serve individuals' survival in the process of

production, rather than maximising the value of their investments (Wu & Zuo, 2001; Katalin, 2015). Economist called these activities as subsistence economy.

Informal sector has also been broadly characterised as simple organisaitonal structure, consisting of self-employment units mainly (Leng & Ding, 2000; Wu & Zuo, 2001). It is operated as household enterprises and family-based and always has flexible workplace scattered in cities (Leng & Ding, 2000; Wu & Zuo, 2001; Peng and Yao, 2004). The production of goods or services in informal sector is small scale, low techniques and low productivity (CALSS 2001, cited in Peng & Yao, 2004). Expenditure for production can hardly be distinguished from household expenditure (Bangasser, 2000).

In terms of legitimacy, one common description of the informal sector are activities that occurred outside the formal, regulated economy without official records (Portes & Sassen-Koob, 1987). However, these activities are not deliberate intention of infringing legislation or administrative provisions. Accordingly, the concept of informal sector activities should be distinguished from the concept of activities of the hidden or underground economy (Bangasser, 2000). But according to Wu and Zuo (2001), informal sectors sometimes were treated in the same way as illegal activities by the government and they were faced with government's intervention and precaution.

The labour in informal sector are mostly rural-urban migrants or floating population (CALSS, 2001, cited in Peng & Yao, 2004). They have more flexible working hours for low-skill jobs and part-time work are common (Fields, 1975; Huang & Xue, 2009). They earn low and unstable income (Wu & Zuo, 2001). There is little or no division between factors of production (Bangasser, 2000; Leng & Ding, 2000). The labour relationship existing in informal sector are based mostly on 'casual employment, kinship or personal and social relations rather than contractual arrangements with formal guarantees' (Bangasser, 2000: 46; Leng & Ding, 2000; Leng & Ding, 2000; Peng & Yao, 2004). Informal sector provides them with little or social security, especially in pension or labour and social security (CALSS 2001, cited in Peng & Yao, 2004). The subject of informal sector product or service mainly are low-income groups (Peng & Yao, 2004).

3.7 Summary

This chapter has outlined the general social, economic and institutional development of China in respect to its industrialisationg, rapid urbanisation, massive internal migration,

hukou restriction and informal sector development. China has completed building its industrial foundation and undergone the rapid growth to a greater proportion of employment in the service sectors. Rapid urbanisation and increasing employment opportunities created in the informal sector such as manufacturing and service sectors, have attracted more than half of all Chinese residents to migrate towards urban areas. However, hukou restrictions also resulted in the limited urban resources that migrants could get access to.

As shown in Figure 3-11, the interacting driving forces have given rise to an increasing housing demand, which challenges the housing provision in China, especially mega cities like Beijing in terms of the governance.

Figure 3-11 Relationships between different driving forces
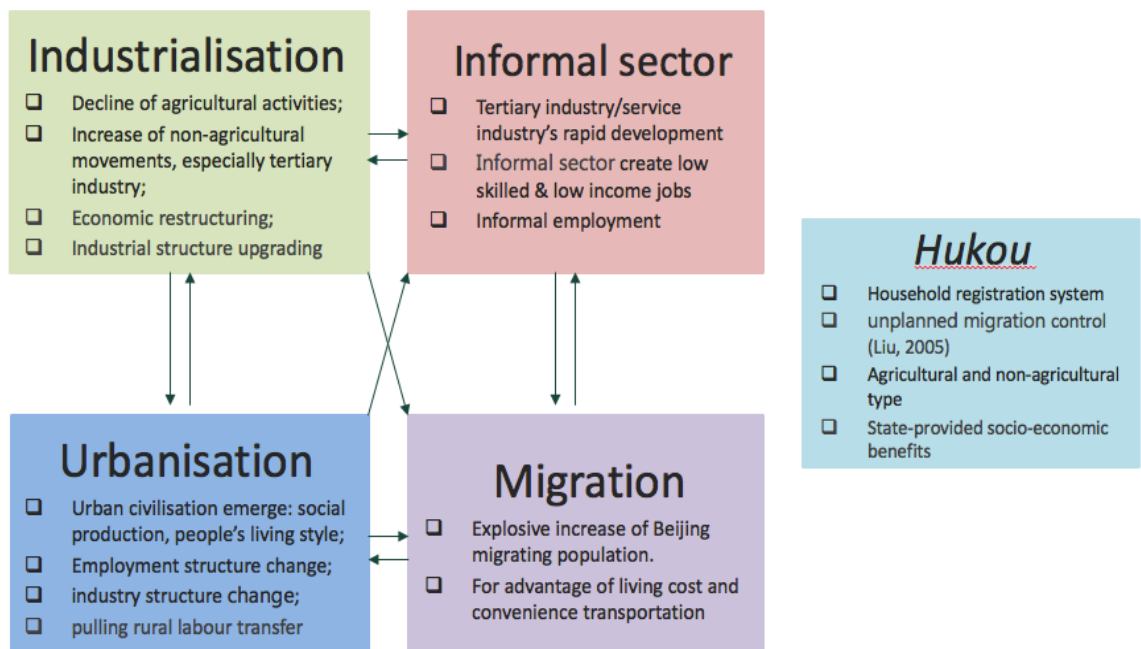
Source: created by the author

The following chapter will then explore the housing provision and housing polices in China, in order to find out what challenges the government and dwellers are faced with and how these challenges contributed to the emergence of informal settlements.

CHAPTER 4: INFORMAL SETTLEMENTS EVOLVING IN CHINA: URBAN HOUSING PROVISION

4.1 Introduction

As noted in the previous chapter, housing problems are considered to be closely associated with the level of industrialisation and urbanisation (Wang *et al*., 2009; 2010; Dodzi, 2013). Urbanisation is an important part of China's future development and the main driving force for China's economic growth (Xu & Chen, 2009; Wang *et al*., 2009). The large income gap between non-agricultural and agricultural work encouraged massive rural-to-urban migration, and housing demand from migrants has become a major issue for urban China (Wang *et al*., 2010). However this increasing housing demand cannot be met by the government, and migrants' own spontaneous housing solutions became problematic for current urban China (Yeh & Laquian, 1979).

This chapter reviews housing reform in China from the *danwei* system in the planned economy to the changing policies during housing reform, followed by a summary of housing provision in China after the reforms and a discussion of the impact which the reforms have brought to China. This chapter then reviews the social housing system in China, including the Housing Provident Fund system and different types of social security housing. It then discuss how migrants get access to urban housing by linking the *hukou* system and house tenure with housing provision in China. Then it aims to explore how the housing context drove the emergence of informal settlements in China.

4.2 Housing reform in China

In the late 1970s, when China underwent the economic reform and opening up process, housing reform was initiated as a positive reaction to previously suppressed housing problems. Table 4-1 shows housing policy measures taken at different stages of reform. Details will be discussed in the following sections to consider how and why these policy changes took place.

Table 4-1 Policy measures at different stages with different levels of state intervention

Stages	Policy measures	State intervention
1.Planned economy (1949-1980)	Welfare based housing policy: the *danwei* scheme	Maximum government intervention
2.Socialist market economy (1980-1988)	Initial reform measures: rent increases; the selling of public housing; housing monetisation; the Housing Provident Fund	Sharing responsibility among state, local government and *danwei*
3.Transitional economy (after 1988)	Market-oriented housing measures under the control of local governments: co-ownership of housing responsibility; more housing for middle- and low-income groups	State-owned enterprises (SOEs) play a vital role in the housing market
4. Free market economy (1998-present)	Low-rental housing; public rental housing; social housing system	Market-driven

Source: summarised by the author

4.2.1 The *danwei* (work units) scheme and housing allocation from 1949-1970s

Since the founding of China in 1949, officials established a socialist welfare system dominated by public sector *danwei* (work-units), a generic term denoting all Chinese socialist workplaces in which people were employed. They might be big or small and could be enterprises (such as shops, factories), public institutions (such as schools, hospitals, research institutes), party organs, government departments and military units (Wang & Chai, 2009). This embodied a specific range of practices (Bray, 2005) which suggests that apart from salary, *danwei* also provided employees with a comprehensive package of welfare and services, including housing, everyday facilities such as dining halls, bathing houses and shops, education such as kindergartens and primary schools, medical care facilities such as clinics, and recreation facilities such as sports grounds (Chai, 1996).

Before the introduction of economic reform in 1980s, each *danwei* assumed full responsibility for housing provision for its employees (Wang & Chai, 2009). In general, this scheme acted in a way that the state was in charge of the housing construction and then distributed the responsibility to each *danwei*. On behalf of the state government, the *danwei* allocated housing to employees according to their rank, needs and years of service in the *danwei* (Wang & Murie, 1999; Wang & Li, 2004) (*see* Figure 4-1).

Figure 4-1 Housing allocation under socialist economics in China
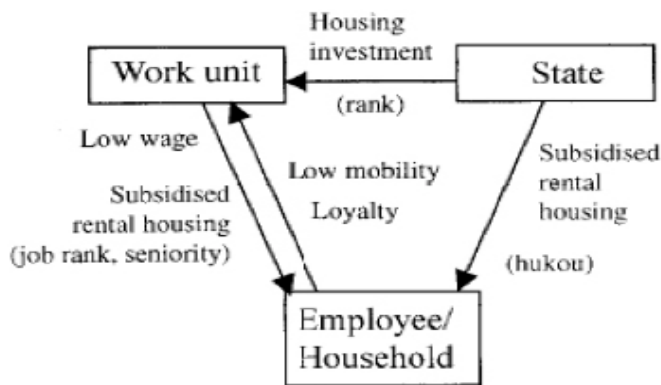
Source: Wang & Murie, 1999

However, the *danwei* housing policy generated a variety of problems. First, there was no housing market at that time, so employees had no choice over whether to rent or buy a house, but had to live in houses allocated by their affiliated *danwei*.

Second, it resulted in housing inequality both for *danwei* and employees. Before the economic reform in the 1980s, the land-use pattern of most large Chinese cities was typically *danwei*-based with distinctive zones of various types of *danwei* and their related housing estates. Large-scale *danwei* constructed housing and living facilities within their own realm (Chai, 1996). They were usually located in suburban areas and appeared as independent small towns in which economic activity, social life and political control were integrated (Björklund, 1986; Bray, 2005). Small-scale *danwei* could not afford their own construction land but shared the living and housing facilities which were readily available in the inner city. Therefore, for each *danwei,* differential allocation of housing investment was decided by its size, administrative level, nature and type (Shaw, 1997). In general, central and local government agencies would get better housing resources than state-owned enterprises; large *danwei* owned more priority than small ones; and private sectors had least leverage over the

others (Li, 2009). For employees, the odds of housing allocation, the choice of land lots and the quality of houses all depended on whether the *danwei* could obtain housing resources and the right to allocate them from the state. Job level and the working years of employees also decided whether they could be allocated housing or how big a unit they could have.

Third, the system also immobilised the urban labour force (Chen, 1996). Being tied to hard-won low-rent apartments, employees were extremely reluctant to move or change jobs. This system was responsible for China's minimal labour mobility, which was less than 1% of the non-agricultural labour force in the 1980s (World Bank, 1992). Labour mobility hinders the reallocation of labour resources and therefore impairs the vitality and effectiveness of the open market. This system will have a strong negative impact on the economic system because of the difficulty of human resources reallocation.

Fourth, the problem of poor housing conditions and new housing development restrictions led to China's urban housing shortage. In the 1980s, China was trying to industrialise its economy and the emphasis was upon 'production first, living conditions later' (Lin & Yang, 1982). Because housing was considered as social welfare provision (Lin & Yang, 1982) which sought no or only nominal economic returns at that time, less attention was paid to urban housing construction by planners compared with 'productive' investments such as building factories and large industrial programmes (Kwok, 1973). Also, Gu (1980) and He (1980) argued that artificially low rents reduced the state's ability to build new housing units, considering the rental income to be too low to keep normal maintenance, not to mention the unpaid depreciation costs and real-estate taxes (Lee, 2009). One consequence of this was poor housing conditions, and another was restricting new housing development, since the government was responsible for housing construction and maintenance and the provision of housing subsidies to all public employees in the socialist system, so it turned out to be a huge financial burden for the state (Dodzi, 2013; Shaw, 1997) and little money was left for the construction of new housing. For instance, in 1980, when the total rental revenue received by the State Housing Management Department was 450 million yuan, repair and maintenance costs totalled 1.1 billion yuan. The resulting 650 million yuan deficit had to be met by the government (Wu & Wu, 1982). Moreover, increased investment meant more housing units being completed and more state funding needed for maintenance and management with low rent as an income, which in return increased the burden on the government. In addition, Chen also argued that the increasing urban population and rising

urban housing standards were also considered one explanation for the housing shortage problem. After the 1970s, the standards of design, building materials and quality of construction gradually improved, and better standards equaled higher construction costs. Given the existing tight and slow-growth housing investment budget, this constrained the increase of new housing. These concerns therefore prevented state investment in the urban housing sector and resulted in China's urban housing shortage.

Fifth, socialist housing policy prevented the development of a housing market. Housing distribution was solely a government function. Without a market, there was almost no competition between house builders. Low efficiency was a direct outcome of the socialist housing policy. New technologies were rarely adopted in the production process. Eventually, the housing shortage required more solutions in the face of a growing population and its consequent housing demands.

4.2.2 Changing systems during housing reforms from the 1980s

Even though the *danwei* scheme played an essential role in the planned economy, its complications triggered problems in housing provision (Dodzi, 2013), and the system could not be sustained in economic terms. It shifted to a socialist-market-orientated system when the country embarked on major economic reform, including changes in housing provision. Since then, the privatisation of existing housing owned by state enterprises and the commercialisation of new developments marked a major departure from the previous socialist system (Dodzi, 2013; Li, 2009; Wang & Murie, 2011). In order to get through a transitional economy, the government took action to improve national housing provision. Since the early 1980s, housing reform has taken place in China to achieve the goal of housing marketisation.

Increasing rents and the sale of public housing[10]

After several experiments in selected cities in relation to both rent increases and the selling of public housing since 1984 with heavy subsidies, the government decided to implement these policies at the national level (Chen, 1992; Zhu, 2000; Huang, 2002; Wang, 2010; Lee, 2010; Dodzi, 2013). The 1988 National Housing Reform Conference confirmed that housing reform could bring about greater economic and social benefits and that China should go

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[10] Here, 'public housing' means those state-owned houses allocated to employers under the planned economy.

further. The overall objective of the reform was to realise housing marketisation, according to the State Council's notice in the *Implementation Plan for a Gradual Housing System Reform in Cities and Towns* (1988). Two major policy instruments were introduced by the central government in 1988: first, to continue raising rents to a more competitive level (or to issue housing coupons to offset rent increases); second, to begin implementing the sale of public housing.

The major achievement of the reform process during that period was the 'socialisation of housing', which meant that the housing allocation system had to be delinked from enterprise gradually through the raising of rents and the allocation of rent subsidies (Wang, 2010; Lee, 2010; Dodzi, 2013).

Because of the different resource positions of different state enterprises, however, the housing reform process had many unexpected consequences. First, this process was not without its equity problems. For large, high-income enterprises with a bigger housing stock, there might be a surplus from the difference in income between rent increases and rent subsidies, whilst small, low-income enterprises with a smaller housing stock might suffer from a deficit of subsidies over rent increases (Zhu, 2000; Lee, 2010). Second, state enterprises with many older workers were more reluctant to change their existing benefit position unless there were obvious new benefits (Huang, 2002; Wang, 2010). This led to a greater determination to sell public rental housing as the next stage, since greatly discounted public housing was seen by many as an additional benefit (Huang, 2002; Wang, 2010; Lee, 2010).

Housing Provident Fund and mortgage finance

According to Vice-Premier Li Peng's *Report on the Ten-year Plan for the National Economic and Social Development* and the *Eighth Five-year Plan Outline*, the ultimate aim was to commercialise state housing provision by the end of 2000. Together with privatisation, two principal policy instruments were developed to enhance housing affordability.

First, the Housing Provident Fund (*see* section 4.3.1 for more details), based on the Singapore model, was initially introduced in Shanghai in 1991 and then across the whole of urban China after 1994. The fund was supported by tax-free payroll contributions from employees matched by those from employers. Contribution rates varied between cities, but under a typical scheme the contribution rate was 7% from each side (Duda *et al.*, 2005). In

return, the fund provided various forms of assistance, including subsidised mortgages. In addition, supply-side subsidies were provided through the 'economic and comfortable' housing programme. The instruments employed included the allocation of land at zero cost combined with profit caps on developers. Prices fell within agreed thresholds to prevent developers from appropriating the subsidy. Originally, the programme was aimed at the bulk of the urban population, but since 2003 its target was narrowed to the low- to middle-income groups (Chen & Hao, 2007).

Second, mortgage finance was developed within the socialist market economy in which the state still played an active role. Commercial banks were now legally independent, although the sector was still dominated by five state-owned banks and 'the banking system became an important instrument for the government to finance its policy-lending targets' (Liang, 2008: 114). The first mortgage was issued in 1986, but it was only after the 1998 housing reform that the market grew significantly, with funding coming mainly from retail deposits. The terms of mortgages were regulated as follows: the maximum loan-to-value ratio was 80% (of the lower of the appraisal value or purchase price) (Deng *et al*., 2005) and the maximum mortgage term was thirty years. Mortgage interest rates were controlled and set to track central bank rates (Deng *et al*., 2005). Although new products were emerging, the self-amortising mortgage remained the most common.

Monetisation of housing subsidies

Despite these changes, effective demand had not been generated for home ownership because housing had never carried an exchange value in the situation in which China developed a successful tenure system based entirely on social rented housing (Lv & Qu, 2003; Liu, 2012). Also, many Chinese people still did not regard housing as a store of personal wealth and savings (Huang, 2003; Lee, 2010). At the same time, no mature housing market existed for people at that time (Dodzi, 2013). Fu *et al*. (1988) suggested that even with new institutions such as the Housing Provident Fund and new bank credits, motivating residents to move away from highly subsidised rental housing to becoming home-owners would be difficult. As far as the reform officials were concerned, this led to the next policy initiative – housing monetisation policy.

The 1994 policy set the stage for a more controversial successor, the 'monetisation of housing subsidies' introduced in 1998 by the State Council's *Notice on Further Reform of*

Urban Housing System and Speeding up Housing Development Document No 23 (1998). This involved the termination of welfare housing allocation by providing direct housing subsidies in cash terms.

For the state, the monetisation of housing subsidies was regarded as the complex part of the process of the macro plan for China's economic transformation. It involved a whole new set of national accounting methods, shifting resources from housing construction and management to various pecuniary measures based on the needs of local governments and communities (Lee, 2010; Wang, 2011; Dodzi, 2013). For the masses, however, housing monetisation sent out simple and sometimes disturbing messages. It meant that the government had decided to pay them the money which was previously used for the production of public housing, and to give them the freedom to buy or rent houses on the open market (Huang, 2002).

Successful early experiments can only be found in small industrial townships where population size was small and a high proportion of the workers had relatively high incomes, such as those found in the Pearl River Delta Region (Lee, 2010). In large cities, however, where the labour force was highly stratified and a high proportion had been dependent on the welfare housing system, there was much more scepticism about housing monetisation.

These policy measures clearly laid down the fundamental direction of the whole process of housing marketisation. Two strands of thought then stood out clearly. First, the state would no longer bear the full responsibility for housing provision; it would be shared between the state, the *danwei* and the individual. Second, in the process of transformation, the state would seek every means to disengage from public housing through the promotion of home ownership (Chen, 1992; Zhu, 2000; Huang, 2002; Wang, 2010; Lee, 2010; Dodzi, 2013).

4.2.3 Housing provision in China

Housing reforms changed housing provision in China in terms of the nature, allocation, ownership and tenure of housing, and housing rents as well as a source of investment. Table 4-2 compares the pre and post housing reform differences. Housing became a consumable commodity in China. It was provided primarily through the market by the monetary method. People could buy a house as private property or rent a house through the market. Other than state government, wider sources of investment could become involved in the housing market, such as local governments, *danwei* and individuals.

Table 4-2 Comparison of housing provision before and after housing reform

Categories	Before housing reform	After housing reform
Nature of housing	A welfare service	A consumable commodity
Allocation	Secondary; material; free	Primary; monetary; through the market
Ownership and tenure	Public dominates; public rental	Private; owner-occupier
Rent	Subsidised minimum rent	Market rent
Source of investments	State government	State government; local government; *danwei*; individuals

Source: summarised by the author

Figure 4-2 shows a further analysis of the conceptual model for housing provision in China in terms of three stages: development, construction and consumption.

In the development phase, the state should take the major role in determining housing production, land lease, type of housing, location and should try to achieve the desired output. Local governments should take responsibility for providing the necessary demand-side subsidies. The state should monitor the whole process and allocate budgets to the local governments.

In the construction phase, the private sector and the third sector should be encouraged to participate. The state or *danwei* should not be involved in construction. This would ensure free market competition and quality housing.

Finally, the consumption of housing would be mainly subject to state intervenes and the major pressure group would be the working class. Rent subsidies should be provided by the local governments to those who are in great need and face low affordability. The HPF scheme should be used to fulfill the housing demand and the interest rate should be controlled by the local governments. A controlled secondary market should be facilitated to ensure affordable prices. The state should play a direct role in this housing consumption phase. The loan system should be controlled to avoid market speculation (Mostafa *et al*., 2003). In 2003, the banks took initiatives to restructure its policy.

Figure 4-2. Housing provision model in China
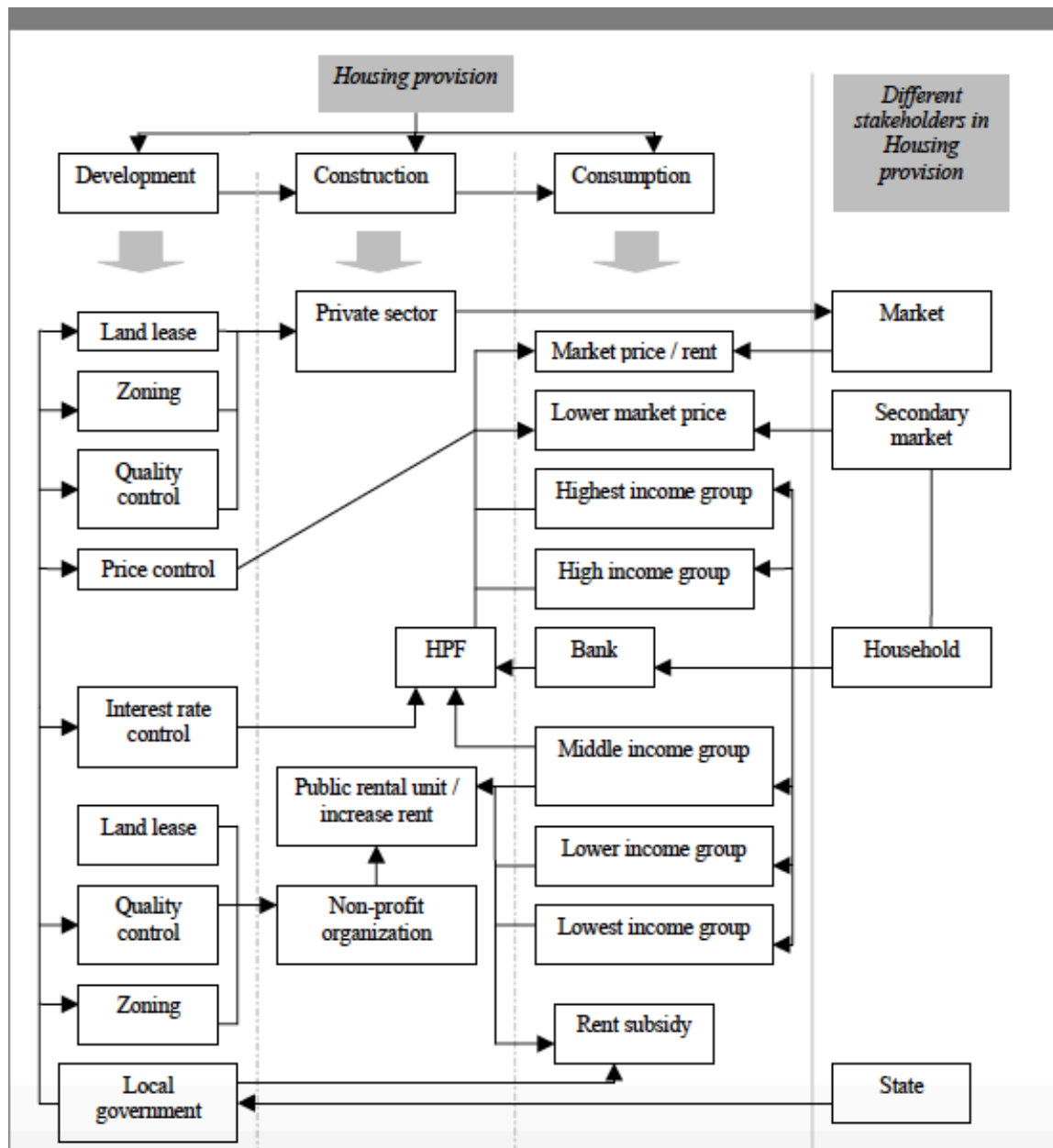
Source: Mostafa *et al*., 2003

4.2.4 The impact of housing reform

Although the reform process managed to create a new market system and new homeowners created enormous opportunities and benefits for those who were better located on the social ladder under the old regime, it also further aggravated the inequalities in housing allocation which meant that the urban masses at the bottom of the work hierarchy and those within a less favourable set of hierarchical relationships still had to tolerate extremely poor living conditions.

The first equity problem was with the Housing Provident Fund's establishment as an integral housing institution. First, the fund was linked to salary levels. China was moving towards a more market-oriented wage system in which some enterprises, state or private, were paying differential wages. A fixed percentage contribution both from the individual and from the employer meant that a higher income should generate a greater contribution from the employer, whereas those in the low-income strata, or those who were regarded as 'households with great difficulties' would be unlikely to benefit from the reform process. Furthermore, people who had been allocated good welfare housing under the old system will be further protected (Lee, 2010; Xiong, 2011). In the old welfare housing allocation framework, inequity in allocation existed in many forms and many people were allocated more than one dwelling unit as a result of their relational position or their social network within the *danwei*. Home purchase through the Housing Provident Fund or a combination of the Housing Provident Fund, personal mortgage and savings, transformed users' rights into pecuniary rights.

The second equity problem resulted from the inequality raised from the old *danwei* system (discussed in section 4.2.1). The occupational welfare system whereby housing-in-kind benefit varied according to the status of the employee had exacerbated housing inequality problems in China. Also, *danwei* as a whole also had very different access to housing resources (Wang *et al*., 2009; Wang & Murie, 2011; Wang, 2013). State Councillor Li Teiying (1998) commented that, on average, the housing conditions of staff employed in government departments and party institutions, retaining substantial housing resources through a long history of welfare housing distribution, were generally better than those of many other employees. In the process of implementing the housing reform measures, those privileged groups had clearly benefited more than others. In sum, since the original allocation of housing in China reflected widespread inequalities, the new landscape of monetisation and commodification inevitably took on many of the contours of the old system (Wang *et al*., 2009; Lee, 2010; Wang & Murie, 2011; Wang, 2013). The policy created inequalities in housing allocation not only among different types of enterprise, but also among individuals. Before economic reform, housing was usually developed alongside other 'productive' investment projects.

Based on the impacts of housing reform, government officials gave new attention to reaffirming the state's role in housing provision for the lower and middle classes (Li, 2010;

Lee, 2010; Wang, 2011; Lu & Pang, 2013). Lee (2010) suggested that housing as a form of social security was equally emphasised to integrate with the new housing system, together with changes in housing finance, housing delivery and the housing market. Wang (2011) suggested that the social security housing system had to be introduced to meet the housing shortage. The government also took the impact of economic and social problems into consideration when making social housing policy, which was viewed as the best and quickest way to respond effectively to the lower-class group's housing shortage (Dodzi, 2013).

Housing reform created a dual housing system containing public housing and a market system, but also marginalised millions of households which were below the national standard of public housing application (Zhu, 2000; Jing, Liu & Man, 2010; Li, 2010). In return, the low level of affordability and the lack of proper housing market indicators also led to an extremely uncoordinated system of housing construction and supply (Lee, 2010). Moreover, since the central government subsidised urban housing, there were considerable disparities between rural and urban areas in terms of housing quality, facilities and infrastructures, which caused significant pressure on rural immigrants in urban areas. With strict population control policy, the immigration pressure had also not been so apparent before the reform (Logan & Bian, 1993). Nevertheless, social inequity between rural and urban residents was inevitable.

4.3 Social housing system in China

The use of the term 'social housing' is relatively recent in China (Wang, 2013). It is commonly called social security housing or affordable housing, and it consists of all types of policy-related housing (Wang, 2013; Yang *et al*., 2012; Li, 2010). 'Social security' here has a meaning close to 'welfare', but is not the same. It puts more emphasis on the guarantee of social stability and relief, which means that it is not for all members in society (Wang, 2013).

Although the government relied on the private commercial housing market to meet the needs of higher-income groups, at the same time it also provided affordable and social housing by subsidising commercial housing purchases or by offering low-rent public (social) housing to middle- and low-income families (Meng & Feng, 2005; Li, 2009; Chen, 2010). Building social housing was viewed as the best and quickest way to respond effectively to the current housing problems (Dodzi, 2013), and China focused on setting up an institutional framework

with the aim of ensuring that every family had access to basic housing which met the demands of modern life and the minimum amenities in terms of health, safety and convenience (Yang *et al*., 2012).

4.3.1 Housing Provident Fund Scheme

In the late 1990s, the focus shifted to the operational level of providing financial assistance to homebuyers. Experiences with rent increases in the 1980s had not been entirely successful as a result of the low wage system. Many local governments lacked the necessary funding to complete new housing projects. Even when they did have funding for construction, current rent levels in no way recovered the initial housing investment. Moreover, it would be immensely difficult for any government or *danwei* to withdraw the existing housing benefits from their workers.

In this sense, one concern was raised about the financial sustainability of housing reform. The Housing Provident Fund was created to provide direct assistance to help people to finance their own home (Lee, 2010). In 1997, the accumulated capital holding of the Housing Provident Fund amounted to 16.6 billion yuan, and only a small percentage of the collected funds was used for home finance. Most of the funds collected were still being loaned to *danwei* for home construction, although the trend was beginning to move towards individual home financing rather than state enterprise home financing (*Liberation Daily*, 6 March 1997: 13). In 2010, however, there were 33 cities in China implementing some form of Housing Provident Fund, with Shanghai claiming to be the most successful and the first to adopt a full-scale Housing Provident Fund for all its citizens (Lee, 2010).

Another concern was whether housing provision was the government's or the enterprise's responsibility (Lee, 2010). Based on the history of housing allocation through work organisations as a form of welfare distribution, plus generally very low salary levels, the state naturally assumed the full responsibility for housing production (Zhu, 2000). The Shanghai Housing Provident Fund Management Centre (1996) stated a broad policy which was adopted as the '3 for 1' policy, by which the state, the work organisation and the individual together shared the housing costs. In practice, different cities and provinces developed their own management processes. Figure 4-3 takes Beijing as an example and shows an analysis of the operation of the Housing Provident Fund (Wang, 2001), from fund resources to fund saving, and finally to fund uses.

Figure 4-3 Housing Fund Management System in Beijing

Municipal Housing Fund Management Centre

Policy, Supervision & Loan Approval

Central Collection Department and the other 77 Branches

Individual housing provident fund contribution

Work Unit Housing Managers

Work unit housing fund

China Construction Bank Account for individual fund

China Industrial and Commercial Bank Account for work unit fund

Individual family use

Work unit use

Municipal Development Office & Other developers

General property development companies

Withdrawn for housing

Mortgage for housing

Withdrawn for housing subsidy

Loan for housing development

Loan for affordable (low income) housing projects

Loan for general commercial housing projects

Fund Sources   **Fund Saving**   **Fund Uses**

Source: Wang, 2001

The Beijing Housing Provident Fund was a compulsory savings scheme which offered low interest for account holders. The City Housing Provident Fund Management Centre was responsible for managing the fund. In the fund sources section, every employer and employee in the scheme had to contribute a percentage of salary on a monthly basis to the employees' account in the Housing Provident Fund. Initially, the percentage was set at 5% and was subsequently increased to 7% in 1999 (Dodzi, 2013). The savings under this scheme were deposited in banks designated by the Housing Provident Management Centre and the use of the fund was restricted to providing loans to enterprises for housing production, providing loans directly to workers to purchase their own flats from the private housing market, and providing finance to enterprises or individual households for major housing repair works (Yeung & Howes, 2006).

The operation bodies co-operated in such a way that at the local level, Housing Committees determined policies in association with the Provident Fund Management Centres. They selected a bank and these designated banks were responsible for the funds deposited in them and for the daily operation of the Housing Provident Fund. At strategic and national levels, the People's Bank of China was responsible for the determination of interest rates applicable to the Housing Provident Fund and the Ministry of Construction and Ministry of Finance were responsible for overseeing the scheme (*ibid*.).

The general management approaches adopted in Beijing for the management of the Housing Provident Fund shown in Figure 4-3 indicate that the Management Centre commissioned one or more banks to collect and to manage the fund. The Housing Committee would set up special accounts in the selected bank(s) which would be responsible for fund collection and for keeping track of the flow of the fund under the supervision of the Management Centre. The Housing Committee had the supreme right to decide matters related to the scheme. On the other hand, the banks were responsible for handling the deposits, lending and auditing as well as financial management. Every employee under the scheme had a specific HPF deposit account with a designated bank. In an attempt to facilitate and standardise the administration, the State Council Housing Reform Leading Group (State Council Housing Reform Leading Group Office and China Urban Housing Reform Institute, 1996) suggested that local governments should adopt online network systems and fund card network systems for managing the provident funds.

4.3.2 Three Forms of Social Security Housing

With the severe housing shortage and common residential crowding phenomenon before housing reform, there had been genuine demands for housing (Zhu, 2000). During the housing reforms, the availability of commodity housing had greatly improved housing consumption, especially for high-income households. However, commodity housing was beyond most households' reach, especially in big cities where private housing was extremely expensive (Huang, 2002). Then the government intervened and introduced three forms of social security housing: economically affordable housing, low-rent housing and public rental housing, coexisting to provide urban housing for low-income households with housing difficulties. It also implemented shanty-town redevelopment in some areas (Yang *et al*., 2012). Figure 4-4 gives the whole picture of the urban housing supply system (Dodzi, 2013).

Figure 4-4 Urban housing supply for different income groups

Source: Dodzi, 2013

There was still no clear definition of a low-income household, which created differences between cities when local authorities set policies for the low-income group (Chen, 2010). According to the *2007 China Statistical Yearbook,* households were divided into seven groups in terms of household income: highest income household, high income household, higher middle income household, middle income household, lower middle income household, low income household and lowest income household. Figure 4-5 shows the proportion of each income group in China.

Figure 4-5 Composition of all income groups in China
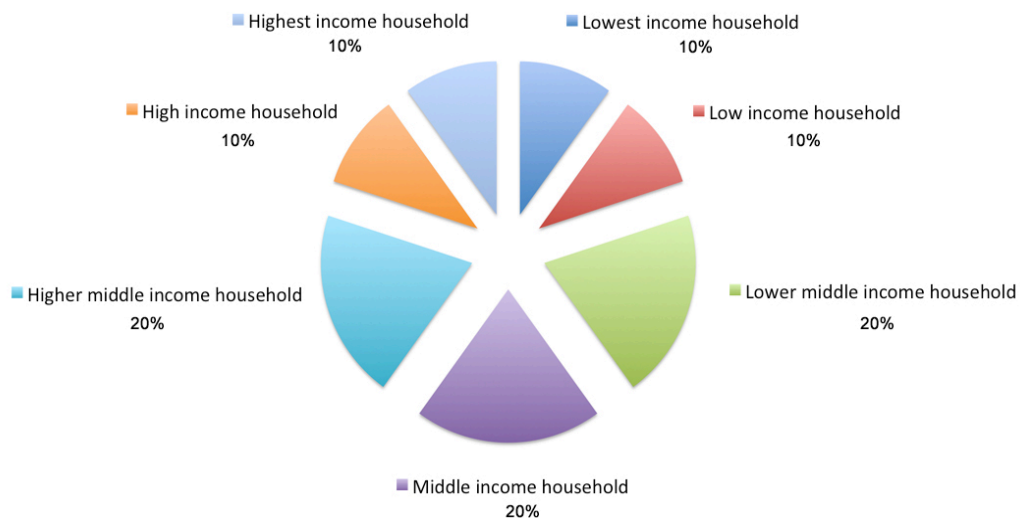
Source: China Statistical Yearbook, 2007

Based on the *Economically Affordable Housing Regulations* (2007, No. 258), the *Low-rent Housing Security Act* (2007) and the *Public Rental Housing Regulations* (2012), Table 4-3 shows a comparison of the three forms of social security housing in terms of policy making, operating and managing, in order to present a clear picture of how these different forms of housing were implemented in China.

Table 4-3 Comparison of three forms of social security housing (Source: created by the author)

			Economically affordable housing	Low-rent housing	Public Rental Housing
Policy making	Purchase policy/ Applying policy	Target group	Low and middle income households	Low income households with housing difficulty	Lower-middle income households; new employees; qualified migrants with housing difficulty
		application requirements	Local urban household registration; Household income certificate; Current housing condition	Local urban household registration; Household income certificate; Current housing condition; other certificates	Current housing condition certificate; Household income/ property certificate; Migrant workers' stable employment years in local area
	Pricing policy	Composition of housing price	1.Land acquisition and compensation for resettlement;2. Survey, design and overhead expenses; 3. Construction; 4. Infrastructure in the residential area; 5. 1-3% profit; 6. Loan interest payment; 7. Taxes		
		Subsidies	Free land provided by municipal government; Expenses for the redevelopment; Price controlled by the government, with 3% profit margin	Mostly rent subsidies; Housing proviion with controlled rents; Rent reduction	Land may be free; Regulated rents; Fee/ tax reduction
	Allocation policy		1. Application; 2. Processing; 3. Public notification; 4. Waiting list	1. Application; 2. Construction (housing security) Department comfirming applicant's housing condition; 3. Civil Affairs Department comfirming applicant's household's income; 4. Public notification; 5. Waiting list	1. Application; 2. Processing; 3. Public notification; 4. Waiting list
	Sale policy/Rent policy	Less than 5 years	Can't be sold at market price	Not applicable	First leases less than 5 years
		More than 5 years	Can be sold at market price; Pay land revenue =70%*(SellPrice - BuyPrice)		Can be renewed
Operating	Funding source			1. Financial budget; 2. Housing Provident Fund value-added income; 3. Land-transferring fees net income; 4. Social donation; 5. Others	
	Developing		Government newly construction; Vacant public housing; Social donating housing; Others		1. Newly construction; Reconstruction; Acquisition; Long-term rent; 2. Government direct investment or policy support or social investment
Managing	Housing construction		Each set of housing floorage limited whithin 60m^2	Each set of housing floorage limited whithin 50m^2	Suites of houses /dormitory building
	Price control		Price controlled according to local economic development level, people's living standard, housing condition, family structure and population etc.		Rent controlled at a lower price than market rent in same area.

4.3.2.1 Affordable housing policy

The Affordable Housing Policy in China, commonly known as the 'economical and comfortable housing' policy, was designed to be available to lower- and middle-income households, including public-sector employees, to encourage home ownership. This kind of social housing has been characterised as both economical for lower- and middle-income households to afford the relatively low housing price, and comfortable to live in as meeting construction and quality standards (Dodzi, 2013).

Evolution of Affordable Housing Policy

1) The *Anju* (comfortable housing) project phase

Economically affordable housing evolved from the idea of the *Anju* project, which involved two steps before it took shape (Wang & Cheng, 1995; Lu & Pang, 2003; Dodzi, 2013).

At the beginning in 1993, the central government began to address the housing shortage and unaffordability problems. Officials initiated a *kangju* (healthy living) project to build low-cost housing estates. Under this plan, the cost of housing for low-income households was to be shared by the state, the *danwei* and individuals (Dodzi, 2013).

Then in 1995, as this policy and experiments were taking place, other cities came up with the idea of subsidising commercial housing for low-income families, the *Anju* (comfortable housing) project with sale prices just covering the basic construction cost. The target groups were expanded to a larger group of low-income urban households (traditional public-sector employees) (Lu & Pang, 2003). As shown in the statistics from 1995 to 1997 (Dodzi, 2013), the government set up 227 *Anju* projects all over China, with a total investment of 62.5 billion yuan, construction scale of 71.59 million square metres and housing provision for 650,000 low-income households. Unlike the earlier *Kangju* project, the initial capital investment for the *Anju* project was shared by the central government and the cities, and the investment was to be recovered through the sale of the completed houses. In detail, the central government agreed to provide 40% of the investment through bank loans and city governments were supposed to contribute the rest using resources from city housing funds, *danwei*s' housing funds, individual housing savings, and presale payments. In addition, the city government also organised construction, and the products were sold to qualified households (official residents of the city) at a cost-recovery price (Wang & Cheng, 1995).

2) Affordable housing developing phase

Anju projects had a rather narrow scope and were targeted only at small groups of lower-income people who worked for small employers who could not afford to build employees' housing. So in 1998, the *Anju* project approach was revised and was given a new name – 'affordable housing' (*jingji shiyong fang*), which marked a new phase of developing affordable housing as a core task. Central government policy also shifted the emphasis to the development of this type of housing for the lower- and middle-income groups.

The affordable housing idea came at the same time as the government shifted its economic development emphasis from export to internal consumption in response to the Asian financial crisis. Affordable housing development was promoted as a major sector of the urban economy with the intention of tapping into the savings held by urban households.

The state also set up regulations for implementing the Affordable Housing Policy as follows: (which also distinguished affordable housing from other housing types)

The way in which the land has been allocated. For any projects approved by the local authority, as for affordable housing, the land would be administratively allocated without charging for land use.

The government control of the profit made by the developers. The investment profits for the developers were controlled at a level of no more than 3% (State Council 1998). Further instructions were issued by the Ministry of Construction to reduce other costs of the building process. Government-controlled banks and the municipal housing fund management centres were instructed to allocate funds and issue loans to housing developers for the development of affordable housing. Statistics show that to maintain high economic growth, the central government and state banks made provision for local governments to plan 106.9 million square metres (about 1.3 million units) of affordable housing for the first half of 1998 (Sun, 1998).

The target groups qualified to apply for affordable housing. Figure 4-6 shows how the factors influenced allocation policy when people apply for government-supported affordable housing.

Figure 4-6 Factors associated with allocation policy
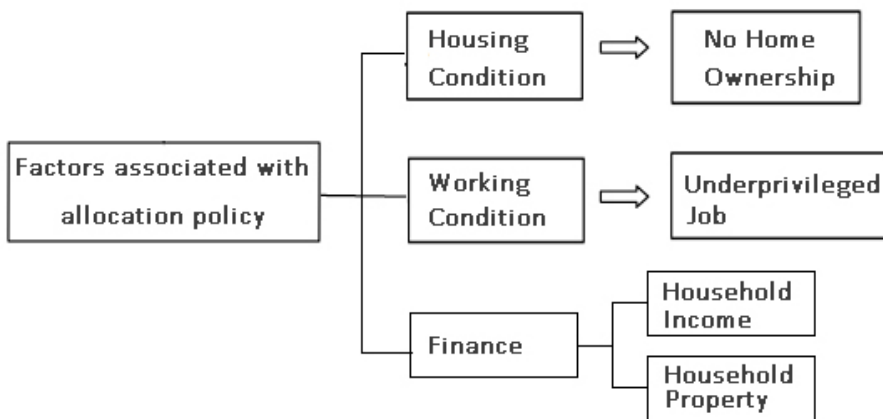
Source: Chen, 2010

Affordable housing schemes in different cities: the example of Beijing

Different cities could have their own schemes to implement the Affordable Housing Policy. Taking Beijing as an example: in October 1998, the Beijing Municipal Government issued its own policies for affordable housing development. Three types of affordable housing scheme were encouraged: 1) local government–organised unitary schemes (planned or already under construction by real-estate development companies and approved as affordable housing); 2) *danwei* schemes for their employees using land under their control; and 3) joint schemes by two or more *danwei*s for their employees.

The first would be the main form, and the other two were transitional arrangements for using land currently under the control of large *danwei*s. The way that the *danwei* were to be involved would be different from the past. Many *danwei*s had separated their housing management functions from other operations, and special subordinate companies were set up to organise housing development. Unlike ordinary commercial housing, the sale price of affordable housing was to be checked and approved by the local authority. To reduce the price, most of the local government service charges, such as planning, registration, planting and underground water compensation fees, were reduced by up to 50% (Beijing Municipal Statistical Bureau, 1998).

Government intervention in the management of the Affordable Housing Policy

1) Central government

In general, the Chinese central government sets polices and mandates with respect to affordable housing. It does not provide financial support to provincial and local governments for affordable housing through its budgetary spending or inter-governmental transfers, except for a few sub-national governments in the fiscally strained and underdeveloped central and western regions.

2) Sub-national governments

The sub-national governments, cities in particular, are responsible for the construction, financing and management of that housing. Local governments are required to provide free land, reduce government charges and fees, and control developers' profits to lower the housing price for those who are qualified based on government eligibility standards. In some cities, such as Beijing, affordable housing also includes price-controlled commercial housing whose price is held down by the provision of reduced land-use fees and charges, as well as favourable land allocation by the government to help lower- and middle-income families become homeowners. The Housing Provident Fund, a compulsory saving plan with contributions by both employers and employees for housing purposes, helps employees to buy a house with subsidised loans.

Local governments provide state-owned land to affordable housing projects through appropriation mechanisms. They usually appropriate land to developers who finance, construct, and sell economical and comfortable housing units to the people considered eligible according to government standards and regulations. Middle-income families seeking market-oriented commercial housing can receive a subsidised loan from the Housing Provident Fund.

4.3.2.2 Low-Rent Housing Policy

The idea of a government-assisted Low-Rent Housing Policy was introduced by the 1998 reform programme and refers to housing subsidies in the rental sector for low-income urban households with housing difficulty.

The government implemented this policy through direct provision of public housing at a restricted rent level, or by providing rent subsidy (the preferred mechanism). When a household was allocated a property, the publicly-owned housing rent was determined as a proportion of the family's disposable income. When rent subsidy was involved, it was

determined by referring to the basic housing standard applied in the city and the income level of the household. Very recently, it has been assigned a new role to fulfil the government's basic housing provision promise by means of rent reduction (Low Rental Housing Regulations, 2007). In summary, this policy has been put into action in the following three forms:

1) Housing provision with controlled rents (*shiwu peizu*) – public housing provided by the government or *danwei*s with government-controlled rents;

2) Rent subsidies (*zujin butie*) – monetary subsidies to low-income households who rent private housing on the market;

3) Rent reduction (*zujin hejian*) – a further rent reduction for households already living in public rental housing. Since 2007, 'rent reduction' has been combined with 'rent subsidies' and recently defined as low-income housing,

The five funding sources are shown with percentages from 1998 to 2006 in Figure 4-7: financial budget, housing provident fund value-added income, land-transfer fees net income, social donations and others.

Figure 4-7 1998-2006 low rental housing funding sources
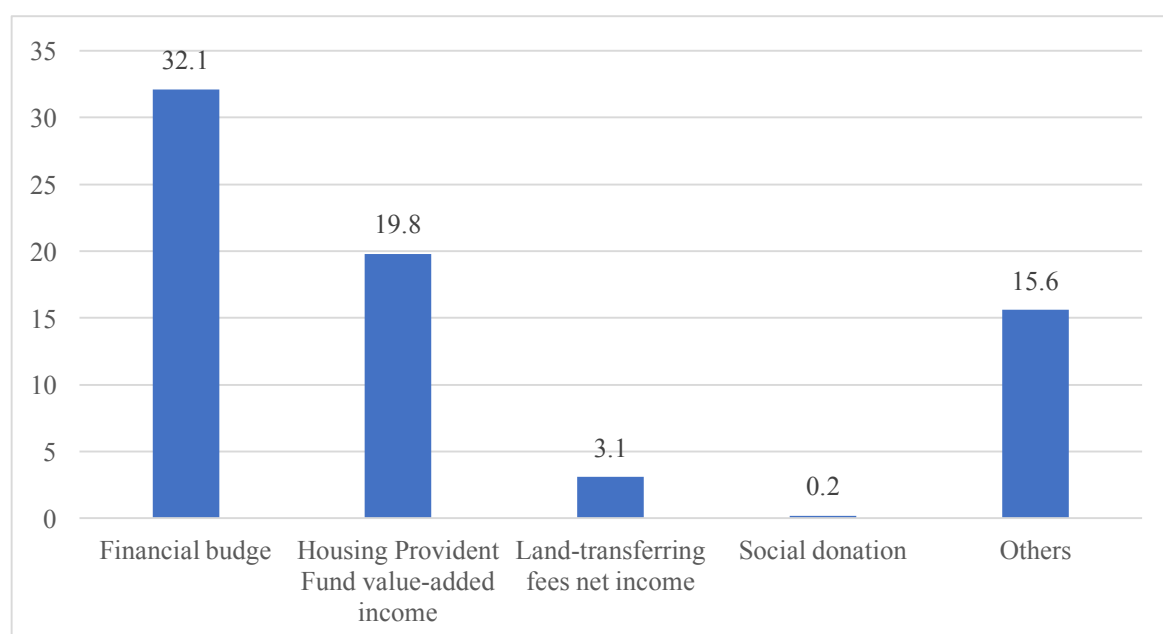
Source: Statistics from the Ministry of Construction in China

Low-income families could only select one way of receiving assistance: buying affordable housing or applying for government-assisted rental housing. Families qualifying for assisted rental housing could give up this opportunity and apply for the purchase of affordable housing. Their applications would be added to the affordable housing purchase queue. Families already in the rental assistance scheme, living in public rental housing, could apply to purchase affordable housing if they promised to relinquish their current housing or subsidies if allocated affordable housing.

Minimum income has been considered as a standard for measuring whether low-income households were qualified to apply for low-rent housing. In different situations, each city had different standards set by the local government. Beijing (Wang, 2011) has been chosen as an example here to explain the qualifying condition as follows.

In 2001, Beijing municipal government introduced government-assisted rental housing for local registered residents. Applicant households[11] also had to meet housing, income and asset condition. Besides, for those who applying for a direct allocation of publicly owned rental housing should meet one or more of the following conditions (Wang and Murie, 2011: 247): '

- At least one family member is either over 60 years old, disabled or seriously sick.
- Family is currently renting and living in a dangerous building.
- Family faces relocation due to demolition and urban redevelopment.'

4.3.2.3 Public Rental Housing Policy

A public rental housing policy was introduced in 2010 with rental housing provided by either public or private agencies with government-controlled rents, targeting mainly lower-middle income households with housing difficulties, new employees, and qualified migrants with stable jobs and residence in cities (Huang, 2012).

As seen from the definition, the major improvement was that the criteria for eligibility for public rental housing had been expanded to include lower-middle income households. The

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[11] 'Family members who qualified for help were specified, and parents and partners could be included as family members even if their current hukou was outside the city. Adult and married children living with parents could apply separately. Students from outside the city and rural migrants, however, had no right to apply.' (Wang and Murie, 2011:247)

reasons that the central government has decided to promote the development of the public housing policy (Dodzi, 2013) can be concluded as follows:

1) Despite efforts to provide all needy households with affordable housing or low-rent housing, some households were still excluded, for instance, households which did not qualify for low-rent housing, but could not afford to purchase affordable housing; or households which did not qualify for affordable housing, but could not pay the high price of commercial housing. They were often called 'sandwiched households' (*jia xin ceng*);

2) The rental market in Chinese cities was underdeveloped and rental housing was mainly provided by individual households;

3) Accommodation in housing estates built by developers was marketed for sale only.

In this situation, public rental housing became increasingly considered as social housing by the government because of its accessibility by low-income households. As lowest-income households have mostly been covered by the low-rent housing policy, public rental housing would be the focus of social housing programmes in the future.

After analying the three main types of social housing implementing nationwide in China, conclusions can now be drawn about the similarities and differences between them. Table 4-3 shows the results.

4.3.3 Other housing schemes as temporary measures

As well as affordable housing and low-rent housing (the two schemes required by the central government, different cities also introduced other housing schemes with various social objectives, which can be summarised in the following types (Wang, 2013).

Cooperatives. This was a form of enterprise or *danwei* in which the accommodation is collectively owned and managed by the people who work within the system. Under the regulation of land construction and urban planning, *danwei*s can use their idle lands for fund-raising building in order to supply employees' housing demands at a favourable price.

Urban house demolition. With the urban construction in big cities, many dilapidated or old residential buildings needed to be removed or redeveloped. This provided a good opportunity to help to improve original residents' housing condition. There were different

measures for residents to get housing subsidies: monetary compensation, resettlement with new houses, or housing redevelopment.

Others. Since 2010, the government has promoted shanty-town redevelopment intended to improve housing conditions for homeless people living in state-owned mining and forest areas or on state farms. Also, urban-village reconstruction has taken place in specific areas as a pilot project in order to provide more houses for migrant workers or low-income groups.

4.4 Access to urban housing

With these reforms, the government hoped to establish a diversified, multi-level urban housing provision system with three major methods of housing supply: 1) commercially built private housing at market prices for the high-income group; 2) commercially built subsidised affordable housing for the middle- and low-income groups; and 3) social housing to rent for the very low-income group (State Council, 1998). However, as the *hukou* system divides people into urban and rural groups, restrictions occurred when people sought access to housing.

4.4.1 The *hukou* system and housing restriction in China

In Chapter 3, I explained how China used the *hukou* registration as a basis for providing urban services and maintaining the infrastructure, including housing (Wu, 2002). Because of the economic disparity between urban and rural areas, massive numbers of migrants rushed into cities in two forms of migration: 1) permanent migration (*qianyi*) with formal changes of *hukou* registration and 2) temporary movement (officially called the floating population or *liudong renkou*) without official changes of *hukou* from the origin to the destination (Fan, 2008). The latter group, which makes up the majority of China's internal migration, is considered circular in that migrants tend to maintain strong linkages with their original home places. The notion of temporary migrants is peculiar to China's contemporary context because it does not necessarily denote a time-frame but is an official designation (Chan 1996; Li & Siu 1997; Ma & Xiang 1998).

For local governance, the distinction between permanent and temporary migration is important because permanent migration entitles migrants to urban amenities such as local schools and the city-wide welfare programmes enjoyed by local residents, whereas temporary migrants have restricted access to these amenities. To urban residents and

permanent migrants, the urban housing sector offers an increasing range of choices. However, migrants are largely excluded from the mainstream housing distribution system, and recent reforms in urban housing provision seem to have largely overlooked the needs of this population. Acquiring either use right or ownership right of municipal and *danwei* housing is out of question for migrants without a local *hukou* because the linkage between *hukou* registration and urban amenities is largely intact (Wu, 2002). Also, even though commercial housing emerged in the early 1990s, the only real property sector open to them is still beyond the purchasing power of most migrants.

As a result, renting represents the best opportunity for these migrants. But housing stability is minimal because the rental sector is immature, and regulations provide little protection for renters' rights and security (Wu, 2006). Restricted access to housing, together with the temporary status of migrants, contributes to poor housing conditions. In addition to the increasing level of mobility, the institutional structure also made it unable to accommodate migrants arriving in cities. In fact, housing shortages do not happen only for migrant population; the local urban poor also find it difficult to afford suitable housing (Wang, 2004). Some of them need to rely on informal housing, such as urban villages.

4.4.2 House tenure type

From the aspect of property rights, it is the basic right and obligation for citizens to obtain housing tenure. The Population Census in 2000 identified six modes of housing tenure for family households in terms of rental and ownership (Zheng & Liu, 2004). These included two rental categories, renting from the public sector (municipalities or work units) and renting on the private market. There were four types of ownership, distinguishing how the home was acquired: purchase of former public rental housing, purchase at market prices, purchase at discounted (economic) prices, and self-built housing. Residents could normally obtain property rights if they purchased through the housing market. However, social security housing normally offered incomplete property rights (Zhu, 2007). Also, self-built housing could be 'small property rights housing' [12] (*xiaochanquan fang*) or 'reserved housing sites' (*zhaijidi*), owning incomplete or unclear property rights (Yan, 2008).

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[12] Compared with commercial housing's property right protected directly by law, the property right for this kind of housing is less protected, which isd why it is called 'small' property right housing.

4.4.3 Migrants' housing choice

Because of these three alternatives for urban residents to get access to housing, migrants are largely excluded from the mainstream housing distribution system because the linkage between *hukou* registration and urban housing is largely intact. They cannot acquire either the use right or ownership right for municipal and *danwei* housing under the major housing reforms. They are also excluded from both the economic and comfortable housing and the affordable rental housing projects (*see* Table 4-4).

Table 4-4 Housing availability for poor residents under reform policies

Major reform policies	Poor among the official urban residents		Poor of the unofficial residents
	Workers laid off by state sector	Workers outside the state sector	Rural to urban migrants
Sales of public housing	Depends on access to work unit housing; those who have secured allocation in the past will benefit	Not applicable to the majority, apart from a few senior managers in the collective sector	Not relevant
Compulsory savings (Provident Funds)	Applicable, but amount depends on the individual enterprises' financial situation; some provide while others do not	Depend on the willingness of each individual employer; most private sector small businesses do not provide	Not relevant
Affordable housing	Qualified for purchase, but depend on individuals' saving; most will find difficult to buy	Qualified for purchase; most low paid workers do not have enough savings and secured jobs for mortgage; small business owners could buy	Not qualified for purchase; if rich enough, could buy commercial housing at market price
Housing subsidy	Only applies to those who were entitled to housing allocation	Not applicable	Excluded
New social rental housing	Applicable and the main target; may seek help from employer or government	Applicable, but could only rely on the municipal government	Excluded

Source: Wang, 2000: 858

With the liberalisation of the housing market, the rental market developed so that migrants can have more choices. High-income migrants can obtain the blue-print *hukou* registration by purchasing housing units worth a set amount of money, and after five years their *hukou* becomes permanent (Chan, Yao & Zhao, 2003).

According to statistics published by the construction sector (2006), housing choices for temporary migrant workers were as follows: around 60% rented a house, 30% were provided with accommodation by employers, less than 5% could afford to buy a house and 5% took other measures to solve their housing problems, such as asking a relative for support (State Council research team, 2006). Similar conclusions have been drawn from studies of migrant workers in Beijing (Qu *et al.*, 2007).

These figures show that temporary migrants had a very different range of housing choices from local residents and permanent migrants, such as renting private housing. A small number of temporary migrants stayed with urban residents, which was a more common practice in central downtown districts. Most migrants stayed with urban residents who were either relatives or were employed by urban households. Institutionally provided dormitories were another housing choice for temporary migrants (Wu, 2002). Other types of housing, including hotels, self-built sheds and boats, only accommodated a small number of migrants (*ibid*.). There was an increasing popularity of the emerging informal settlements, especially urban villages. The rent was fairly low and many migrants were able form rural villages of people from the same province or region, so living close to fellow migrants provided a sense of community and moral support for them.

4.5 Informal settlements emerging in China

The specific institutional background in China contributed to the housing issue of a floating urban population. First, under the urban/rural dualism, only registered individuals are taken into consideration by the urban housing system and related policies. In other words, before migrants are registered in cities, the government is not responsible for their housing security. There is no doubt that these groups of people are in need of housing when they take up jobs in big cities. This creates a migrant workers' or a floating population's housing issue rather than a straightforward urban housing issue and indicates the temporality and characteristic of 'those who recruit migrant workers are responsible for their housing' and 'those who benefit from their recruitment are responsible for their housing'.

Second, the government also paid attention to facilitating the retreat of migrant workers with a rural *hukou*, guaranteeing housing and contracted land in their original place of household registration. Given that housing in cities for migrant workers is related to their employment, they could have a place to live in a dormitory or construction camp if they have a job; but once they are unemployed, custody and repatriation could happen. As long as this system is under strict implementation, large area of slums ought to be prevented and the migrant workers' housing problems will not get out of control. However, housing provision by employers only solves the housing problems for a small proportion of migrant workers, leaving the majority struggling to rent a house.

The unexpected situation included not only the great demand for rental housing, but also the ways of providing rental housing. In peri-urban areas and industrialised small cities, spontaneous housing construction or expansion by original residents happened in order to provide rental housing for the floating population. This approach has arguably led to the expansion of spontaneous housing. Around 2000, the Shenzhen authority tried to confirm the property rights of rental houses with conditions, but this led to a new wave of self-construction. Until 2007, illegally constructed rental housing continued to grow (Yan & Zhao, 2009). Insisting on clearance was never successful. Even in Beijing, the capital law enforcement and efficiency cannot stop informal settlements transferring from Tangjialing district to Shenggezhuang district (Yi, 2002). Photographs 4-1 to 4-9 (*source*: from *xinhua news. com*) show a range of informal settlements in China.

In addition, the huge pressure caused by the housing shortage faced by the government led to migrants self-constructing housing, as happened in *Zhejiangcun* (Zhejiang village) (Hu, 1997; Xiang, 2000). Even though the government allowed the rural population to work in cities, it did not involve them in other policies. This resulted in unstable employment and income for migrants, so they could not afford to rent or buy a house. To some extent, they became marginalised and isolated from urban living (Wang, 2006). With the process of industrialisation and urbanisation, rural-to-urban migration is a long-term trend which has driven the emergence of informal settlements in China.

Photo 4-8 Urban villages

Photo 4-9 Illegal self-built houses

Photo 4-10 darkness underground

Photo 4-11 Underground basement

Photo 4-12 Metal container dwellings

Photo 4-13 Inside metal container

Photo 4-14 Bunk bed in group-rental

4.6 Summary

This chapter has reviewed the housing reforms in China intended to expand private property rights in housing and to promote home ownership through the commercialisation and privatisation of urban state-owned housing (Wang, 2013; Yang *et al*., 2012; Li, 2010). This involved terminating the previous *danwei* system of allocating housing units through public-sector employers and establishing a more market-based system of housing provision. However, the reforms also brought about equity problems following on from the old system, or generated by changing policies during the reforms, such as the Housing Provident Fund system which resulted in housing difficulties for the lower- and middle-income groups.

The discussion then moved on to how the government reaffirmed the state's role in housing provision by establishing a social housing system for the lower- and middle-income groups, including the Housing Provident Fund scheme, the affordable housing policy, the low rent housing policy, the public rental housing policy and other schemes as temporary measures. It was found that under the urban/rural dualism, migrants without an urban *hukou* and formal employment (*see* Chapter 3) had a restricted housing choice and could only rent a house. The increasing popularity of informal settlements prevailed among them because of the low rents and relatively good location.

Based on these interactive driving forces behind the emergence of informal settlements in China, the following chapter will explore the details of Beijing's political and socio-demographic backgrounds, providing the context for further fieldwork.

CHAPTER 5: INFORMAL SETTLEMENTS IN BEIJING

5.1 Introduction

The previous two chapters provided the Chinese context and discussed the driving force behind the emergence of informal settlements in China. In this chapter, it will review the Beijing context as the entry point to provide a political and socio-demographic background of the capital city, including its administrative divisions, land use and housing consumption. How this may have influenced the development of the three main types of informal settlement in China will also be considered. Finally a brief discussion of the relationship between migration and informal settlements in Beijing will be presented. The main aim of this chapter is to provide the Beijing context for the subsequent fieldwork, which explores the whole picture of the current informal settlements in Beijing.

5.2 The capital city context

According to the Beijing Municipal Bureau of Statistics (2015), Beijing had an urban permanent population of 21.5 million in 2014, the second largest population of all cities in China This makes it a city with high population density but limited land resources. Beijing has been experiencing rapid population growth because of its functional importance: it has served as China's capital for centuries because of its strategic location; it is not only an administrative centre but also a place for commerce, education and health-care provision; it is also of great historical significance as a unique city with old traditions and new forces. Land use and housing provision in Beijing have therefore become a thorny problem, as more complex issues need to be considered in urban development such as the balance between political administration, the protection of the historic buildings and people's housing needs.

5.2.1 Administrative divisions of Beijing

Due to the large population and land-area in China, administrative divisions have consisted of five levels of local government in actual implementation: provincial, prefectural, county, township and village level (*see* Figure 5-1). Provincial-level administrative divisions are the highest level and comprise four municipalities, one of which is Beijing, directly controlled under the central government (GOV, 2006).

Figure 5-1 Administrative divisions of China

People's Republic of China
中华人民共和国
nation 国家 *guójiā*

Autonomous Regions
自治区 *zìzhìqù*
Tibet/Xinjiang
Inner Mangolia
Guangxi/Ningxia

Provinces
省 *sheng!*

Directly-Administered Municipalities
直辖市 *zhixiáshi*
Beijing/Chongqing
Shanghai/Tianjin

Special Administrative Regions
特别行政区
tèbiéxíngzhèngqù
Hong Kong/Macao

→ Provincial level (1st)

Prefectures
地区 *dìqù*
Autonomous Prefectures (30) 自治州 zİzhìzhoóu

Prefectural-level Municipalities
地级市 *dìjìshì*
(includes provincial and autonomous region capitals)

→ Prefectural level (2nd)

Counties
县 *xiàn*
Autonomous Countries (120)
自治县 *zìhìxiàn*

Urban Districts
市辖区 *shìxiáqù*

County-level Cities
县级市 *xiànjíshì*

→ County level (3rd)

Townships
乡 *xiäng*
Towns
镇 *zhèn*

Street Offices (Subdistricts)
街道办事处 *jiēdàobànshichù*

→ Township level (4th)

-------- Grassroots Units (Technically Self-Governing) --------

Administrative Villages
行政村 *xíngzhèngcūn*
Natural Villages
自然村 *ziráncūn*

Residents' Committees/Communities
社区居民委员会
jūmínwěiyuánhùi/
社区 *shèqù*

→ Village level (5th) informal

Rural   Urban

Source: adapted from Mewati, 2016

It can be seen from the map of Beijing's administrative division in Figure 5-2 that Beijing Municipality consists of the six main urban districts,[13] eight suburban districts and two rural counties. Under each district level, a *jiedaoban* (street office) is the sub-district's administrative agency, one of the smaller political divisions of China, representing the government to administer its own region. In general, urban areas are divided into several sub-districts and a sub-district is subdivided into several residential communities or

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[13] Previously it contained eight districts, including Xuanwu and Chongwen districts, which were merged into Xicheng and Dongcheng districts respectively in July 2010.

neighbourhoods (*shequ*) as well as into villagers' groups. Each community or neighbourhood also has a neighbourhood committee (*juminweiyuanhui*) to administer the residents, but they have little political power.

5.2.2 Land use in Beijing

As discussed in Chapter 4, urban land was allocated to *danwei* through a central planning system before the 1980s. Housing units were built near the workplace and assigned by each *danwei* to its employees, who paid very low subsidised rents. After the reforms of the land and housing markets in the late 1980s, active urban development started in Beijing: vast amounts of developable land were supplied and regulated by the government through long-term leases; most of the work-unit housing was privatised. All land in China is owned by the state or by 'collectives' (usually in cases involving the countryside). There is no private ownership of land. People can buy or be granted 'land-use rights'. A land-use right is distinct and separate from land ownership. Similar to leasehold, the land-use right is a property right enjoyed by private parties and protected by law (Alsen, 1996).

Beijing has also seen the urban area growing typically very compact, featuring a mixed pattern of residential and non-residential land uses. Old homes in Beijing's central urban area have been demolished to make way for a new transport infrastructure, commercial developments, and high-end housing projects. Over time, the Central Business District (CBD) has greatly expanded. Massive investment in the urban transport infrastructure has increased suburban residential land use and has contributed to pushing industrial activity towards outlying urban locations. New mass housing projects have been built around the fast expanding urban fringes.

Figure 5-2 shows the location and boundaries of Beijing city proper, comprising two core urban districts (yellow), four surrounding urban districts (red), six interior suburban districts (blue) and four far-north districts and counties (green), with a total area of 16,808 km^2 (Ma & Wu, 2004; Wang & Chai, 2009). The urban core of Beijing, encircled by the second ring-road and occupying the area inside the old walled city,[14] is divided into eastern and western halves by Dongcheng and Xicheng districts. Dongcheng (East Town) is where Tiananmen Square is located and its surrounding traditional hub of commercial, cultural and

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[14] People often use the city's six ring-roads as spatial references (Harris & Vorms, 2017). The second ring-road marks the boundary between the two core urban districts of Xicheng and Dongcheng.

administrative activities can be regarded as the city centre. It also contains Beijing's traditional CBD, Wangfujing. Xicheng (West Town) houses a second commercial core, Xidan, and Zhongnanhai Compound, next door to the Forbidden City, where China's leaders now reside, and the Great Hall of the People are both part of Xicheng.

Beijing is also spreading out in every direction. The four surrounding urban districts are Chaoyang in the northeast, where Beijing International Airport lies, and where another area called 'Jianguomen outer street' is a new CBD, with a cluster of high-rise office buildings and many international companies' headquarters; Haidian in the northwest, where prestigious research

Figure 5-2 Location and boundaries of Beijing's urban and suburban districts
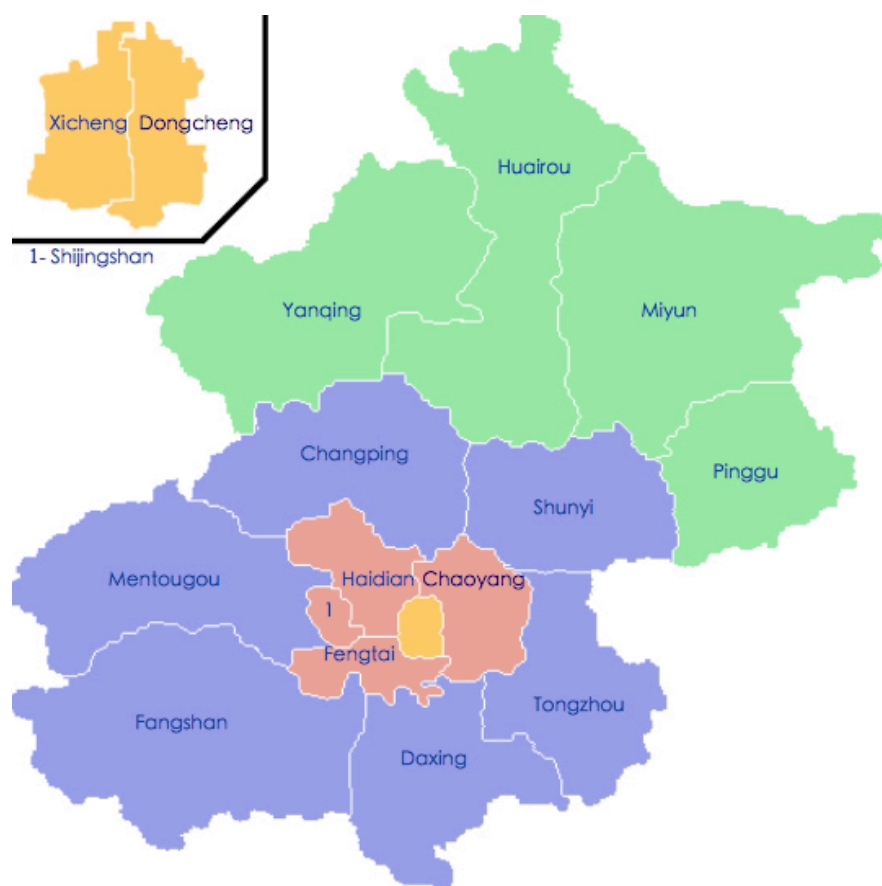
Source: created by the author, adapted from Beijing municipal map, 2012

institutions and universities have brought about an agglomerations of hi-tech firms; Fengtai in the south and southwest, which is the site of a major development zone set up to attract domestic and foreign investment (Gaubatz, 1999); and Shijingshan in the far west, where Beijing's major heavy industrial enterprises are located. The six main urban districts together

constitute an area of 1381 km^2 with a population of 12.8 million, or roughly 59.1% of the total population of Beijing city proper in 2015 (BMBS, 2016). These six districts constitute the major part of Beijing's urbanised or built-up areas (Wang & Li, 2004), which is why they were chosen as the sampling areas for this current study to capture a complete picture of Beijing.

Of the interior suburban districts, Tongzhou and Shunyi are rapidly urbanising, as well as Daxing district developing its technology park. Outside the inner-suburban districts lie the outer suburbs, Mentougou, Fangshan, Daxing, Tongzhou, Shunyi, Changping, Huairou and Pinggu[15] (*see* Figure 5-2).

Unlike many cities in the west, where employment has been suburbanising (Glaeser & Kahn, 2001), over 70% of the metropolitan area's total jobs and 65.2% of the total metropolitan area's population are concentrated within ten kilometres of Tiananmen Square. Beijing is quite monocentric, with its CBD continuing to contain a large share of the metropolitan area's total employment and high-income residents located near the city centre (Zheng *et al.*, 2006a). The reason for this is largely decided by the centrality of various urban amenities and the concentration of government activities in Beijing, the capital of China. In addition, the relative centralisation of high-income residents in Beijing is also due to the concentration of high-paying jobs and cultural and consumer amenities near the CBD.

5.2.3 Housing consumption and migrants in Beijing

Compared with the dominance of private housing in the early 1950s and public rental housing from 1956 to 1988, the current housing stock in urban China is more complex than ever before. Now there is a mix of public and private housing, and of rental and owner-occupied housing. At the same time, households now enjoy some freedom of housing choice and they can choose between public and private housing, and between renting and owning.

Under reform, housing commodification, even though largely restricted to the production side until recently, has nevertheless changed the skyline of Beijing. Invariably, commodity housing is located outside the work-unit compounds. Usually, commodity housing development takes the form of *xiaoqu*, literally small districts or housing estates. In Beijing, the great majority of these housing estates are found in the vicinity of major arterials and

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[15] There are also two counties as shown on the map, Yanqing and Miyun.

ring-roads in the inner suburbs. Unlike former work-unit housing which consisted mainly of three-to-four-storey rectangular blocks, the new commodity housing is generally composed of medium-rise to high-rise apartment buildings, many of which are over twenty storeys.

After 2000, commercial housing construction grew rapidly both in scale and speed. In 2010, the number of commercial housing units reached 5.6 million, which was 3.7 times that of 2000. Also, the proportion of commercial housing among all the constructed housing projects increased from 71.8% in 2000 to 93.4% in 2010 (*see* Figure 5-3). On the one hand, the market-orientated housing system relieves the state's fiscal burden; on the other it satisfies more and more urban residents' housing demands through marketing and improves their housing condition overall. At the same time, during the ten years, social security housing construction such as economically affordable housing, capped-price housing and shanty-town redevelopment further improved the housing provision system in China. However, in the scale of construction, the rate of economically affordable housing among all the housing construction projects showed a steady decline from 2000 to 2010 (*see* Figure 5-3).

Figure 5-3 Number of commercial housing and affordable housing units and the respective rate among all housing construction projects
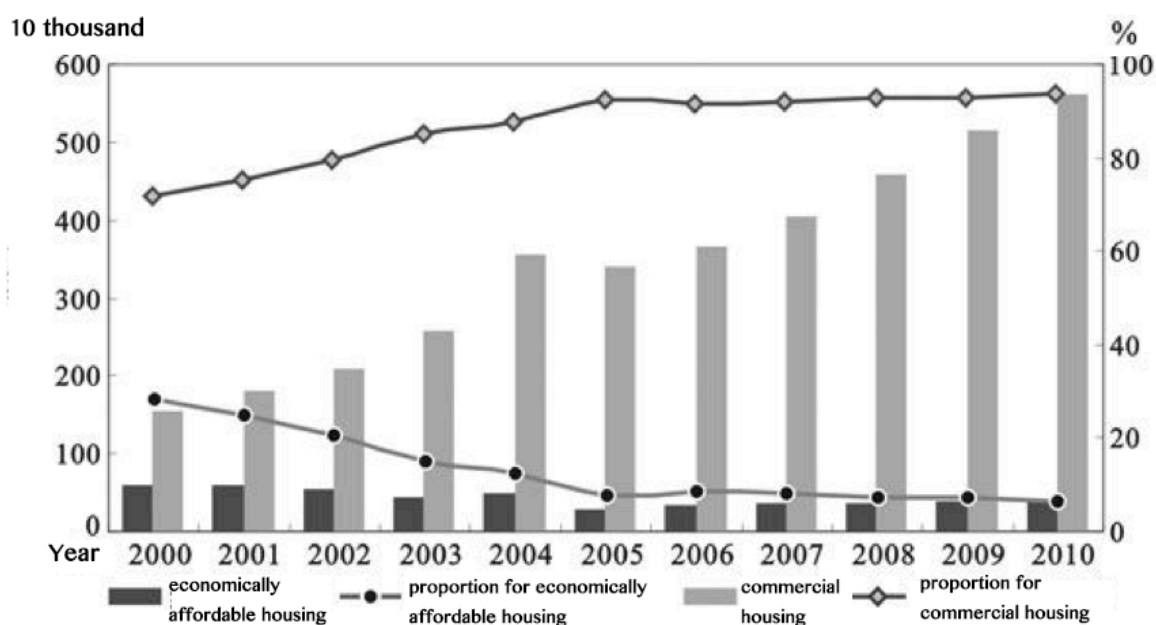
Source: Zhang *et al.*, 2014

Housing developments today exhibit substantial variability in location and hence in location-specific characteristics, such as neighbourhood composition, kinds of amenities available

and landscaping. Increasingly, housing in Beijing also manifests varieties in building design, including building height, orientation of both the apartment block and of the individual dwelling units within it, size of dwelling, and internal design features such as number of rooms and the relative size of bedrooms and living room. In addition, the individual housing estates also differ significantly in terms of the kind of management services provided and the fee charged.

As a tradable good, the price of commodity housing, in theory, is determined in the market and reflects location-specific and dwelling-specific characteristics. In Beijing, the price of commodity housing averaged 1613 yuan/m^2 in 1992 (SSB, 1998a: 307). A 60 m^2 home would thus cost 96,240 yuan. In comparison, in the same year the average annual household income stood at 9058 yuan (SSB, 1998b: 432). In 1997, the average commodity housing price increased to 5371 yuan/m^2; thus a 60 m^2 unit would cost 322,260 yuan. At the same time the average household income increased to 28,324 yuan. Between 1992 and 1997, household income as a proportion of the price of a home actually declined. The relatively high price of commodity housing meant that most households could satisfy their ownership dream only through purchase from their work-units. After ten years' development, perhaps reflective of the Asian Financial Crisis, housing prices have become more stable. However, household income continued to rise. In 2000, the housing price averaged 4557 yuan /m^2, and a 60 m^2 home would cost 273,420 yuan (SSB, 2001: 157). In the same year, the average household income rose to 32,188 yuan (SSB, 2001: 487). Commodity housing has thus become somewhat more affordable. In addition, mortgage loans are now readily available. As a result, direct sale to individual households has increased substantially both in relative and in absolute terms. However, housing prices in mega or big cities keep soaring at a faster and faster rate. According to ASKCI statistics (2017), the housing price in Beijing averaged 67,951yuan/m^2, growing to over ten times that of 2000 (*The Economist*, 2011); and the average monthly salary was 9,942 yuan in 2017 in Beijing (ASKCI, 2017).

With the rapidly rising housing prices, housing affordability has become one of the most important problems affecting households' welfare, and more so among migrants. Even so, existing low-income housing programmes in Chinese cities still exclude migrants, which makes them more vulnerable in the housing market. For instance, according to the 2014 minimum monthly wage standard in Beijing, which was 1560 yuan, a 5% monthly individual contribution could be as little as 78 yuan and with an additional 5% from the enterprise as

little as 156 yuan. It would take a very long time before such households could afford to buy their own dwelling given that the average house price in Beijing was 33,269 yuan/m^2 in 2014 (Wu, Gyourko and Deng, 2016). In a situation where wage increases have not kept pace with house-price increases, only a very small group at the top of the salary structure would be able to benefit directly from the Housing Provident Fund.

In 2006, the State Council for the first time in history recognised the need to improve migrants' housing conditions. In 2010, the Ministry of Housing and Urban/Rural Development mentioned for the first time that qualified migrants might be able to access 'public rental housing' (*gongzufang*), (Huang & Tao, 2015) and the Minister of Agriculture even stated that migrants should be included in all subsidised housing programmes (MOA, 2010). These changes in the government's attitude demonstrate the urgent need to provide decent and affordable housing to migrants, and to incorporate migrants into the formal housing system. Coupled with ongoing urbanisation, the current practice of denying migrants' 'rights to the city' is no longer politically and practically justified, in sharp contrast to the significant housing improvement among permanent urban residents.

The question is 'how?' With unaffordable house prices and exclusion from state welfare policy, migrants survive in the cracks in tolerant urban areas. Compared with formal housing provision, informal housing is considered as the consequence of rapid urbanisation on the change and development of agriculture and migrants located in peri-urban areas. They are housed in urban villages through self-building, or through reconstructing, expanding or redeveloping old housing in central urban areas (Ye & Huang, 2013). To some degree, this creates negative impacts on urban land use, city image building, planning and management, as well as community culture (Yan *et al*., 2004), but it provides another housing choice for those who do not have access to the formal housing market (Zhao & Yan, 2011). As in some European countries with a developed housing market, more than half of the residents choose rental housing, which has become the main housing tenure choice in those countries (Zhen & Lv, 2011). Rental housing has also been considered as a major solution for developing countries' housing problems, such as for floating population housing, individuals without a local *hukou* or permanent residents' temporary housing difficulties (Cui, 2010).

5.3 Different forms of informal settlement evolving in Beijing

As increased opportunities arise in cities, overwhelming waves of internal migration occur, primarily from rural to urban. This, in turn, reflects a rapidly urbanising society undergoing a transition from a planned to a market economy (Wu, 2002). Moreover, as China's capital city, Beijing attracts large numbers of migrants from other cities (Ding *et al.*, 2005; Poncet, 2006). As well as access to formal housing, the unaffordable prices are also a great challenge for low-income migrants (Choguill, 2007; Majale, 2008; Takeuchi, Cropper & Bento, 2008; Viratkapan & Perera, 2006; Werlin, 1999). The phenomenal growth and development of these informal settlements is a testament to the drive and initiative of the poor, and their ability to forge affordable housing solutions for themselves. Furthermore, the financial institutions in developing countries quite often exclude the majority of the urban poor from their products and services, such as housing mortgages in Beijing (Wekesa, Steyn & Otieno, 2011), which made the construction of informal settlements in many cities inevitable. Based on the literature and news reports—and taking account of the typology set out in section 2.4—it is possible to classify informal settlement in Beijing into three main types: urban village, underground basement and group-rented housing. These categories are not exhaustive, as other forms of settlements such as shanty town also exist. However, fewer people live in these areas and they do not therefore constitute an important element of this study.

5.3.1 The fringe of Beijing: urban villages (Chengzhongcun)

Traditional rural villages located in the fast-growing regions and suburban areas of major cities have been either partially urbanised or entirely overrun by the rapid urban sprawl. These villages have become part of cities or towns in terms of their physical location, but in the composition of their buildings and their residents they retain many traditional characteristics. This unique phenomenon in urbanisation has changed the simple dichotomy between the rural and the urban, and created a third category of spaces and residents: 'urban villages' (*chengzhongcun*) and the peasant workers (rural migrants or the floating population) who live in them (Fan, 1996; 2001; Ma & Xiang, 1998; Knight & Song, 1999; Solinger, 1999). Predominantly, studies of informal settlements have focused on urban villages and can be summarised in three aspects: conceptual studies, causal studies on their development and studies on 'urban village' reform.

Definition of urban villages

Early studies used different terms to describe an urban village; for instance, Li (1995) used 'village in metropolis' and Tian (1998) used 'villages in the urban city'. Since 2000, the term 'urban village' has been widely accepted and generalised (Zhang, 2015). Zhang (1998) suggested using its location and social character to understand the urban village. They are on the fringe of the urban area, so they maintain some thoughts and values of the small-scale peasant economy, but they are also equipped with an urban infrastructure and life style and take on some urban characteristics. Similarly, Dai (2002) explained urban villages from the aspect of their region and social attributes. But he considered those villages as part of the urban region, whereas they are specific communities and the 'urban village' phenomenon is one of the typical rural community contradictions. In addition, Li (2004) defined an urban village through land use and land property rights. He insisted that urban villages are those located in the urban planning area or urban/rural continuum, surrounded or half-surrounded by urban built-up areas, which have no or very little agricultural land.

Classification of urban villages

Chen (1999) first used morphological features to connect urban and rural areas to classify urban villages in China. Later, urban villages were divided by Li (2001) into three types in terms of location: *full-fledged* (those close to the central area), *growing* (those outside the central area), and *initial* (those outside the urban built-up area but within the urban planning area). Another researcher advocated six types based on the land occupied: within the downtown area; surrounding the urban area; on the outskirts; where villages own much agricultural land; where villages own some agricultural land; and where villages have no agricultural land any more (Li, 2002). In 2004, Li summarised three further types based on these land use types: villages with most land in agricultural use; villages with equal construction and agricultural land; and villages with almost no agricultural land. Zhang (2003) also applied cluster and factor analysis; he investigated 44 urban villages in the Haizhu and Tianhe districts in Guangzhou province, and classified them into three types: villages with sufficient land resources; villages with predominant infrastructure; and villages with collective economic strength. Studies have also classified urban villages in Shenzhen based on the social pattern (Li, 2005): villages for local rural residents (before the city emerged); resettlement areas for local peasants (during the urban construction); and local residents' low-rent housing area for low-income immigrants.

Characteristics of urban villages

Visual characteristic. With the high density of buildings in urban villages, some specific landscapes appear in cities, such as hand-shaking building (*woshoulou*), face-to-face buildings (*tiemianlou*) and a strip of sky (*yixiantian*). They lack a basic infrastructure, public greenbelt and rubbish removal (Lan, 2001).

Demographics. First, current urban villages show great heterogeneity. Liu (2003) found that population composition nowadays in an urban village is far more complex than that of traditional rural communities as a result of the large number of immigrants. Also, immigrants are more likely to make the acquaintance of people from the same place and are limited in their association with local people. Moreover, the existing differences in language, income level and life-style between locals and immigrants weakens their relationship and connection (Liu, 2003). Second, urban villages maintain high population density and size. Guo (2002) showed that there were a large number of temporary residents, even with the higher ratio of temporary residents, than in the local population.

Social characteristic. Most urban villages are still under the rural administrative system and implement rural collective ownership, which lacks the complete infrastructure construction and community management which exist in cities (Shi, 2005). There is also the historical reason that roads, drainage, heating, electricity, cleaning and waste management in urban villages are not included in urban infrastructure construction (Zhang, 2004). In addition, due to the complex population composition and great immigrant population discussed earlier, public security is also a concern for residents and the local government (Shi, 2005).

Economic characteristic. Lacking agricultural land, urban villages principally rely on secondary and tertiary industry as their economic source. Also, government compensation for their land loss during urban construction is also an important source for the collective economic profits (Guo, 2002). The major financial resources for the villagers are property rents, operational income and profit sharing (a dividend). Village collectives in each urban village own huge rental incomes from land, housing and factories. Each village collective forms and develops its own shareholder system (Liu, 2003).

Causal studies on urban village development

Profit drivers. The huge economic benefit directly drives urban villages to come into being. Along with the process of urbanisation, rural land values increase and large numbers of

immigrants flood in. Villagers begin to constantly expand their houses for leasing out so as to gain considerable rental income from the housing rental market. In this way, the expansion postpones a proper solution for the urban village problem (Lv, 2005). From the aspect of rational choice theory, the individual peasant will seek to maximise the housing rents and land profits when both of them are growing rapidly. This also results in urban village formation (Li, 2002).

Dual system. Zhang (2015) insisted that the urban village is the outcome of the urban/rural dual system, which is embodied in three aspects: a dual land system, a dual administrative system, and a dual population control system. Among these, Zhang (2007) suggested that the dual land system is the core reason for urban villages to emerge (Zhang, 2007). Unlike the city, in the urban village, land ownership is still held by a rural collective. When implementing the dual population control system, the dual household registration system has great impact on urban village formation. The village membership system[16] also plays a different role in the situation that even though villagers' farm land is requisitioned and they become urban residents, they can still keep their village membership. This results in a huge gap in economic status between the villagers and the immigrant tenants. Moreover, as powerful shareholders of the village collective economy, they are more willing to be villagers than urban citizen (Li, 2004)

Lagging urban planning and administration. Zhang (2001) thought that the emergence of urban villages was also due to late awareness and late government interventions. Also, the management system and methods could not keep up with the current community development and this resulted in the emergence of the urban village. Even during the urban village reconstruction procedure, problems arose, such as lag-management, complex functions, scattered locations, unauthorised construction and constant house demolition. Liu (2013) suggested three aspects to indicate lag-management: first, due to lack of proper planning and management, unauthorised housing increases rapidly. Second, as places for villagers' resettlement are not well planned, they build houses spread all over which causes constant demolition. Third, because of the unclear building construction standards and plans, houses in urban villages are not only built scattered, but also for mixed usage.

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[16] Village membership becomes a local system even though not in written law. Studies of social issues such as population migration, land distribution and family system could make for a better understanding of village membership

Cultural constraints. Urban villages have been seen as places of traditional trust relationships and attachment bonds (Zhang, 2004). Zhang insisted that such villages naturally became the original homeland for inhabitants to exist and live, mirroring the long-term model of 'inhabiting a village' in an agriculture society. The customs and concepts associated with the original homeland then become buried deep in people's consciousness and are reflected in their actions. All these factors interact and form a culture closely bonded with the collective village community.

The discussion above demonstrates that most case studies have been undertaken in Guangzhou (Lan & Zhang, 2005; Xue & Huang, 2008; Feng *et al*., 2004; Wu & Zhou, 2005; Liu, 2003) and Shenzhen (Zhao & Yan, 2012; Yin, Yan & Xue, 2009; Wang, Wang & Wu, 2009), and the prevalence and operation of urban villages in Beijing has been much less examined. Zhang (2005) and Zhang L. and Zhang Y.J. (2013, as cited in Li, 2007: 99) paid attention to cases in Beijing. The Beijing Municipal Land Authority mapped out the spatial distribution of urban villages in the six main districts of Beijijng in 2017 (*see* Figure 5-4) but systematic empirical investigation into Beijing's urban villages is limited.

Figure 5-4 Distribution of urban villages in the Beijing metropolitan area
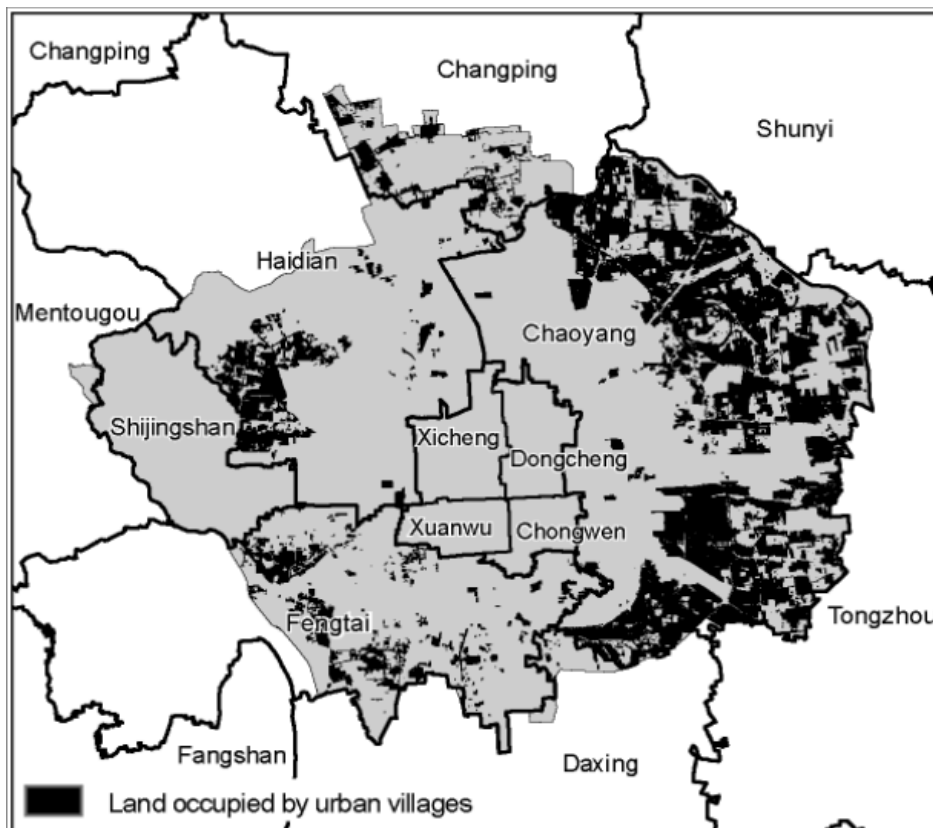
Source: The Second Land Survey of Beijing 2007, cited in Zheng et al., 2009

5.3.2 The bottom of Beijing: underground basements (*Dixiashi*)

Beijing has a vast amount of subterranean space resulting from a policy dating back to 1950 which required all new buildings to have common basements and air defence shelters. Construction codes specified building guidelines, including the provision of infrastructure such as electricity, water and sewers. This supply of underground space has grown exponentially amid China's extraordinary building boom in recent decades. Some complexes contain as many as 600 units below street level.

Identifying underground basements

Underground basements in Beijing fall into three categories: the civil air defence basements managed by Beijing Civil Defence Bureau, common underground basements (referred to as underground storage space), and semi-underground basements controlled by the Ministry of Housing and Urban/rural Development (Li, 2011). Others have classified underground space into two categories of civil air defence basements and common underground basements (Guo, Lv & Yang, 2015). Zeng (2005), the CPPCC (Chinese People's Political Consultative Conference) member for Haidian district, also suggested that civil air defence basements could be subdivided into two types, national defence property funded and constructed using government finance, and those in residential communities, funded and built by real-estate developers.

To identify them easily, civil air defence basements are not equipped with facilities for ventilation and light as they are designed to be secure refuges in wartime, whereas common underground basements refer to underground storage supporting residential buildings, and semi-underground basements can be kept warm and have ventilation and light. The former two categories were therefore not designed for residential use, but the semi-underground basements were always suitable for residence (Li, 2011).

Changing regulations on underground basements

In the 1980s, the underground basements had a dual peace/war combined function. They not only served for wartime, but also provided needs for economic development, urban construction and people's lives (Li, 2011). However, they were laid aside because of the lack of funds for maintenance and management. In order to change the worsening situation, the authorities begin to encourage the use of civil air defence basements as residences and

charged a user fee. The lessee then operates them as underground hotels but on a small scale. As a means of addressing the housing deficit, official policy for 24 years encouraged the 'economic' utilisation of this underground space during peacetime, and residential shelter was one of the sanctioned uses (BMBCAD, 1986). In the late 1990s, the immigrant influx resulted in people taking full advantage of all underground space (Li, 2011).

In 2002, it was clearly stated in Article 15 of *The Beijing municipal civil air defence regulations* that enterprises, public institutions, non-governmental organisations and individuals were encouraged and supported to invest in and manage civil air defence constructions. The income belonged to the investors (Chinanet, 2002).

Since 2004, the Beijing Municipal People's Government (BMPG) has attempted to regulate the use of rented basements. That year saw the peak of increasing rental of underground basements. Then the Beijing authority published regulations that underground basements for residential use such as hotels and dormitories should comply with the rules for public security, fire safety precautions and sanitation. Also, users were not allowed to transform the spatial structure, hold people beyond the officially approved number or restrict the floor area per capita to less than 4 m^2 (Li, 2011).

In 2005, the Beijing Municipal Government (BMG) issued the *Safety Control Regulations on Beijing Municipal Civil Air Defence Projects and Common Underground Basements (Act 152)* (Guo, Lv & Yang, 2015). As a way to raise funds for the high maintenance fee of civil air defence basements, the Beijing Civil Defence Bureau agree that some underground basements within civil air defence projects could be leased out for commercial use. Generally they were contracted to individuals for operation and would normally be divided into small units for house renting (Zeng, 2005). Based on this, the Beijing Municipal Commission of Housing and Urban/rural Development set the requirement that the net area of each unit should not be less than 8 m^2 if lessees changed the layouts of underground space for renting (Zhang, 2011). Regulations also required the property owner or responsible department(s) to guarantee that the civil air defence basements met the appropriate standards of fire safety precautions and sanitation. They also had to pass an inspection by public security fire control institutions and public health authorities. In detail, they needed to be equipped at least with a mechanical smoke control system, an automatic sprinkler system, an emergency lighting system, an automatic fire alarm system and fire control facilities such as fire extinguishers (Zhang & Pan, 2009). The lessees regarded these regulations as a legal

protection for market entrance, which was one of the factors resulting in creating an obstacle to the government's underground basements clearance at a later stage.

In 2006, the *Standards for Safety Control on Beijing Municipal Civil Air Defence Projects and Common Underground Basements* was jointly released by the Beijing Commission of Housing and Urban/rural Development and the Beijing Civil Defence Bureau. They put a strict emphasis on the standards for underground basements' refuse and waste-water disposal, electricity, fire safety precautions, ventilation and floor area (Su *et al*., 2009). They also published a *Notice to implement Safety Control Regulations on Beijing Municipal Civil Air Defence Projects and Common Underground Basements*. The regulations forbade various infractions of rules as reported in some news media, for instance, in underground basements adapted for commercial use, it is dangerous to use electrical appliances such as induction cookers or heaters. However, even though such appliances were banned in the 'move-in notice',[17] residents still used them and gatekeepers turned a blind eye (Zhang & Pan, 2009).

In 2008, Beijing was undergoing massive urban transformations as the host city for the Olympics. A dominant discourse on the development of the new capital focused on grand schemes and monumental architectural expressions (Wu, 2007). The negative qualities of underground basements were obvious and problematic: lack of natural daylight, poor air circulation, lack of privacy, limited personal space, and negligence in terms of fire safety precautions, so underground basements were closed for five months to support the Olympic Games effort (Wu, 2007). A similar situation occurred in 2009 when underground basements dwellers were cleared out for three months while China celebrated the 60th anniversary of its National Day. Although there is a lack of literature investigating what happened to those dwellers during the time of closure, it was reported that those negative qualities only represented a fragment of the experience of living there.

In 2010, the Beijing authority started to evacuate tenants from these underground basements, which continued in 2011, particularly in the innermost urban districts with expensive land values and high demand. Chaoyang district was initially selected for an experimental evacuation. Hundreds of lessees received a *Notice banning the use of public underground basements* (including civil air defence basements and common underground basements),

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[17] This is usually a piece of paper attached to the entrance wall of an underground basement, set by the property owner and enforced by the gatekeeper.

from which all dwellers were required to move out within one month (Li, 2011; Zhang, 2011). The director of the Beijing Civil Defence Bureau Yongxin Wang stated in the document 'Haidian District using civil air defence projects for public services experience exchange' that it would take Beijing six months to a year to evacuate tenants living in civil air defence basements after 2011. He also announced that the future of civil air defence projects would be public welfare initiatives such as community activities or parking lots, rather than residential use (Li 2011). Zhang (2011) reported that Fengtai district would allocate 240 million yuan for regulating and decorating underground spaces after the evictions, as well as for compensating those dwellers for displacement and for the occupancy rights which they had purchased when the units were legal (but landlords were not at that stage informed of specific compensation mechanisms).

In 2011, more government departments were involved in managing the underground basements. The Ministry of Housing and Urban/rural Development implemented *Regulations on Rental Commercial Housing*, in which kitchens, bathrooms, balconies and underground storage spaces were not allowed for residential use (Li, 2011). Also, the Law Office of Beijing Municipal People's Government published the 'prohibition' *Safety Control Regulations on Beijing Municipal Civil Air Defence Projects and Common Underground Basements* (revised draft for public consideration) (Li, 2011). Except for the standards discussed above which underground basements had to comply with, this draft also clarified penalties; for instance, underground basements for commercial use would be fined 10,000 to 30,000 yuan, and those for non-commercial use would be fined 500 to 1000 yuan. Even though this was a draft and nobody would be fined in the current stage (as Xiangping Zhou, the managing director of Beijing Civil Air Defence Project, confirmed), it was put into legislation later in 2011, according to an official from the Law Office of Beijing Municipal People's Government. This meant that the prohibition would be implemented for a definite period and was just a time thing (Li, 2011).

In 2012, the Beijing Civil Defence Bureau published the *Guidance for Beijing Civil Air Defence Use Plan* and highlighted the predominant use as for public welfare.

In 2013, the *Notice for Publishing Standards of Per Capita Living Space in Rental House* specified that underground basements were not permitted to be rented out for a living. Beijing then started a large-scale undertaking to address the problems of underground basements. Even though relevant departments thought that forced eviction was not the best

choice, Xicheng district successfully evacuated 841 suites of underground basements in Tianqiao community, accounting for 7000 m^2 of floor area and more than 1500 people were forced to move out (Feng, 2015).

Guo, Lv and Yang (2015) investigated the utilisation rate of underground space in Beijing and found a relatively low rate, especially for the civil air defence basements. There were altogether 12,217 locations, among which only 5297 (less than 50% of the utilisation rate) were currently in use. Table 5-1 shows in detail the utilisation of Beijing's civil air defence basements in 2013.

Table 5-1 The utilisation of Beijing's civil air defence basements in 2013

Utilisation	*Quantity*	*Area (10,000 m^2)*	*Proportion*
Residence	2623	232.33	49.52%
Parking lot	1566	845.82	29.56%
Storage	569	58.8	10.74%
Office	199	55.42	3.76%
Education	57	8.47	1.08%
Other usage	54	8.24	1.02%
Community activity	43	4.92	0.81%
Restaurant	37	4.52	0.70%
Entertainment	35	3.3	0.66%
Emergency supplies	31	3.08	0.59%
Market/shopping area	28	6.83	0.53%
Gym/sport centre	23	3.75	0.43%
Bicycle garage	22	1.72	0.42%
Cybercafé	10	0.9	0.19%
Total[18]	5297	1238.1	100.00%

Source: Guo, Lv & Yang, 2015

Reflections on underground basement literature

The literature has focused on the exploitation and utilisation of underground spaces, especially from the perspectives of architecture, the environment and urban planning. Few

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[18] The total number of civil air defence projects does not include those which are not being used.

studies have addressed underground space used for residential purposes, let alone the people living underground (Tanasescu, Wing-tak & Smart, 2010; John, 1974; Durmisevic, 1999; Cano-Hurtado & Canto-Perello, 1999). Most of the discussions above were drawn from news reports, which means that more in-depth studies are needed to enhance the data quality. In China, the Beijing Academy of Social Science (2005) commissioned a research team to conduct a survey of the underground space in Xuanwu district. Astonishing figures collected from the neighbourhood committees showed the incredible number and area of underground spaces, which were continuing to increase. There were around 1000 locations covering 1.4 million m^2 in Xuanwu district (which merged with Xicheng district in 2010), including 260 locations for residential use and 110 locations for operating hostels. Also, the complexity of the inhabitants, with even criminals living underground, might result in subversive possibilities. Li (2012) stated that basement areas in Chaoyang district amounted to more than 3 million m^2. With the largest proportion among all the districts, there is a need to investigate Chaoyang district, which may be more representative and generalisable to all basement situations in Beijing.

5.3.3 The compact Beijing: group-rented housing (*Qunzufang*)

Group rental has been a neglected newly emerging phenomenon in Beijing, so there is lack of literature on group rented housing in both English and Chinese. This term refers to apartments modified for group rental: many news reports have shown the unacceptable living conditions, such as an 80 m^2 room housing 25 people and a bed there costing less than 800 yuan per month (Xinhuanet, 2013). Such living conditions are common both for migrant workers and for young Chinese who come to Beijing to follow their dreams. Li (2017) found that people living in group-rented housing in Beijing were from different socio-economic backgrounds, and many of them were sharing with people whom they do not know.

There were also problematic conflicts: sharing a bed or a room is indeed the last choice for many poor households because it implies inconveniences such as lack of privacy and lack of space. But one advantage overrides all the disadvantages: low cost, a quality which households with extremely low incomes especially appreciate (Zhu, 2013) and they prefer to sacrifice all notions of comfort for affordable access to a bed close to their workplace. Although it has been compared to Chinese-style capsule hotels (inspired by those in Japan), the use of this housing is very different, because a *qunzufang* provides cooking and washing space.

Many group rental operators do not actually own the houses which they rent out (Wei, 2013). They are called secondary landlords (*erfangdong*), signifying someone who rents apartments from the actual landlord and then sublets them to other tenants, usually at higher rental prices (Chen, 2017). Illegal and unlicensed housing agents have also been caught leasing apartments informally. As Yapi-Diahou (1995) explained, informal housing exists not because of the tolerance of the authorities but, more particularly, because of the enterprising spirit of its inhabitants.

5.4 Summary

This chapter has focused on the capital city context, providing the political background through an explanation of how the administrative division works for the Beijing municipality from district government to street offices to neighbourhood committees. It has also mapped out the spatial distribution of administrative divisions. Moreover, the land use and urban expansion in Beijing was presented to explain why this research chose the six main districts as sampling sites. It also indicated that Beijing was in the sub-urbanisation process, spreading out from the two core urban districts to the four surrounding urban districts and attempting to expand to the interior suburban districts, such as Tongzhou, and Changping. With the urban expansion and housing reform, commercial housing construction has grown rapidly both in scale and speed. The land values in central Beijing have also increased, which has resulted in rapidly rising house prices. Then housing affordability became the most important problem affecting a household's welfare, especially the migrants. Given the fact that most of housing demanders are migrants, how to accommodate the massive influx of migrants with decent and affordable housing has become an urgent task for the government to ensure social justice and political stability and to facilitate further urbanisation. However the social housing system in Beijing excluded migrants, which made them more vulnerable in the housing market. They fell back on informal settlements as the solution.

This chapter then provided an initial exploration of three main types of informal settlements marginalised in Beijing, the fringe (urban villages), the bottom (underground basements) and the compact (group rentals). The predominant literature on informal settlements is about urban villages. They have a uniqueness over the other two types in that the village combines both urban and rural features, and it has the small-scale peasant economy but is also equipped with an urban life style. This chapter reviewed regulations on underground basements and found the government's changing attitudes over whether to demolish them consistently

confused local authorities and caused ineffective governance for regulating them, which encouraged the development of underground basement informal residences. This chapter also found news reports on group-rented housing in Beijing which is problematic because of the lack of privacy; but there is lack of reliable academic investigations.

The following chapter identifies the information required to answer the research questions and the best means of approach to address them empirically.

CHAPTER 6: RESEARCH DESIGN

6.1 Introduction

This chapter outlines the need for further empirical research into informal settlements in Beijing. Following this, the chapter will justify the theoretical framework for the research design and analysis, and explain how the appropriate methodology relating to the research questions was chosen for this empirical study. Then it will explain the rationale for selecting the three-phase sequential mixed-method design, exploring the strengths and weaknesses of the methodology.

It will then move on to explain the chosen data collection methods in the sequence of implementing the three phases before explaining the methods used for data analysis. Following this, a discussion about research ethics will be provided, as well as a consideration of the scope and the limitations of the chosen research methodology. Figure 6-1 shows a visual model of the structure of this chapter, applying to it Crotty's (1998) four major elements for developing research.

Figure 6-1 Structure of this chapter
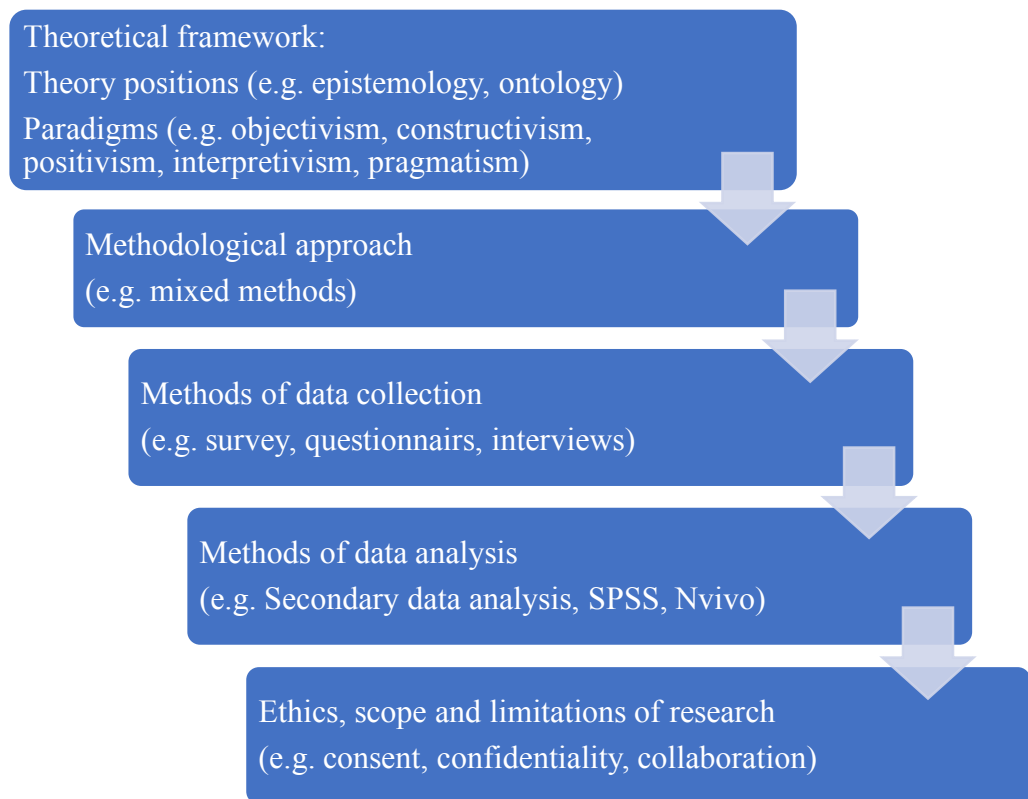
Source: created by the author, information adapted from Crotty (1998)

As can be seen from Figure 6-1, the chapter will start from the broadest level, a theoretical framework, suggested by Crotty (1998), such as ontology (describing the nature of reality) and epistemology (the construction of knowledge). These philosophies in turn inform the use of the paradigm by the researcher. The theoretical stance will then inform the methodology and research design adopted. Finally, the methodology incorporates the methods, which are techniques or procedures used to gather, analyse and interpret the acquired data.

6.2 The need for empirical research

Despite the large amount of published work on informal settlements in other cities of China, there is very limited empirical data on Beijing from which to profile and understand its current situation.

The existing literature on informal settlements in Beijing has largely focused on segmented cases (types) of informal settlement, for example the urban village study – its evolution, development and reconstruction (Zheng & Han, 2003; Zhang, 2005); or the underground basement study – discussing its physical characteristics discussion and the changing policies towards it (Zhang & Pan, 2009; Li, 2011; Guo, Lv & Yang, 2015). There have also been a small number of research studies (Feng, 2007; Zhao & Yan, 2008; Li & Deng, 2008) which have outlined informal settlement concepts in general. There is, however, no agreed understanding of what informal settlements in Beijing consist of.

In addition, several studies (Beijing Academy of Social Science, 2005; Li, 2011) have adopted quantitative methods (such as surveys) to investigate the physical conditions of informal settlements or the socio-economic status of the people living in them. Even so, no qualitative data have been collected on the perspectives of dwellers who actually live in informal settlements, of the neighbours who live around informal settlement dwellers, sharing public areas and services with them; as well as of those elites, both government authorities and academic experts, who understand why policy has developed in the way that it has. Indeed, most of the existing evidence which has been acquired by qualitative methods such as interviews with informal settlement dwellers has been based on news reports, and is unlikely to have been conducted in a rigorous manner with the necessary attention given to reliability and validity.

As a result, this current study differs from previous research since it explores the key research question 'How should "informal settlement" be understood in Beijing?' In order to answer this question, the following five sub-questions will be investigated:

1. What is the spatial distribution of informal settlements in Beijing?

2. What functions do various types of informal settlement perform in Beijing?

This will also be explored from different perspectives considering:

3. What are elites' understanding of the development and governance of informal settlements in Beijing?

4. What are informal settlements dwellers' views about where they live?

5. How does Beijing fit with conceptual understandings of informal settlements?

The first four questions will be answered through fieldwork designed to make an empirical contribution to knowledge. The initial fieldwork is intended to identify the spatial distribution of informal settlements in Beijing through documentary material from elite interviews. The aim of the fieldwork is to produce empirical evidence through interviews with political and academic elites, by conducting surveys with the dwellers in informal settlements; and by in-depth interviews about their lives in informal settlements. The intention is to explore different types of informal settlements in Beijing (components including patterns of settlements, land use, ownership, control and occupation, as well as the process of their formation and transformation, and the underlying relationships between regulation, informality and transgression) and different perspectives from both elite and dweller level.

After drawing out the findings from these four questions, it is possible to answer the fifth question, gaining a better systematic understanding of informal settlements in Beijing and comparing this with existing concepts and theories of informal settlements. Based on the findings and a discussion of all the questions, the intention is to offer policy recommendations by rethinking the concept of informal settlements in Beijing.

6.3 Theoretical framework

The purpose of this section is to discuss the importance of the theoretical framework (Gilbert, 2001), which is also referred to as 'social paradigms' (Kuhn, 1970) and 'sociological theories'

(Matthews & Ross, 2010). These are considered as the conceptual models which establish a sense of structure to guide the research methods in terms of what should be studied, how the research should be conducted, and how results should be interpreted (Bryman, 2012).

6.3.1 Different theoretical positions and paradigms

Before moving on to different worldviews, it is necessary to explain the broadest, abstract level (Crotty, 1998), consisting of a basic set of beliefs, values and techniques (Kuhn, 1970), There are two theory positions which reflect the different ways in which social researchers see the social world: *ontology* and *epistemology*.

Ontology refers to 'the way the social world and the social phenomena or entities that make it up are viewed' (Matthews & Ross, 2010: 24). It is the study of 'being, that is, the nature of existence and what constitutes reality' (Gray, 2013: 19). Reality can include social groups, social situations, events and social behaviour (Matthews & Ross, 2010). There are two different ontological positions to be considered, *objectivism* and *constructivism*. Objectivism asserts that the reality which makes up the social world is in its own existence, apart from the involved social actors (human beings). This means that the social researcher's relationship to the social world is objective observation (Matthews & Ross, 2010). This approach values the objectivity and independence of the researcher and 'identifies the characteristics of the social world in terms of entities which are ordered and predictable and can be identified and recorded without affecting the entities themselves' (Matthews & Ross, 2010: 25). Alternatively, constructivism insists that the 'social phenomena making up our social world are only real in the sense that they are constructed ideas which are continually being reviewed and reworked by those involved in them (the social actors) through social interaction and reflection' (Matthews & Ross, 2010: 25). The standpoint emphasises the understanding or meaning of social phenomena, formed through participants and their views (Creswell et al., 2011; Bryman, 2012). Moreover, the social researchers, as part of the social world itself, brings their own meanings and understandings to their studies (Matthews & Ross, 2010).

Ontology embodies understanding the nature of things, whereas epistemology tries to understand 'how we know what we know' (Crotty, 1998:8) or 'the nature of the relationship between the knower or would-be knower and what can be known' (Guba & Lincoln, 1998: 201). It is concerned with providing a philosophical background for deciding what kind of

knowledge is legitimate and adequate (Maynard, 1994). There are two main epistemological positions, *positivism* and *interpretivism*, and both have an impact on a researcher's ways of developing research. Closely linked to objectivism, positivism is an epistemological position, which 'argues that reality exists external to the researcher and must be investigated through the rigorous process of scientific inquiry' (Gray, 2013: 20). This theoretical perspective asserts that knowledge of a social phenomenon is based on what can be observed and recorded rather than on the subjective understanding (Matthews & Ross, 2010). In contrast to positivism, interpretivism emerged from social scientists' views of 'understandings and explanations of social phenomena which are not necessarily observable by the senses but can be interpreted by the social researcher' (Matthews & Ross, 2010: 28). This is an epistemological position which 'prioritises people's subjective interpretations and understandings of social phenomena and their own actions' (Matthews & Ross, 2010: 28).

A third paradigm, *pragmatism*, is a set of ideas articulated by many people, from historical figures, such as John Dewey, William James, and Charles Sanders Peirce, to contemporary commentators, such as Cherryholmes (1992) and Murphy (1990). It draws on many ideas, including employing 'what works' (Creswell, 2003), using diverse research approaches (Tashakkori & Teddlie, 2003; Somekh & Lewin, 2005), and valuing both objective and subjective knowledge (Morgan, 2007). However, the pragmatic paradigm concentrates on the 'research problem' and applies all methods to understanding problems (Creswell, 2003: 11). In this occasion, 'data collection and analysis methods are chosen as those as most likely to provide insights into the question with no philosophical loyalty to any alternative paradigm' (Mackenzie & Knipe, 2006). Table 6-1 presents three dimensions and concludes that the pragmatic paradigm differs from the two traditional paradigms. First, the connection between theory and data - induction or deduction - will be discussed in the next section. Second, the relationship with the research process within pragmatism is intersubjectivity; this indicates 'a state in between objectivity as preferred by the positivists and the subjectivity of the interpretivists' (Farquhar, 2012: 22). Hughes and Sharrock (1990: 138) considered intersubjectivity as 'common sense', which means social actors make sense of their own actions, but make sense of those of others through a 'stock of knowledge' which is held in common, and that they inherit and learn this from members of society. Morgan (2007) also suggested that in a pragmatic approach, 'there is no problem with asserting both that there is a "single world" and that all individuals have their own unique interpretations of the world' (Farquhar, 2012: 22).

Table 6-1 A pragmatic alternative to the key issues in social science research methodology

Research dimensions	Positivism	Interpretivism	Pragmatism
Connection of theory and data	Induction	Deduction	Abduction
Relationship to the research process	Subjectivity	Objectivity	Intersubjectivity
Inference from data	Context	Generality	Transferability

Source: Farquhar, 2012: P22; adapted from Morgan (2007)

6.3.2 Research approach

This section will explain the research approach, which included different approaches to working with theory and different approaches to gathering data determined by hypotheses or research questions (described as a quantitative and qualitative methodology in general).

Approach to working with theory - deductive and inductive

A *deductive* approach represents one position in which research is conducted with reference to hypotheses and ideas inferred from existing theories (Bryman, 2012) and is typically employed by those endorsing an objectivist, positivist standpoint. Researchers typically produce evidence to test or refute theories (Gray, 2013). Up to this point, theory guides and influences the collection and analysis of data in research. The set of concepts must be 'measurable in such a way that they can be observed to confirm that they have occurred' (Gray, 2013: 18), which means measures and indicators have to be created to collect data only on what can actually be observed. Hence, subjective and intangible evidence is usually ruled out (Gray, 2013).

Some researchers therefore prefer an alternative approach to the relationship between theory and research - an *inductive* approach. The inductive position regards theory as being generated out of research (Bryman, 2012). Researchers seek to generate a theoretical proposition on social phenomena from the data collected. Researchers taking an interpretivist approach, are likely to start with research questions (which may be informed by existing theory), then gather data and derive theory (Matthews & Ross, 2010). This approach is typically associated with a constructivist, interpretivist outlook.

However, in most research, theory is used both inductively and deductively. If the research is considered both as informed by theory and as generating theory, the research process can be described as a cycle (Matthews & Ross, 2010), as shown in Figure 6-2.

Figure 6-2 The inductive and deductive approaches
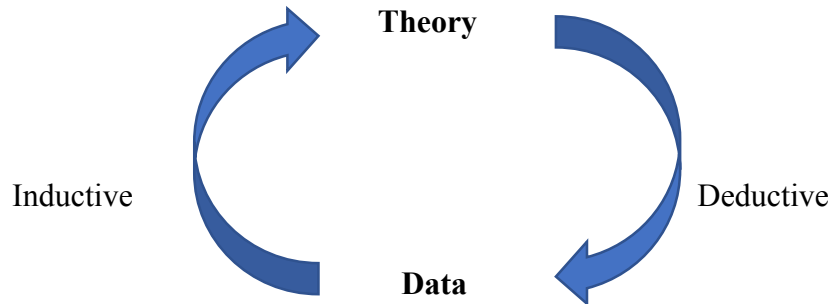
Source: Matthews & Ross, 2010: P37

Approach to gathering data—quantitative and qualitative methods

There have been debates about the overall approach to gathering data, especially viewing quantitative and qualitative approaches as in opposition to each other given that they derive from different ontological and epistemological perspectives on the social world. Table 6-2 sets out the differences between them, and the subsequent paragraphs will explain in detail each characteristic of the two approaches.

Table 6-2 Differences between quantitative and qualitative methodology

	Quantitative	**Qualitative**
Theoretical position	Positivism	Interpretivism
Approach	Deductive; objective	Inductive; subjective
Description	Whole picture	Focused
Purpose	Quantify data; generalise results	Gain in-depth understanding
Data sample	Representative	Smaller number
Data collection	Structured	Flexible
Data analysis	Numerical; statistical	Detailed; descriptive
Outcomes	Conclusive; generalisable	Explorative; investigative

Source: created by the author, influenced by Farquhar (2012); Maylor & Blackmon (2005) and Easterby-Smith et al. (2008)

In quantitative research, positivist claims are used for developing knowledge, such as cause and effect thinking, hypotheses and questions, reduction to specific variables, use of measurement and deductive reasoning to test theories (Creswell, 2009; Matthews & Ross, 2010; Bryman, 2012; Creswell, 2013). The intention with this approach is to describe a picture with its main purpose of quantifying data, which allows generalisation of the results from a sample to an entire population of interest. In respect to data sample, data collection, data analysis and research outcomes, a quantitative investigator typically relies on numerical data (Charles & Mertler, 2002) in a representative approach and isolates variables and causally relates them to determine the magnitude and frequency of relationships. Data collection is highly structured and rigid and employs methods such as surveys and questionnaires. Individual respondents are selected at random. In addition, the outcomes of quantitative research are often sufficiently conclusive to provide a broad base of insight on which typically a final course of action can be recommended.

Alternatively, a qualitative researcher makes knowledge claims based on the constructivist (Guba & Lincoln, 1982) or interpretivist perspectives (Matthews & Ross, 2010). The assumption is that social reality is determined by the knowers and shaped by their social interaction with others and from their own personal histories (Jonassen, 1991; Bryman, 2012). In this form of inquiry, research is shaped from individual perspectives to broad patterns and ultimately to theory generation (Creswell, 2011). It predominately emphasises an inductive approach to generating theories (Bryman, 2012). As for data sampling, data collection, data analysis and research outcomes, qualitative research uses methodologically flexible techniques, such as semi-structured interviews or group discussion for an inquiry process of focused and in-depth understanding, allowing unlimited, detailed expression from respondents (Creswell, 1998). In qualitative research, data are collected from a smaller number of non-representative cases, immersed in the everyday life of the setting in which the study is framed. Respondents are frequently selected with the expectation that they fulfil certain criteria. Data analysis is based on the values which these participants perceive for their world. Ultimately, it 'produces an understanding of the problem based on multiple contextual factors' (Miller, 2000: 14). As for the outcomes, qualitative research typically is exploratory and/or investigative in nature. Its findings are developed for a deep understanding of a given thematic complex and sound rationale for further decision-making.

6.3.3 This research

Methodology is 'a set of ideas or related concepts which can be used to explain and understand an event, situation and social phenomena' (Matthews & Ross, 2010: 32). Typically, different ontological and epistemological concerns favour different types of methodology. The theoretical lens is a stance or foundation taken by the researcher to provide direction for many phases of a research project.

In this study, the primary research question is to identify how 'informal settlement' should be understood in Beijing. This indicates a research context which is not clearly specified and still needs exploration. Faced with such a broad concept, first, the realities of informal settlements need to be better understood. The first sub-question is designed to elicit the big picture of informal settlements, geographically and typologically, in Beijing. Arguably, this suits a quantitative approach, as this phase is grounded in deduction, quantification and measurement. However, the second sub-question is concerned with understanding experiences of and perceptions about informal settlements. This fits a qualitative approach, given the focus on social meanings, interpretations, and constructions inherent in the research question.

Due to the lack of existing data, empirical study is required to address the research questions. The approach taken for this research is grounded in the problem-solving notation of 'what works' (Howe, 1988; Creswell, 2002; Maxcy, 2003; Tashakkori & Teddlie (Eds.), 2003; Evans & Jones, 2011). Thus these ideas are drawn together by pragmatism, which focuses on the consequences of research; values both objective and subjective knowledge and uses diverse research methods (Creswell, 2011).

A major tenet of pragmatism is that quantitative and qualitative methods are compatible. Thus, both numerical and text data, collected sequentially or concurrently, can help better understand the research problem rather than adopting a single perspective (Clark & Creswell, 2010). In this sense, combining qualitative and quantitative research is becoming more and more common and the qualitative and quantitative approaches are not necessarily polar opposites.

The rationale for selecting mixed methods for this study is that neither quantitative nor qualitative methods are sufficient by themselves to capture the trends and details of the situation, such as the complex big picture of informal settlements in Beijing. Also, there is

now virtually no major area that is studied exclusively within one method (Brewer & Hunter, 1989: 22). When used in combination, quantitative and qualitative methods complement each other and enable a more complete analysis (Greene, Caracelli, & Graham, 1989, Tashakkori & Teddlie, 1998). Tashakkori and Teddlie (2003a) showed that at least 13 different authors had embraced pragmatism as the theoretical lens for mixed-method research. Following this brief introduction to pragmatism, it merits further discussion because of its importance. Tashakkori and Teddlie (2003a: 18) linked pragmatism and mixed-method research for the following reasons:

- 'Both quantitative and qualitative research methods may be used in a single study;
- The research question should be of primary importance - more important than either the method or the philosophical worldview that underlies the method;
- The forced-choice dichotomy between positivism and interpretivism should be abandoned;
- The use of metaphysical concepts such as "truth" and "reality" should also be abandoned;
- A practical and applied research philosophy should guide methodological choices.'

However, the lack of specific, theory-based prior assumptions is also considered as a weakness for employing pragmatism as a theoretical lens for mixed methods, as it could be an excuse for inadequate and unscientific studies. Nevertheless, indicators such as validity and reliability should always serve for the soundness of the research (Riege, 2003). Exploratory mixed-method research can provide value beyond simply developing topics and fields (Streb, 2010).

6.4 Methodological approach: mixed methods research

Methodology is the 'strategy, plan of action, process or design' lying behind the choice and use of particular research methods (Crotty, 1988: 3). Many different methodologies may have the same underlying theoretical perspective and each may be implemented using different combinations of research methods. More so, some methodologies may be conceived by different investigators as originating from different theoretical perspectives. Mixed-method research was chosen for this study to address the research questions on the complex situation of informal settlements in Beijing.

Mixed-method research is principally a method, but as it also involves a strategy for conducting research, it could therefore also be designated in Crotty's classification as a methodological approach. (Creswell, 2013). It has been suggested that when designing a mixed-method study, three issues need to be taken into consideration: priority, implementation, and integration (Creswell et al., 2003). *Priority* refers to which method, either quantitative or qualitative, is given more emphasis in the study. *Implementation* refers to whether the quantitative and qualitative data collection and analysis come in sequential or in chronological stages, one following another, or in parallel or concurrently. Integration refers to the phase in the research process in which the mixing or connecting of quantitative and qualitative data occurs.

Based on the discussion above, a mixed-method design (Tashakkori & Teddlie, 2003) has been applied to this study because it combines both the quantitative and qualitative approaches at some stage of the research process within a single study, in order to be able to understand the research problem more completely (Sandelowski, 2000; Creswell, 2013). This study applied a three-phase sequential design (Tashakkori & Teddlie, 1998), which combined sequential and concurrent aspects being investigated and is most common in studies which have numerous questions being explored to advance one programmatic objective. The rationale for choosing a three-phase sequential design is that this study was designed to examine a problem 'through an iteration of connected quantitative and qualitative studies that are sequentially aligned, with each new approach building on what was learned previously to address a central programme objective' (Creswell & Clark, 2007: 100). The quantitative data and their subsequent analysis are expected to provide a general and overall understanding of the research problem. The qualitative data and their analysis refine and explain those statistical results by exploring participants' views in more depth (Rossman & Wilson, 1985; Tashakkori & Teddlie, 1998; Creswell, 2013). The visual model of the procedures is presented in Figure 6-3, followed by an explanation on the contents of each phase in sequence.

In *phase 1*, the intention was to determine the big picture of informal settlements *geographically* in Beijing, which meant identifying their spatial distribution. However, no adequate existing quantitative data could provide this information, so additional qualitative data were collected from elite interviews, including government authorities and official website, as well as academic experts. Elite interviews were therefore employed not only to

explore interviewees' perceptions of informal settlements in Beijing, but also to provide a contextual understanding of informal settlements in Beijing. In this sense, the quantitative and qualitative methods were of equal importance and were implemented at the same time. Secondary data analysis were carried out to map out informal settlements in Beijing geographically. Meanwhile, qualitative data, such as official documents and statements made by elites in interviews, also helped to supplement and build the base for a sample frame in the next stage to provide a typological overview of informal settlements in Beijing.

Figure 6-3. Visual model of three-phase sequential mixed methods design
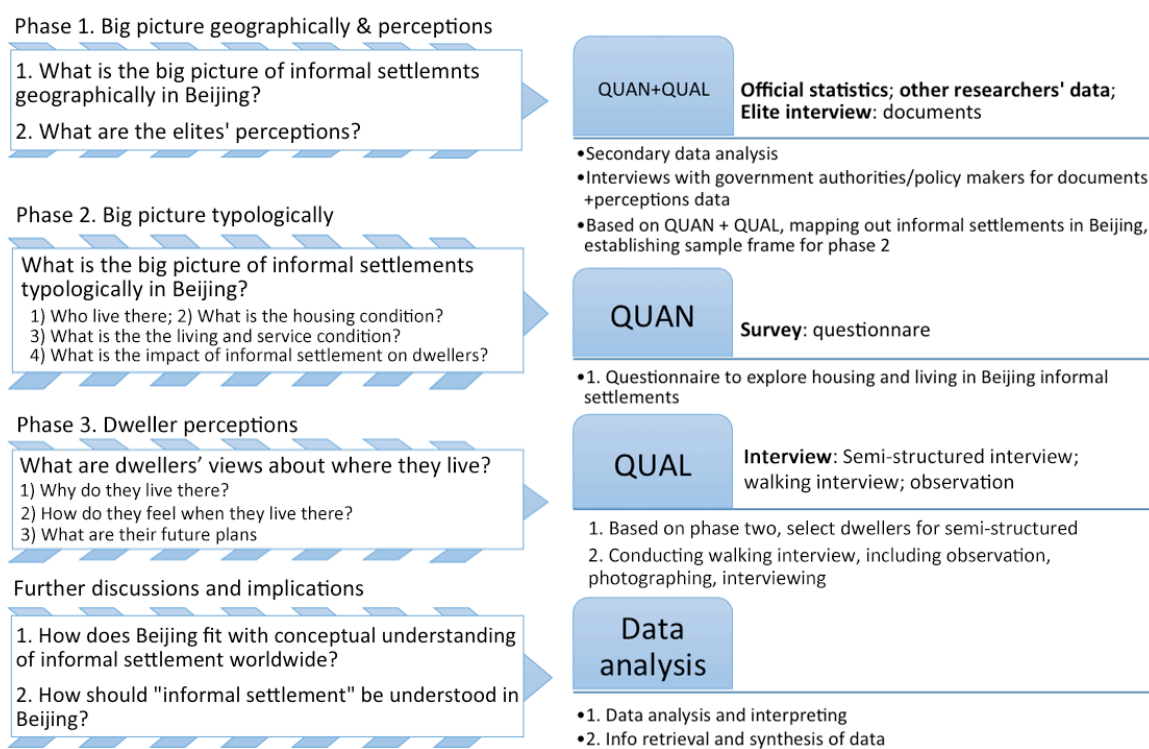
Notes:

1. The size of the capital letter used for 'QUAN' and 'QUAL' indicate the priority of each methodology.

2. '+' and '/' indicate the implementation of quantitative and qualitative methodology: '+' signifies concurrently; '/' signifies chronologically.

Source: Created by the author

Phase 2 was designed to investigate the 'big picture' of informal settlements *typologically* in Beijing. A survey was used to collect quantitative data which would give an overview of the functions that different types of informal settlements performed in Beijing. In the survey, questionnaires were sent out to explore four major aspects of informal settlements: first, demographic information about who lives there; second, dwellers' work and employment;

third, the housing conditions associated with living in an informal settlement; and fourth, the impacts on dwellers living in Beijing.

Following this, *Phase 3* was intended to explore the views of dwellers about the informal settlements where they live. Qualitative interviews were therefore conducted to collect dwellers' perceptions and experiences. In contrast with a questionnaire, semi-structured interview focused on in-depth explanations of dwellers' feelings and attitudes towards informal settlements in Beijing. Walking interviews were also conducted to gather a sense of the dwellers' experiences of living in informal settlements.

6.5 Methods of data collection

Crotty (1998:3) described methods as 'the techniques or procedures used to gather or analyse data related to some research question or hypothesis'. A variety of potential research methods could be adopted in a particular methodology, and the following section will explain those selected for this research and justify them as adhering to the underlying theoretical perspective of the chosen methodology. In this study, mixed-method design and survey were the main methods. Within this structure, different sub-methods were used: secondary data (official statistics and other researchers' data are discussed in detail in the next section), elite interviews, documentary analysis, questionnaires, semi-structured interview, walking interviews and observations.

To begin with, secondary data were analysed to profile the spatial distribution of informal settlements in Beijing. Meanwhile, elite interviews were carried out with the intention of not only generating data concerning the perceptions of government officers, policy makers and academic experts, but also acquiring official statistics and documents which could provide supplementary insights into sampling informal settlements in Beijing. In phase 2, the survey approach was employed to generate data which would enable an investigation of the general situation of living and housing in Beijing's informal settlements. Phase 3 involved in-depth, face-to-face, semi-structured interviews to gather dwellers' perceptions. The survey data-collection method comprised a self-administered questionnaire and interviews (including semi-structured interviews and walking interviews). Each of the data collection instruments employed in this study are described next in the sequence of the three phases:

6.5.1 Phase 1: elite interviews, documents and secondary data

6.5.1.1 Elite interviews

Elite interviews are 'when you interview someone in a position of authority, or especially expert or authoritative people who are capable of giving answers with insight and a comprehensive grasp of what it is you are researching (Gillham, 2000: 63)'. There were four purposes for holding elite interviews in this research:

1. To gain access to documentary materials, including official reports, secondary data and research articles, which could help to identify informal settlements in Beijing (this data collection method will be explained in section 6.5.1.2 'Documents');

2. To map out the spatial distribution of informal settlements in Beijing and provide a sample frame for phase 2;

3. To gather perceptual data and obtain deep and rich insight into the policy level regarding the development of informal settlements; and

4. To provide a contextual understanding of informal settlements in Beijing.

Identifying, approaching and recruiting elites

Elites in this research refers to both academic and political experts. As this study was conducted in collaboration with a research team from Beijing University of Technology led by Professor L (more about collaboration will be discussed in section 6.6 Ethical consideration), the first contact point was with the academic elites, involving the team leader, and researchers in the relevant area from the Academy of Social Sciences introduced by the leader.

Prospective political elites were identified by examining documentary materials when reviewing the previous literature. An initial list of potential interviewees was drawn up from publications, news reports and government websites. Their contact details were obtained from documentary materials, official websites, published projects and research participants. In order to recruit political elites, five relevant departments associated with informal settlements were selected by grouping them into categories of land, housing, urban planning, civil air defence and the government administrative branch. These political elites included

government officials from state level to street level. Following the first wave of academic elite interviews, a snowball sampling approach was also used to approach further political interviewees. This involved interviewee nominating other individuals to participate in the study whom they believed could provide further insights. The nominating contacts during the fieldwork were added to the list of prospective participants. However, the final number of interviewees was lower as not all elites were prepared to take part in the research; for instance, the authority from air defence office declined to be interviewed. Table 6-3 summarises the sampling and recruitment of elite interviewees.

Table 6-3 Sampling and recruitment of elite interviewees

No.	Target participants	Grouping	Criteria for sampling (government department)	Administrative level of participants (in descending order)	Sampling number*
1	Academic elites	Academic	Beijing University of Technology	N/A Professor	1
2			Academy of Social Sciences in Beijing	N/A Researcher	1
3	Political elites	Land	Ministry of Land and Resources	State-level officer	1
4		Housing	Municipal Commission of Housing and Urban Rural Development	Municipal-level[19] authority	1
5			Beijing Municipal Administration of Social Security Housing	Municipal-level officer	1
6		Urban planning	Beijing Municipal Commission of Urban Planning	Municipal-level authority	1

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[19] This is equivalent to province-level government, acting as a direct-controlled municipality under the national government.

7			Beijing Municipal Commission of Urban Planning (different section from the above)	Municipal-level authority	1
8		Civil Air Defence	Beijing Civil Air Defence Office	Municipal-level officer	**
9			Beijing Civil Air Defence District Office	District-level officer	
10		Government administrative branch	Sub-district (Street) Office in B District	Street-level authority	1

Note:

* This is the final sampling number;

** These two officers declined to be interviewed, so they will be excluded from coding in Chapter 7.

Source: created by the author

Conducting interviews

Once the elites were recruited, face-to-face, semi-structured interview were arranged. Dates and times were agreed with interviewees for their convenience. The selected locations were neutral, safe and public areas such as like a café. Each interview lasted approximately one hour and was audio-recorded with the participant's permission. An interview topic guide was designed and utilised as an aide-memoir (see Appendix 2A).

Interviews with such people was challenging for several reasons. First, they knew more than me on this topic, which meant that they might give me pressure during interviews, which affected me to guide and ask what I needed to know from them (Gillham, 2000); Second, 'by virtue of their authority and experience they will have their own structuring of their knowledge' (Gillham, 2000: 64). So they easily diverted me to another direction. Third, they usually wanted to gain some control over my data and demanded some accountability and reporting back. For example they requested me to let them have a look at how their participation has been presented in my research. On one hand, elites can be important facilitators; on the other hand, 'they will not submit to being interviewed where you direct a series of questions at them' (Gillham, 2000: 64). In this situation, I tried to develop a 'consultative' relationship with them and raised topics to which they would respond

(Gillham, 2000). In return, I collected more data than I had anticipated as the elites led me towards different directions of investigation.

6.5.1.2 Documents

The other purpose of the elite interviews discussed above was to get access to official documents which could help map out Beijing's informal settlements. 'Documentary analysis' here refers to analysing data in documents fixed at the time that it was written down (Matthews & Ross, 2010). At the same time, using different sorts of documents is also useful to triangulate data from different sources (Matthews & Ross, 2010). Documents can range across the spectrum of social life, including news items (commentary), numerical data (population census), policy (Articles), history, visual material (films, photographs or videos) and audio material (Matthews & Ross, 2010: 277-278). Using visual and audio sources such as images and sounds could enable the researcher to perceive the structure, dynamics and features of informal settlement development. Sources such as policy documents and news items could help researcher to understand the transformation process of the informal settlements, the social composition of the residents and other factors. The key documents obtained from elite interviews were mostly policies or relevant regulations as follows:

- *Land Administration Law of the People's Republic of China* and *Opinions on Strengthening Rural Residential (Homestead) Land Management,* issued by the Ministry of Land and Resources ([2004] 234);

- *Regulations on the Safe Utilization and Management of Civil Air Defence and Ordinary Basement in Beijing,* issued by the Beijing Bureau of Civil Air Defence (BBCAD) (Beijing Municipal People's Government, 2004);

- *Suggestions of the State Council on Solving Housing Difficulties of Urban Low-income Families* ([2007] 24) (State Council, 2007);

- *Administrative Measures for Commodity House Leasing* (Order of the Ministry of Housing and Urban-Rural Development (No.6), issued in December 2010);

- *Several Provisions of Beijing Municipality on House Lease Administration* (Decree of Beijing Municipal People's Government (No. 194) (revised in 2011, No. 231));

- *Decisions on Revising the 'Regulations on the Safe Utilization and Management of Civil Air Defence and Ordinary Basements in Beijing'* (Beijing Municipal People's Government, 2011);

- *Notice on the Publication of the Per Capita Living Area Standard of Rental Housing in Beijing*, issued in July 2013;

- *Shanghai Municipality on the Administration of Residential Tenancy* (No. 68) (revised in March 2014, No. 15).

In addition to this the elite interviewees also suggested a number of other relevant documents that later enabled me to develop the questionnaire. They were the *2013 Migrants Population Dynamic Monitoring Survey Plan* designed by the National Health and Family Planning Commission and the *2015 Occupational Classification System of PRC*.

Whilst it was not possible to get access to elites from the Air Defence Office, searches of the official website [20] of the Beijing Municipal Commission of Housing and Urban-rural Development led to relevant documents, most notably '*Notice on Rectifying and Improving Ordinary Underground Basements'*. It contained data on the site [21] number of underground basements in each district of Beijing that needs to be rectified and improved by 2015. This data also helped me to set up the foundation for sampling underground basements.

6.5.1.3 Secondary data

Secondary data are data or information which were either gathered by someone else or for some other purpose than the one currently being considered, or often a combination of the two (Cnossen, 1997). According to Novak (1996), it is helpful to begin research activity with a review of the secondary data. The possibility of accessing secondary data for this research was also due to the collaboration with the research team from Beijing University of Technology. However, because of inadequate research on the overall situations of informal settlements in Beijing, only three sources for a single type of housing were accessed:

A. the *Sixth National Population Census of PRC (2010)* [22] shared by the research team;

B. the *Underground Basements to be Rectified Data* recorded on the official website of the Beijing Municipal Commission of Housing and Urban-rural Development (2014);

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[20] http://www.bjjs.gov.cn/publish/portal0/tab662/info99781.htm

[21] One site of underground basement doesn't mean one household, it differs in each building, however one site of underground basement usually contains hundreds of households.

[22] This census survey is conducted by the National Bureau of Statistics of PRC every ten years, so this was the latest available updated data.

C. the individual research conducted by Jin in 2015 on the group-rented housing in Beijing from the aspect of housing rights (to be published).

The details and differences in the nature of each source of data are stated in Table 6-4, in terms of type, who conducted the research and when, location, what can be applied to this research and an evaluation of quality. The reasons for applying them are also shown.

Table 6-4 Three sources of secondary data

	Data A	**Data B**	**Data C**
Type	Official statistics	Official statistics	Researcher collected data
Who conducted	National Bureau of Statistics of PRC	Beijing Municipal Commission of Housing and Urban-rural Development	Researcher Jin
When conducted	2010	2014	2015
Location	Professor L	Official website	Researcher Jin
What is applicable	All villages' location based on administrative divisions of Beijing; Migrant population;	Number of underground basements in the six main districts of Beijing indicates the sampling size for this research.	Distribution of group-rented housing in Beijing indicates the sampling for this research in the six main districts.
Evaluation of quality	Robust and reliable official data; Focused on urban village data; Older than the other two sources of data.	Robust and reliable official data; Focused on underground basement; No spatial distribution information.	Up to date; Innovative data collection method using rental housing ads web; But lack of reliability compared with official data

Source: created by the author

There were several reasons for adopting secondary data at the preliminary stage of this research. The primary consideration was for its practical use in providing a baseline for the

subsequent primary research design, as there is no single source of overall information on Beijing's informal settlements, such as spatial distribution data, which can be used as a sample frame for phase 2. Furthermore, there are three sources of secondary data listed above. Each has different advantages or disadvantages, but using multiple sources can provide not only the background and contextual data but also the possibility of accessing the full results of the population census and the clearness of the differences in the nature of the data. That is why three sources of data were used to compensate for each one's limitations, so as to set the context of this research by stating what had already been done and to build a picture of the spatial distribution of the informal settlements in Beijing. It also shows how the nature of the research area has changed compared with the primary data collection results in this study. This means that it could also be used to supplement the data collected in this research. After all, Cowton (1998) also notes the primary benefits of this practice as cost-effectiveness and accessibility.

However, the situation can also be more difficult if the information sought is old or has not been published. That is why elite interviews were designed to help gather a full picture of the Beijing case. It is the best course of action in this case to discuss the enquiry with experts who work in the appropriate field. After consultation with them, these three sources of data were justified as being the appropriate techniques for sampling in the next stage.

6.5.2 Phase 2: survey

In order to gather an overall view of the functions which different types of informal settlements perform in Beijing, survey was the methodology employed. Survey refers to the process of data collection and measurement for producing quantitative or numerical statistics about the study population (Fowler, 2002). This method requires sampling a fraction of the population rather than involving every member of the population (Fowler, 2002). The principal way of collecting data is by asking questions to which the answers will constitute for data analysis (Fowler, 2002). Some scholars (Fowler, 2002; Groves et al., 2011) have argued that to increase the accuracy (or precision) of survey estimates, it is essential to combine three procedures: sampling, question design and data collection. The following section will present a justification of the survey design applied to this research through these three aspects.

6.5.2.1 Sampling

Sampling refers to 'selecting a small subset of a population representative of the whole population (Fowler, 2002: 5)'. To ensure an optimum sampling is to 'give all (or nearly all) population members the same (or a known) chance of being selected' (Fowler, 2002: 5), namely probability sampling. Sample frame and sample size will also be discussed in the following paragraphs.

In this research, in order to explore the overall perspectives of informal settlements in Beijing, the geographical mapping of informal settlements was needed at first, which has been targeted through phase 1. Then the detailed map of the living and housing conditions in informal settlements in Beijing needed to be examined (through questionnaires), as well as the impact on people living in them (through interviews) to profile the big picture of informal settlements in Beijing. The target population was all the inhabitants of informal settlements living in the six main districts of Beijing, and the frame population could only be selected on the basis of the results of phase 1 to rationalise the conducting of this research.

Based on the secondary data sources, the possible criteria for a sample frame ('those people who actually have a chance to be sampled' (Fowler, 2002: 7)) for phase 2 could only be prepared for selection according to the type of informal settlements. This conveys there is no one single area which includes the full variety of data, as different types of informal settlement have different characteristics, such as location. So it was rational to take the typical type as the sample frame, and a sample of 200 was selected from the three main types of informal settlement, producing a total of 600. However this sampling method indicated informal settlement locations not within one area as it depended on each type's most typical area. The following paragraphs explains how the 200 participants for each type of informal settlements were sampled.

Urban village sample frame

20 sites of urban villages in total from the six main districts of Beijing were selected, with the intention of gathering 10 questionnaires from each site. Multi-stage, stratified cluster sampling was used to select the 200 participants. First, a number of townships (*Xiang*) and towns (*Zhen*) (which direct the urban village location) were selected in three stratified geographical zones: Chaoyang district, Haidian district and Fengtai district (based on the village level of Beijing administrative division and no sub-divisions at this level exist in the

other three districts (China GOV, 2010)). Second, the total number of migrants in the population at each site was drawn from the *Sixth National Population Census of PRC*. Population-proportionate-to-size procedures were then used to determine the exact number of urban villages to be sampled in each district. (see Table 6-5) Third, following the precedent of several scholars' views on the migrant community (Wang et al., 1995; Qian & Chen, 2003; Wu et al., 2005), the urban village sites of each selected district were ranked based on the proportional size of the migrant population in descending order. Meanwhile, the selected urban villages also had to meet the criterion of having at least 10,000 residents. We therefore went to the target sampling sites. Given that the large 'hidden population' was dynamic and difficult to identify in each sampling site, the respondent-driven sampling method (Heckathorn, 1997) was then applied to randomly select 10 participants to whom to distribute questionnaires by snowballing and encountering people in the street.

Table 6-5 Number of urban villages sampled for each district in this research

No.	Districts	Proportion of permanent migrants* in each district	Number of urban villages sampled
1	Xicheng District	0	0
2	Dongcheng District	0	0
3	Chaoyang District	54.81%	11
4	Haidian District	21.90%	4
5	Fengtai District	23.29%	5
6	Shijingshan District	0	0
	Total	**100%**	**20**

* Who have lived in the place for more than six months.

Source: created by the author

Underground basement sample frame

The official website of the Beijing Municipal Commission of Housing and Urban-rural Development announced the *Notice on Rectifying and Improving Ordinary Underground Basements*. A regulating task by 2017 was attached with the numbers of sites of underground basements in each district which needed to be rectified and improved. Therefore, the sampling site was developed from this information and the numbers selected in each district are shown in Table 6-6.

Table 6-6 Number of underground basements sampled in each district for in this research

No.	Districts	Regulating task for each year			Number of underground basements sampled
		Total sites	*2016*	*2017*	
1	Xicheng District	230	132	98	3
2	Dongcheng District	96	55	41	1
3	Chaoyang District	570	325	245	8
4	Haidian District	264	151	113	4
5	Fengtai District	292	167	125	4
6	Shijingshan District	33	19	14	0
	Total	**1485**	**849**	**636**	**20**

Source: created by the author

There is no information on the spatial distribution of each site published on website and no one from the Air Defence Office accepted an invitation to be interviewed. In order to search for and investigate the informal underground basements, I knew from the Construction Committee of the relevant department in charge of the implementation at each level of administrative division. The Street Offices should have a list of all the locations, but they also declined to provide the data. So Kim's (2016) method was adopted and advantage was taken of the thousands of adverts posted on the two largest internet gateways, 58 Tongcheng[23] and Ganji[24]. The term 地下室 (underground basement) was used to search the rental market and the popular regions/streets within each district were listed in alphabetical order from their initial letter. One region/street from each entry on the list was selected, starting from A. Then a random site of underground basement was chosen from the region. However, it happened during the fieldwork that we found several sites were closed down or empty, so we visited buildings around that area and changed to an alternative site which was occupied.

Group rented housing sampling frame

The third source of data was provided by Jinwei from his article on 'Researching the Subdivided Rental Housing from the Aspect of Housing Rights' (to be published). He

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[23] www.58.com

[24] www.ganji.com

collected 5218 adverts for subdivided rental housing all over Beijing's six main districts in 2014, giving information about the monthly rent, rooms, size, floors and address. The sample site numbers were decided by the number of subdivided rental properties located in each district (shown in Table 6-7). Because the rental market information did not provide the exact house number, the respondent-driven sampling method (Heckathorn, 1997) was again applied, and a random selection of 10 residents was made in each neighbourhood community by asking whether they lived in group-rented housing before completing the questionnaire.

Table 6-7 Number of group-rented housing sites sampled in each district for this research

No.	Districts	Total subdivided rental housing number	Number of group-rented housing sites sampled
1	Xicheng District	738	3
2	Dongcheng District	393	1
3	Chaoyang District	1068	4
4	Haidian District	1722	8
5	Fengtai District	681	3
6	Shijingshan District	616	1
	Total	**5218**	**20**

Source: created by the author

6.5.2.2 Questionnaire design

Questionnaire design is important for ensuring the quality of data. In this study, a self-administered paper questionnaire (see Appendix 3) was employed. The question format with closed questions and multiple choices was also employd for time efficiency and convenience. The list of 92 questions was presented on double-sided A4 papers. The question contents were designed based on the previous literature and dedicated to answering the research questions. Four groups of questions asked about the living and housing arrangements of informal settlement dwellers (see Appendix 3):

1. The first group of questions asked about demographics of the respondents, such as gender, age, *hukou* type, educational level and marital status;

2. The second group explored employment and working conditions, such as work-unit and income, which were closely related to socio-economic benefits and their living expenditure;

3. The third group focused on housing and living conditions, such as housing facilities, housing services and the living environment of dwellers. These could indicate the characteristics of an informal settlement;

4. The fourth group of questions asked about the impact of informal settlements on dwellers, such as their urban life, neighbourhood and social network.

At the end of each questionnaire, participant was invited to voluntarily leave contact and indicate their willingness to participate in the following interview stage. Also, as part of the collaborative project, the questionnaire contained questions needed by the research team.

6.5.2.3 Data collection

The survey data were collected between May and September 2016, with substantial assistance from the collaborating research team. After designing a draft questionnaire, a pilot study was carried out with the research team to identify any typing errors, to analyse the motivation for answering the questions, to clarify any ambiguities and to correct any errors. The final wording of the questionnaire also benefited from a critical reading by a number of academic experts whose suggestions improved the final content.

With respect to the distribution of the 600 questionnaires, I was responsible for leading the entire process. First, we recruited a team of 15 people and divided them into 5 groups with at least 3 people in each group to guarantee their safety. Second, we arranged three training sessions for them in terms of the following five aspects: project instruction; questionnaire explanation and guidance; a mock survey in different scenario; distribution skills and techniques such as gifts to encourage participation, communication skills and trust building (using student ID/dialect/facial expression/gender difference); awareness of safety and ethical issues. Third, we allocated tasks to each group for distributing questionnaires. An information sheet and consent form were attached to each questionnaire to inform respondents and ensure that they fully understood what their participation involved and could give their permission. However, for some sites of communities with gatekeepers, recruitment had to begin by obtaining the gatekeeper's permission. Gatekeepers are staff as well as dwellers who are recruited to act as the receptionist for a community at its entrance. Therefore, the first contact point for these sites was the gatekeeper, with self-introduction

and an explanation of the research. After receiving their permission, researchers could get access to target dweller participants. Fourth, when retrieving completed questionnaires, we asked researchers to offer help to participants for completing questions in case they were not clear or required explanation or support, considering the number of questions, the anticipated response rate and the educational level of participants.

The response rate was also considered as a basic parameter for evaluating the quality of the sample data (Groves et al., 2011). This refers to the proportion of responding population among the total sampled population (Fowler, 2002). The reasons for nonresponse can usually be classified into situations such as straightforward refusals, illiteracy, language/dialect issues, illness, or the lack of availability (Fowler, 2002). In this research, to increase the response rate, training in multiple techniques was given and employed to reach people who were inaccessible, such as, at the very beginning, to emphasise the research aim of bringing about potential improvements and benefits to dwellers' living conditions, was regarded as a good motivation. Respondents also had a chance to win a gift pack as an encouragement to increase response rates. All of this achieved a positive response rate of 100.6% (see *Note*) and the retrieved sample numbers are shown in Table 6-8.

Table 6-8 Retrieved sample results from the survey

No.	District	Urban villages		Group rentals		Underground basements	
		Sampled	*Retrieved*	*Sampled*	*Retrieved*	*Sampled*	*Retrieved*
1	Xicheng	0	0	30	30	30	30
2	Dongcheng	0	0	10	10	10	10
3	Chaoyang	110	110	40	40	80	83*
4	Haidian	40	40	80	85	40	40
5	Fentai	50	50	30	26	40	40
6	Shijingshan	0	0	10	10	0	0
	Total	**200**	**200**	**200**	**201**	**200**	**203**

Note: Three dwellers were very curious and strongly requested to fill out one questionnaire

Source: created by the author

6.5.3 Phase 3: dweller interviews

6.5.3.1 Semi-structured interview

A semi-structured interview is a two-way communication, conducted within an open framework, giving and receiving information (Whiting, 2008). It usually starts with general questions or topics instead of closed questions in questionnaire framework (Gillham, 2000). Due to the flexibility of this method, the majority of questions are created during interviews which also leads to the acquisition of extended and rich data. In order to answer the research question on different experiences and perceptions, semi-structured interviews with dwellers were used in this study. It aimed to acquire an in-depth understanding of Beijing's informal settlements from the perspectives of those who dwelt there, which could supplement the survey data and act as methodological triangulation from the qualitative angle.

Following the contact details left by survey participants in phase 2, the purposive sampling method was used and it was planned to select 30 interviewees for phase 3 based on dwellers' different occupations. The intention was to carry out 10 interviews for each type of informal settlement. During the fieldwork, however 8 additional interviews were conducted to enable a point of saturation being reached (Burnham et al, 2008). The detailed sampling numbers are shown in Table 6-9.

Table 6-9 Number of dweller interviewers sampled for this research

No.	Target participants	District	Number of dwellers sampled	Total
1	Urban village	Chaoyang District	5	9
2	dwellers	Haidian District	1	
3		Fengtai District	3	
4	Underground	Xicheng District	2	17
5	basement dwellers	Dongcheng District	2	
6		Chaoyang District	4	
7		Haidian District	6	
8		Fengtai District	3	
9	Group-rental	Xicheng District	3	12
10	dwellers	Chaoyang District	6	
11		Haidian District	3	
	Total			**38**

Source: created by the author

Question guideline was designed in consideration of dwellers' previous, current and future living, with prompts and probes to generate answers. Considering the limited time and the need to acquire in-depth data, no more than ten open questions or topics were included (see Appendix 2B).

With the respect to preparing interviews, it is important to practice and rehearse by oneself and to run through the key elements of organising an interview (Gillham, 2000). Moreover, familiarising with interviewee and with the setting also enhanced my credibility and helped me to build trust. A naturally occurring conversation enabled an interview process to work efficiently.

To conduct interviews, dates and times were prescheduled with interviewees for their convenience, such as meeting outside working hours. The selected locations were neutral, safe and public areas. Each face-to-face interview lasted approximately one hour and was audio-recorded with the participant's permission.

6.5.3.2 Walking interviews

A walking interview is a technique whereby the researcher walks with participants (Evans & Jones, 2011). It can generate richer data for the reason that the interviewee is prompted by meanings and connections to the surrounding environment. Meanwhile, the researcher can also feel sensibly to 'ask participants to talk about the places that they are interested in while they are in that place' (Evans & Jones, 2011: 849). For these reasons, a walking interview can 'give access to richer understandings of place than can be generated by more conventional interviewing techniques' (Evans & Jones, 2011: 849). In addition, the walking interview has attracted significant academic attention because of its mobility, which suggests a major advantage of its capacity to access people's attitudes and knowledge about the surrounding environment (Evans & Jones, 2011).

Researchers need to keep in mind the questions to ask and the information they wish to acquire. Information notes should be prepared in advance to enable the recording of field notes for subsequent coding and analysis. They can include the following points: 1). the ways of living and interaction between residents or isolation; 2). forms of usage of private and public space; 3). forms of participation in community life; 4). maintenance, conversions of buildings or new construction, as well as the dynamics of the new residents (in particular, analysing the adaptability, the new household appliances, the arrangement of the exterior

and the decorations, which can generally represent examples of lifestyles); and 5) problems (such as bicycle parking, public cleaning, vandalism and complaints from neighbours etc.). The best time to do this most effectively could be immediately after a semi-structured interview as the researcher will have become familiar with the interviewee and they should have been able to build mutual trust. The criteria for sampling were built on the uniqueness and representativeness of each type of informal settlement.

In this study, walking with dwellers encouraged a sense of connection with the living environment of informal settlements (Ingold and Vergunst, 2008), which allowed me to experience dwellers' housing facilities and services. In addition, interviewing dwellers and observing their living condition at the same time enabled me to capture the unnoticed habitual relations with environmental perception, spatial practices, biographies, social architecture and social realms in the data gathered (Kusenbach, 2003). In contrast with ethnography, a walking interview shows greater time-efficiency, which is important for a PhD research programme. This method also enabled me to carry out interviews with landlords and house owners and report on a wider range of experiences.

6.6 Ethical consideration

All social research has ethical implications and dilemmas (Matthews & Ross, 2014). Social research is about human beings. Given that this research involved human beings, their experiences, attitudes and ideas directly, and 'participation in social research is itself a social activity which will have an impact on both the research and the research participants', ethical considerations seemed important before undertaking the empirical social research (Matthews & Ross, 2014: 84). Ethical issues cannot be avoided but rather can be used to help ensure the research of good quality. This research has got the ethical approval from the Department of Social Policy and Social Work from the University of York before conducting fieldwork. This section will present the ethical consideration at three stages: before, during and after fieldwork, followed by special ethical consideration for this project. Meanwhile this section will also consider ethical issues from different group's perspectives, including elites, dwellers, researchers and collaborated team.

6.6.1 Ethical consideration before fieldwork

6.6.1.1 Participants' identification, approaching and recruitment procedure

Participants in the proposed research involved interviewees (elites and dwellers) and survey respondents. In order to obtain a deep and rich insight into policy level for informal settlement, elite interviewees have been identified via documentary materials (including government official websites), published projects and participant's recommendation. Prospective elites were approached in the first instance via email or telephone. When recruiting local government authority, it could be illegal for them to accept any monetary payments for involving in the research. However, in Chinese culture, as an expression of appreciation, it is generally recommended to bring souvenirs instead of monetary payment for both political and academic elites. In this case the value of gift was less than five pounds. Prospective dweller interviewees were identified and selected from survey participants who left contact details and were willing to attend interviews. Then they were approached via telephone number or wechat for an initial meeting in safe public area. They were provided five pounds in cash (or equivalent) once the interview finished.

Survey participants were identified from their living location sampled from phase 1. Dwellers were approached by verbally explaining the information sheet and consent form face to face for their full understanding of what research would participate. However, for some dweller communities with gatekeeper, survey participants were approached after gatekeeper's permission through self-introducing and research briefing. As an incentive to recruit dweller interviewees, small gift equivalent of 1 pound was provided once they completed questionnaire (The funding source of survey payment will be discussed in collaboration ethics later). Besides, another incentive was to let them know that their experience and attitudes might contribute to policy recommendations, which would in return benefit them with more housing support. Their participation would help research findings to generate considerable impact and increase public concerns on them. This information was emphasised at the beginning when approaching them in order to make it more attractive for prospective participants.

6.6.1.2 Informed consent

Following the principle of obtaining informed consent, participants should be provided with as much information as possible to understand and decide whether they will participate in

the research (Bryman, 2012). In this research, informed consent was provided for two groups of participants: elites (political and academic) and dwellers; as well as throughout the methodological approaches: elite interview, semi-structured interview, walking interview and survey.

Clear information contained in informed consent form and information sheet (*see* Appendix 1A for elite and Appendix 1B for dweller) have been provided to all participants, which fully explained:

- The nature and purpose of the research;

- What will happen during the research: what their participating will involve; what the potential benefits and risks of their participation might occur;

- What will happen after the research: what will happen to the results and how they will be disseminated; how their anonymity and confidentiality will be guaranteed;

- The whole participation is voluntary and they can withdraw from the research at any point without any reason.

They have been translated into Chinese and presented to potential participants in the preliminary meeting. All participants were given the opportunity to ask questions so as to fully understand and decide if they would like to participate. Considering some dweller participants had limited reading ability and comprehension, questions were listed or asked in the most understandable ways of expression. Moreover, researchers also read and explained verbally upon their request.

Afterwards, participants were asked to sign a consent form as a formal agreement on participating either in the survey or interview. However, having a signed Consent Form didn't mean a full informed consent had been achieved, due to the limited understanding and experience in this research. Participants were told that they could raise question or concern at any point of the research process, and they had the right to cease, take a rest or withdraw from the research whenever they wished. However, for most political elites, although the guarantee of anonymity and confidentiality were highlighted in the consent form, they were still concerned about the potential risk of signing a written form and considered any consequence of participating in this relative sensitive topic. Liu (2005) also suggested it

might frighten participants if their names were written down and stored. Therefore, my key task to obtain their consent was to ensure participants' willingness rather than agreeing to do so under pressure through the ongoing process. In the end, only two political elites signed the consent form and the others provided verbal consent, which mitigated the risk to their career.

6.6.2 Ethical consideration during fieldwork

6.6.2.1 Legality

This research addresses a sensitive topic in the context of problematic natures of informal settlements. As such, illegal activities might be revealed during fieldwork. Given that ethical research should not encourage illegal behavior (University Ethics Committee, 2014) and the focus of this research, participants in this research have been informed before the interview commences that the focus of this research was to create systematic understanding of informal settlements and provide policy recommendations on solutions; therefore, it was not concerned with any illegal issues or crimes. More specifically, they were asked not to disclose any information regarding criminal activities that they witnessed or participated in to the researcher, and that they would be asked to stop immediately if they began to do so. However, they were also told that if a clear sign of criminal activity to harm the participants themselves, specific third parties or the general public had disclosed, I would have to break the confidentiality and meet with my supervisor or the University's legal adviser, and also the research participant involved before taking any advised action. This was also made clear when obtaining their informed consent that should this situation arise, I might have to inform someone else.

6.6.2.2 Risks and harm

It is generally unacceptable if the research might have potential risks of harm for participants and researchers, either physically or psychologically (University Ethics Committee, 2014). In this research, I have concluded them in three aspects: professional risk; emotional distress/psychological harm and personal safety. Table 6-10 also summarise all the points.

Professional risk

The proposed methodological tools did not bear any foreseeable serious risk or ethical problems for participants' physical or psychological well being. But absolute anonymity couldn't be guaranteed (will be discussed in 6.6.3.1). Given this, strategies were employed to minimise risk as follows: pseudonyms were applied in research outputs; a verbatim transcription of interview were forwarded to elite? participants to enable them to edit their comments before any data analysis was undertaken; a brief summary of research findings would be forwarded to participants upon request. Meanwhile for researchers, a signed agreement on collaboration was used to minimise any potential risk raised by collaboration. In this sense, I could protect the integrity of the study and fully understand my responsibility as well as rights.

Emotional distress/ psychological harm

Some dwellers were considered vulnerable as they were poor, illiterate and with restricted access to basic urban resources (Farrimond, 2012). As such, I acknowledged that this research had the possibility of triggering distressing emotions on part of the participants due to questions that require them to reflect back on or recall upsetting experience (Dickson-Swift et al., 2007), such as their financial circumstances, physical and psychological health.

To minimise the risk when sensitive topics were discussed, I prepared necessary measures to ensure the participant's wellbeing during the interview. For instance, a participant's body language were monitored for signs of distress. Should interviewees become distressed the interview would be discontinued (Weles, 2013) and the participant had the option to withdraw from participating in the study. I also kept informing them of the rights to refuse to answer questions and withdraw from the research anytime without any explanation during research. In addition to this, the possible systems of support within the community that the participants lived in could be referred to if they requested these measures.

Although potential emotional harm for the researcher is low, it might be possible for the researcher being affected vicariously by the sensitive information. To minimise the risk, I was also in regular contact with my supervisors to inform them of any challenges during the research process. In addition, a counsellor might be needed to debrief me after conducting the interview (But this was not the case for this research).

Personal safety

According to the guidelines by social research association (SRA), personal safety should be carefully considered. No risks were anticipated for the participants, because I carried my University ID Card, which was shown to participants all the time as proof that I was a University researcher rather than from the police or government. However, for researchers, the following points were applied to minimise risks for this project:

- A buddy system was applied, which referred to ensuring someone always know where and when I was conducting fieldwork. I asked at least one team member to go with me each time. Meanwhile I kept in touch with my parents at regular intervals throughout the day so as to notify them if an itinerary change occurred. Moreover, detailed plans for fieldwork, including time, name, address, and telephone number were updated with my supervisor once I went for fieldwork;

- As recommended by the SRA, special attention should be paid to assessment of fieldwork site, and rearrangement of venue if it is not suitable. Beijing is a safe city, but all interviews, survey sites were in different places. Public transport was utilised as appropriate with all routes set out in advance. I also double-checked the prior information about the interview sites. Interviews were conducted in safe and neutral public space. Room layouts were also noted to ensure a swift exit where necessary. Interviews were supposed to be abandoned immediately if any safety concerns arose, but this was unnecessary for this research;

- Enough money was prepared for expected and unexpected situations and valuable items were kept out of sight. My mobile phone was switched on at all times. (with silent mode during interviews)

Table 6-10 Potential risks for participants and researchers in this project

Potential risks	For participants	For researchers
Professional risk	Absolute anonymity can't be guaranteed	Signed agreement on collaboration to minimise any potential risk raised by collaboration.
Emotional distress/ psychological harm	For elites interviewees, no risks anticipated. For dwellers interviewees, the emotional discussion may carry	Potential emotional harm for the researcher is low. But it's possible to be affected vicariously by the information.

	social risks such as sensitive topics on their financial circumstances, living safety and health condition.	
Personal safety	No risks anticipated for participants.	Buddy system; Assessment of fieldwork site, including transport, room layout etc.; enough money, mobile phone switched on, valuable items out of sight.

Source: created by the author

6.6.3 Ethical consideration after fieldwork

6.6.3.1 Anonymity and confidentiality

The main principle to treat the obtained data is firmly based on keeping the confidentiality of data and anonymity of the participants. All participants were informed that the anonymity of participants would firmly be protected.   All personal information and other information (such as names, institutions, working title etc.) that may link to any identification of a participant were eliminated or changed to unrecognisable letters at the stage of transcribing. They have also been allocated pseudonyms. The researcher was responsible to ensure all participants' personal information, wouldn't be revealed to people outside the research, unless they choose to be identified. The entire recordings, fieldwork notes, transcripts, consent forms and anonymised data was securely protected during fieldwork, after fieldwork and will be after graduation.

However for elites interviews, due to their distinct insights or snowball approach producing the relatively small sample size, the situation of 'cascade of identification' might occur. For dweller interview, due to the nature of recruiting strategies—using gatekeeper and collecting data in their informal settlement community—it was possible that some participants might be able to know others taking part in the research. As such, absolute anonymity that cannot be guaranteed to participants has clearly been stated in the Information Sheet and Consent Form. And some techniques to minimise the risk has been discussed in 6.6.2.2.

6.6.3.2 Data protection

The collected data conforms the Data Protection Act in the following ways. It will be only used for the purpose of this research, and all the related data will be destroyed after this research has finished. All the collected paper-based data has been stored in the locked filing cabinet within an office in the Research Centre for Social Science (ReCSS). Entry to this building is restricted to key card holders. Only I have the key to the locked filing cabinet. Electronic data was securely stored in password protected files, rather than hard drives or portable devices, on the University of York server. This is regularly backed up by IT Service and only accessible with student ID and password. During the fieldwork taking place outside UK when I was away from the campus, paper-based data was stored in a locked filing cabinet in my house. Electronic data was saved in the password protected files on the University of York server through Virtual Private Network. When I went back to the university of York after fieldwork, all paper-based data was securely stored in the locked filing cabinet in ReCSS.

In the case when I leave the University of York after the study, paper-based data and key will be kept with my supervisors in the department of social policy and social work and Electronic data will be kept in a password locked folder in my password locked personal computer. If these items cannot be transferred by secure means or I do not have access to a secure storage system after leaving the university, then I will make arrangements for my supervisor to take responsibility for them until they are due to be destroyed. Any published research outputs will be freely accessible by the participants as well as the public, through the appropriate authorities (the University of York, or other journal links). This is clearly stated in the Information Sheet. Consent forms will be kept for 10 years following my graduation. Once 10 years has passed these items will be destroyed via confidential waste. While other data will be destroyed within one year after graduation.

6.6.4 Special ethical consideration

6.6.4.1 Collaboration

Part of my study is collaborated with the team from the Beijing University of Technology, researching 'how migrants' access to housing influence their social inclusion in mega city'. As informal settlement tends to become one source of housing for migrants in mega city, there is an overlap between the two projects and, the research team could provide me with

valuable sources of data and research network for my project. Moreover, their funding project can also provide financial support for survey budgets (valued for 3,500 pound). Therefore collaboration was adopted.

In return, we agreed that my responsibility should involve conducting 600 questionnaires survey and providing professional research training for the team members before survey commence. The entire process of the research has been designed, conducted, managed, and delivered by me. Research team members were responsible for sending out and retrieving questionnaires. They were voluntary students in social science, which enhance their profession level.

Afterwards, the questionnaire data will be shared with the research team so that both of us can get access to the data for utilisation, which can not be shared with a third party. To minimise any potential risk might raised by collaboration, a signed agreement with the above information has been set in advance of collaboration starts. (See Appendix 4)

6.6.4.2 Photography

In the interview with dwellers, there was a fifteen minute period where they were asked to show around where they live and taking photos of their living environment (the walking interviews). Ethical issues of the visual method-photography-then arise (Proseer & Loxley, 2008).

I have showed my University ID card all the time to indicate that I was a university researcher rather than someone who's from police or government. And all the research and researcher information has been clearly and transparently stated in the information sheet and consent form to reassure them I was not gathering evidence for any third parties outside the research. Only I could get access to and use these photos.

Considering easy operation and personal safety, I took pocketsize encrypted camera for photographing. I got permission from the gatekeeper at first. Then, before I took each photo, I also got oral permission from the dweller whether I could take this photo and use it in my research. Only photos with their agreement would be kept in my camera.

Only photography will be applied to capture living environment of dwellers, as photographs are objective, accurate and value-neutral representation of the world (Langmann & Pick,

2014). Representative photos were included in my thesis to show living condition in different types of informal settlements, such as their typology characteristics rather than identification of their home or community location. Faces or letters of identity recognition of informal settlement or dwellers have been excluded from photos. If these were accidentally included when taking the photo, they have been obscured using Photoshop. These electronic images have been transferred to a password-protected file on the University of York server through Virtual Private Network. Moreover, to minimise the risk of revealing any of their information, limited (no more than five photos were taken of the following section respectively: room, kitchen, bathroom, toilet, laundry space, passage) and only representative photos of their living environment were taken.

6.7 Data analysis

The empirical analysis in this research was based on data from multiple source, both primary and secondary. It linked the quantitative and qualitative data sets, preserving the numbers and words in each dataset. That is to say, SPSS and statistical techniques were used to analyse secondary data and survey data; whereas assembling materials, constant comparison, integrating results, qualitative content and narrative analysis techniques were used to analyse interview data and observational data.

6.7.1 Secondary data analysis

Because of the different data sources, I had to resort to a manual and laborious process of using online Baidu map (as Google map is not working in China) search engine to identify the location of sampled urban villages and group renting housing or advertised underground units. We also share locations once each team went to a site for fieldwork. If there's any change of the site, we updated our location in wechat group. Therefore, I created pins in Google map to mark each sampling site's location and then use Photoshop to generate the spatial distribution shown in Figure 10-1. However, this research didn't export the address information into GIS to identify the absolute correct location. On one hand, it's to protect the dwellers' confidentiality in case they are not in risks of identification and eviction because of participating the research; on the other hand, for the purpose of spatial analysis, I only needed the relative distances between each type of housing sites and locations of central or periphery urban boundaries. So, mapping the location of sampling site is still enlightening for this research.

6.7.2 Quantitative data analysis

I used SPSS to produce some basic descriptive statistics from the questionnaire data, such as frequencies and crosstabs. I've also produce and edit charts in excel to illustrate the data analysis. Some variables have been recoded into new variable for analysis and see more details in Chapter 8.

6.7.3 Qualitative data analysis

The qualitative data analysis process for this research was grounded in the data rather than guided by existing theories. The analysis began with the transcription and translation. All the formal semi-structured interviews (elites' interviews and dweller interviews), walking interviews, were transcribed into Chinese. Considering the richness of the transcripts and field notes and limited time, only quotations used for presenting the findings, rather than the whole data have been translated into English. I also double-checked the accuracy of translation with the help from another PhD student to ensure its reliability. To systematically organise all forms of collected data, the transcripts, field notes and photos of dweller interviews have been input to the Computer Assisted Qualitative Data Analysis Software, NVivo. The NVivo analysis was mainly used to replace the manual coding work and to manage the large amount of qualitative data (Basit, 2003).

Based on the pragmatic paradigm applied to this research, data analysis methods were chosen as those as most likely to provide insights into understanding 'research problems' (Creswell, 2003; Mackenzie & Knipe, 2006). To process the data, I have employed the general qualitative data analysis methods (Miles et al., 2013) and followed the principle of thematic analysis methods to interpret all the evidence collected from the fields. WIER's (2012) framework for coding was used, and Figure 6-4 demonstrates the coding pyramid applied to the data as described below, taking the dweller interview as an example.

Figure 6-4 Coding interview data pyramid
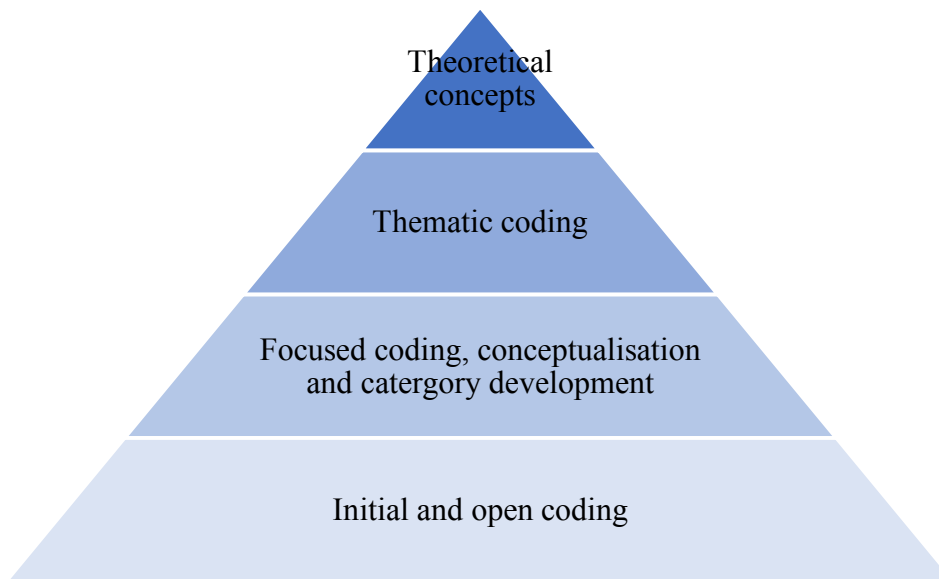
Source: WIER, 2012: s

Before coding, I began with data familiarization. Immersion with all the interview data helped me to generate an initial list of categories or themes (Braun and Clarke, 2014; Terry, 2015), with three general types: interview guideline codes, theory-generated/literature codes and in vivo codes.

Then the initial and open coding have been used following the interview guideline provided for different groups of participants and literature. The dweller interview guideline categorised data into *previous living*, *current living* and *future living plan*. It also raised two themes for analysis: one is *motivation* for both migrating and informal settlement choice; the other one is their *understanding* of informal settlement. Furthermore, this, also followed the literature for theory-generated codes, in a list of *urbanization, migration, informal sector, social housing, governance* and *Beijing character*. Memos were also used when interesting points not directly asked in the interviews came out, which will remind the potential analytical codes or insights for further coding (Braun and Clarke, 2014). Then the third category of codes were generated based on observation and participants' views or feelings.

It then goes under each theme for focused coding, through establishing nodes line by line in every single transcript (Charmaz, 2004). For example, under the theme of previous living, it included description of living place, length or conditions. The focused codes were used to analyse what people said and what summarised from their thoughts. This stage tried to conceptualise their answers and identify why it happened in such way rather than simply

describing what happened. Appendix 5 lists the codes created for data analysis, however, eventually not all were used as some overlapped and some of them changed during the process of thematic coding.

Based on the previous category development, I continued to connect and interrelate data for the thematic coding. Last and most importantly, it aimed to create theoretical concepts through interpretation and explanatory accounts. The whole process was active and dynamic. Bearing the research questions in mind, I regularly went back and reviewed themes for effective analysis of the results and the development of critical arguments rather than simply description.

6.8 Summary

This chapter began by generating the research questions, which have been shaped by the previous chapters and the gaps in literature. It also helped to inform the methodology taken to address them in the fieldwork and the rationale for selecting research strategies and associated data collection methods.

This chapter then explained the broader philosophical theoretical framework of the mixed methods research design. A pragmatism paradigm and both inductive and deductive approach enabled me to investigate Beijing's informal settlements.

Having established the three-phase sequential mixed methods, the chapter then described how participants were contacted for both survey and interviews, and how barriers were met and overcome. The multiple data collection methods including document analysis, secondary data analysis, questionnaires (questionnaire design outlined), semi-structured interviews (question guideline design outlined) and walking interviews were discussed and the flexible methods were triangulated with each other to generate rich data. Ethical considerations were discussed with respect to before, during and after fieldwork. Codification and analysis of research data were explained, in which secondary data analysis addressed phase one and mapped out the sample frame for later stages.

The following chapter will address the elites' perceptions on informal settlement.

CHAPTER 7: ELITES' PERCEPTIONS OF INFORMAL SETTLEMENTS

7.1 Introduction

This chapter explores the perceptions of eight elites of informal settlements from both the academic and the political aspects. The political participants came from different administrative levels in relevant government departments in respect of land, housing, urban planning and government administration (excluding Beijing Civil Air Defence because the target elites there declined to be interviewed). As agreed on the Consent Form, the interviewees' positions and names are not disclosed here and their key information has been coded E1 to E8 as shown in Table 7-1.

Table 7-1 Encrypted information of elite interviewees

No.	Participants	Grouping	Government Departments	Administrative Level	Code Name
1	Academic elites	Academic	Beijing University of Technology (BUoT)	N/A Researcher	E1
2			Beijing Academy of Social Sciences (BASS)	N/A Researcher	E2
3	Political elites	Land	Ministry of Land and Resources (MLR)	State-level officer	E3
4		Housing	Beijing Municipal Commission of Housing and Urban-rural Development (BMCHUD)	Municipal-level authority	E4
5			Beijing Public Housing Centre (BPHC)	State-owned enterprise civil servant	E5
6		Urban planning	Beijing Municipal Commission of Urban Planning (BMCUP)	Municipal-level authority	E6

7			Beijing Municipal Commission of Urban Planning (different section from the above)	Municipal-level authority	E7
8		Government administrative branch	*Jiedaoban* (Street Office/Sub-district) in D District	Street-level authority	E8

Source: created by the author

This chapter begins with a discussion of the elites' understanding of informal settlements, including the terms and the different criteria used by them to define informal housing. This will be followed by an exploration of the changing policies towards informal settlement and its development, and then by a discussion of the role of each government department involved in the governance of informal settlements from policy making to policy implementation. The reasons why BMPG has made policy changes to demolish informal settlements and evict migrants will then be discussed. Finally, this chapter shall consider what the government has achieved by its current public housing system[25] and discuss its future plans for expanding housing welfare.

7.2 How do elites define informal settlements?

7.2.1 Use of the term 'informal settlements'

The interviewees were asked at the beginning of the interview what they know about informal settlements and they usually asked me to explain how the term is being used in this study. E1 said that the use of the term has not been commonly acknowledged by officials in China. Even in academia, it entails different layers of meaning for different projects, which suggests no unified use of the term in China. So I tried to indicate the specific types of informal settlement, such as 'urban village', and then they understood the connotation. E5 explained that the term 'urban village' can hardly be found in current government documents or the urban master plans for Beijing:

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[25] Public housing in this chapter and the following chapter is different from that mentioned in Chapter 4, which means those state-owned houses allocated to employers under planned economy. This research applies 'public housing' in finding and discussion is because it found that the relevant official website is using this term.

*Nowadays, the Beijing government prefers to call them 'old and dilapidated homes' which includes urban villages. I think that this is because 'urban village' has a negative meaning of 'slum', or 'down and out in the city'. But old and dilapidated homes are where the old Quadra-yards (*Siheyuan[26]*) or self-built bungalows are located and they need refurbishment or renewal because of their age. To be honest, the living conditions are not very different from those in urban villages. You will understand what I mean if you walk southwards from Xidan[27].* (E5)

Additionally, the interviewees suggested that there were changing types of informal settlement as well as changing situations inside each type of housing. According to E1, for instance:

Providing someone with a place to live in the workplace or on a construction site can also be considered as informal dwellings. (E1)

I've also seen some scattered metal containers on the rooftop of a building, but not heard any news reports about them, maybe because it's not that serious. I've also read in the media about people living in a sewer shaft under Beijing. (E1)

Four months after this interview, there were news reports (Lv, 2016) of seven steel boxes located on the street holding construction workers, more than ten people living in one box of just 18 m^2. A panel on the side of the container gave a contact telephone number and said that it cost only 6 yuan (£0.60) a day to rent one box and 8000 yuan (£800) paid in advance as a deposit for one box.

In general, the elite interviewees showed a negative attitude towards the term of 'informal settlement'. E1 also compared it with 'illegal housing' and agreed that they pose the same problem because they do not conform to official norms and standards. However, 'illegal' is more context-sensitive and has a more repressive connotation that the housing must not break the law or the occupation will be punished on a strict legal basis. Although 'informal' is not as harsh or sharp as 'illegal', it covers a wide range of situations, unrecognised or

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[26] This is a traditional Chinese relic with a history going back 800 years to when Beijing became the capital city. It represents the capital's architectural style with a courtyard in the centre surrounded by four houses (Chinadaily.com.cn, 2004).

[27] This is a major traditional commercial area located in the very central Beijing – Xicheng District.

partially unrecognised by the authorities' regulations, which gives violators some leeway depending on the current political or social circumstances.

7.2.2 Different criteria for defining the informality

Elites from different government departments, with different research and working experience, defined informal settlements in a variety of ways. Most of them followed official regulations to define 'informal'. Given that formal housing was clearly defined from the official building code, E7 suggested that dwelling which violate the regulations should all be regarded as 'informal'. It was also found that there are different forms of informality existing across the three main types of informal settlement with respect to land tenure, urban planning, ownership, construction, safety rules and leasing regulations.

For urban villages, E1 and E7 mainly discussed the informality in terms of land tenure and urban planning inconsistencies, which had also been discussed in the previous literature (see Chapter 5 for details on urban village developments in Beijing):

> *Land in an urban village is collectively owned by the villagers who have the freedom to build and use their rural land in any way they want. They have subdivided their own housing and rented it out. They have also progressively invaded and occupied public or private land to increase the numbers of self-built houses for maximum financial benefit.* (E1)

> *An urban village contains more complex problems than the other two types of informal settlement, I think. Except for collective land ownership or incomplete property rights, land-use planning often does not exit. Some villagers could not earn money from farming so they subdivided for other uses the land protected for farming, such as renting out the protected farming land for housing lots. And their ignorance of the density defined by the planning regulations increased the informality.* (E7)

E1 also mentioned the lack of sanitation in some urban villages where waste and garbage are littered on the street, which also greatly influences the quality of the environment.

For underground basements, E1 analysed informality in terms of property ownership, and there are two situations in Beijing:

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For the public asset, Civil Air Defence, they had to sign a formal agreement with the government and to comply with the regulations on safe utilisation and management.

For the ordinary underground basement, the complication made its ownership unclear. Real-estate developers designed and constructed underground space for storage or garages at first. After the developer has sold a property, I think it should belong to the owner. But it is quite common that a property management company took over the underground space for different uses: I know some of them took advantage of renting it out for income, but whether they took it from the people and used it for the people was unknown. Some used it as free accommodation for their employees; others also sold it to private investors, which was out of the government's control. (E1)

E7 raised the design-for-use inconsistency and the non-application of safety rules, such as vulnerability to fire hazards:

For the ordinary basement, whether it can be used for living depends on the nature of the building's original design plan. If it allows people to live there, then it just needs to have a reinforced management. As far as I know, some underground basements are usually occupied by hundreds of people with only one fire escape. Overhead, there are exposed pipes and wires. (E7)

For group-rented housing, E1 discussed the 'informal' issue in terms of construction inconsistencies, such as the improper layout of dwellings:

A large number of group-rented housing is rented out as a single property divided into separate units by converting living room, kitchen, bathroom or balcony into bedrooms. So we chose 'subdivided' as the key word for referring to group-rented housing in the previous research. (E1)

They also looked at house leasing regulations to discuss group-rented housing (for details of these regulations, see section 7.3):

If a room has bunk beds, it is worse for any type of informal housing because it violates the regulation on the number of renters of a specific area. However, a

university dormitory[28] has bunk beds and more than four students share one room with little privacy, but even so it is considered formal as it is approved by the regulations (so I have excluded university dorms from informal group-rentals in this study). I think that bunk beds are not common in urban villages and I have also never seen them in an underground basement. (E1)

However, this current study has shown that bunk beds commonly existed in urban villages as well as underground basements (for the survey findings, see Chapter 8).

E7 added that the high density of inhabitants in turn might make a building substandard:

Those buildings containing informal group-rented settlements cannot possibly be initially designed for so many people. The load-bearing design should be based on the needs of the people living there, and then whether additional occupants can be tolerated needs to be evaluated. They might even cause drainage problems. If this is in an upper storey above your home, wouldn't you worry about it? (E7)

Based on the these statements about compliance with regulations, it can be seen that the elite interviewees' understanding of housing informality was deeply influenced by central government decisions. They also believed that whether or not the housing is informal is largely decided by the central government. E7 and E5 showed the same point of view, and E5 suggested that the government's decision need to take affordability into consideration:

The group-rented model operated by Ziru[29] approved by the government could be considered as interior redecoration then, as long as the agent can control the number of people living there. Student dormitories in large extent are also approved because they are under management of a company or an institution such as an university, (E7)

Both joint tenancy (hezu) and group-rented housing (qunzu) comprise divided housing for shared residence. But the government has gradually acknowledged the former as formal and the latter as informal. And there is an issue that someone can hardly afford the rent if he/she is not sharing with others in Beijing. For example, my

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[28] Unlike UK university accommodation where each student can opt to live in a separate room, a university dormitory in China has between four and ten students sharing one room with bunk beds and far less privacy. Few students choose to live off-campus as a dormitory is kind of welfare provision, charging virtually nothing at the price of only 2000 yuan for a year.

[29] This is an O2O rental apartment platform (http://www.ziroom.com/), managed by the real estate agency Lianjia (https://www.lianjia.com/).

colleague does not have a Beijing hukou and he has to pay over 2000 yuan every month even though he is sharing with others, which is still not a small expenditure. (E5)

As well as following the official regulations to define the informal settlements, E1 stated his previous research on group-rented housing (to be published) showed that how people live and who they live with, such as tenants' relationships, could also be used to define whether they are living in informal settlements. But this research found that informal settlements are also those which prevent people from having a normal housing lifestyle, as suggested by E2 and E7.

7.3 Policy changes and multi-level governments for informal settlements

7.3.1 Policies regulating informal settlements

Although informal dwelling is prohibited in laws and regulations, there are nevertheless different circumstances. Regulations and standards have changed both over time and across different types of informal settlement because of dynamic complications. The elite interviewees underlined the government's changing attitudes towards informal settlements by reviewing relevant events, regulations and policies from 1998 when China's housing reform achieved the market-oriented housing allocation system (the documents in italics were summarised in Chapter 6). The findings are explained chronologically as follows.

As described by E1, before China's housing reform from a welfare-oriented housing allocation system to a market-oriented one, urban residents were faced with a housing shortage, let alone the availability of spare housing to lease. No housing supply could be provided to meet the rental housing demand before 1998. With the rapid growth of the real-estate market in China, the secondary housing market and the rental housing market gradually evolved and developed after 2000. E1 described the emergence of urban villages:

At that time, rural residents owned bigger houses of two floors with at least 100 m^2 compared with urban residents whose average housing space was less than 10 m^2. On the one hand, rural residents had spare housing capacity, and on the other they couldn't resist the possibility of rental income. So, migrants' growing demands were always in rural communities at first, which increased their profitability. Some

migrants even gave up their jobs to run a rental business by renting a house to live in as well as to lease out. That's how the urban villages initially emerged. (E1)

In 2004, the *Land Administration Law of the People's Republic of China* and *Opinions on Strengthening Rural Residential (Homestead) Land Management, issued by the Ministry of Land and Resources (2004: 234)* required that rural residential houses were not allowed to be let or sold. Nowadays, however, it is quite common in suburban areas of almost every city in China that rural residents rent out their property for money:

> *I think that this phenomenon actually indicates the local government's acquiescence to these rental and leasing activities from two aspects: governance and tax. On the one hand, tenants had to submit and register their information at the District Housing Administration Bureau, which showed that the government was trying to manage the floating population through landlords in suburban areas. On the other hand, the local taxation bureau condoned these rental activities because they wanted to receive tax from the rental income. However, the revenue from the informal economy has been unclear till now because of the lack of research and statistics.* (E1)

Underground basements were increasing with the rapid growth of the real-estate market, because there is an official building code required building construction with underground basements. With the urbanisation, there is an increasing demand and E1 gave his own example of how he had encountered the underground basement as a space for living and saw the growing subterranean market:

> *The first time I came to Beijing, I also needed to rent a house and I started to research the housing market. At that time, my salary was less than 4000 yuan, including the 1200-yuan housing subsidy. Because the letting agency charged highly, I began to search the surrounding housing on my own by wandering around, by word of mouth and by street ads. I got to know of the existence of underground basements at low prices, and for the first time I stepped into the dark and saw the poor conditions there. Eventually I rented a room of 30 m² upstairs in the same community, but I saw people every day going in and out of the underground basement. Then I started to research this topic.* (E1)

In 2005, the Beijing Bureau of Civil Air Defence (BBCAD) came into force under *Regulations on Safe Utilization and Management of Civil Air Defence and Ordinary*

Basements in Beijing (Beijing Municipal People's Government, 2004) which approved the letting of underground basements at that time.

Since 2007, however, the government has strengthened the management of underground basements with concerns over safety, such as inadequate fire protection facilities, and crime. The authority strictly required tenants' registration and clearly demanded the installation of fire control measures, and that water and electricity supplies must meet specific standards.

In 2011, the Ministry of Housing and Urban/Rural Development of China revised *Several Provisions of Beijing Municipality on House Lease Administration* (Decree of Beijing Municipal People's Government (No. 194) (revised in 2011, No. 231)), and added that no non-residential space, including underground storage, kitchens and corridors, could be rented out as living accommodation. In addition, from the end of that year, the Beijing government began to evict underground basement dwellers on safety grounds. Many underground basement sites were then gradually demolished. However, whether the total number was increasing or decreasing was unclear; indeed, E1 reported seeing other sites of underground basements being developed and even now people can still find on-line advertisements for spaces to let. This needs further investigation in the future.

Before 2011, group-rented housing were rarely seen, and showed up as a relatively new phenomenon. While urban villages vanished gradually outside 4th ring road of Beijing, those between fourth and the fifth ring roads were in reconstruction and underground basements were being cleared, group-rented housing was then soaring with the increasing housing demand and the decreasing housing provision of the other two types of informal settlements. But with its emergence, more and more problems have raised the government's awareness over the renting three to five years: conflicts caused by group renters living upstairs because of the clogged drains causing leaks; and the complaints from neighbours that overcrowding is disturbing their normal lives because of the noise which people make. Due to this opposition, plus the changed room structure which is forbidden in construction regulations, the government tried to regulate the situation. According to relevant regulations from the *Administrative Measures for Commodity House Leasing* (Order of the Ministry of Housing and Urban-rural Development (No.6), issued on December 2010) and the *Several Provisions of Beijing Municipality on House Lease Administration* (Decree of Beijing Municipal People's Government (No. 194) (revised in 2011, No. 231)), it was required that the per-

capita living area[30] of a tenant in a rental unit should not be less than 5 m^2. Furthermore, no more than two people were allowed to live in one rental unit (unless they have particular obligation, such as the care of children). E1 thought that this general rule was actually to impose restrictions specifically on group-rented housing, with the purpose of not only regulating the living area but also the tenant relationship. E1 then used the Shanghai case to prove his argument. In 2014, the Shanghai government drafted new rules specifically to control group-rented housing under which each tenant had to have at least 5 m^2 of living area and no more than two people were allowed to live in one rental unit, which was the same as in Beijing (see *Shanghai Municipality on the Administration of Residential Tenancy* (No. 68) (revised in March 2014, No. 15). Furthermore, if an apartment housed more than fifteen occupants, landlords and renters were required to register the apartment being rented with the local housing authority. Moreover, one key aspect of the regulation was the substantial rise in the penalty on tenants illegally sub-letting apartments to others, with a fine up to 10,000 yuan, and landlords who failed to meet the security management standard faced with a fine up to 30,000 yuan. This helped Shanghai to prevent employees being accommodated in domitories in a residential house in a residential property management area.

7.3.2 The role of multi-level governments for informal settlements

Taking the elites' views together with their deep familiarity with policies, the complicated process of the evolution of policies on informal settlements demonstrated that there are a number of government departments responsible for both policy making and implementation. The elites were also asked to comment on the relevant government departments which they knew to be responsible for informal settlement governance from policy making to policy implementation and what their various roles are.

Although at the state-level government, the Ministry of Housing and Urban-rural Development of China draws up a master plan, the municipal-level government bodies such as BMCHUD were mentioned the most as the main department with a leading role for carrying out that master plan to supervise, manage and regulate informal settlements (E1, E5, E6, E7).

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[30] The living area mentioned in the preceding clause refers to the use of an area of a room originally designed as living accommodation.

E7 also explained the role of her department BMCUP, which has the major functions of researching and implementing the city's overall plans for both urban and rural construction. Subsections of that department also have their specific responsibilities, such as planning and design for formal public housing approved by the government. She explained that they collaborate with BMCHUD, and with MLR which is responsible for the planning, administration, protection and rational utilisation of land resources at the macro state level.

However, she commented that these municipal-level government departments such as urban planning rarely involved in actual plan implementation. This leads to the plans not being directly related to the needs of those who living in informal settlements:

> *Generally speaking, I think that what urban planning can do for the social aspects and public administration of informal dwelling is quite limited. What we (governmental urban planning) have to consider is more macroscopic. We have to take different factors and stakeholders into consideration, not only from social aspects, but also from government administration aspects. However, some individual viewpoints considering for migrant workers or citizens are only concerned with social aspects. I can understand them but most of their views are single or one-sided, like sympathy or mercy.* (E7)

E6 remarked that the Beijing Civil Air Defence carries out policies to regulate levels of underground basements used as garages or air defence space. Unlike the municipal-level government discussed above, they collaborate directly with the district government and allocate the responsibility mission to *jiedaoban* (street office) (see Chapter 5 for an explanation of the administrative division of Beijing) for underground basement supervision and administration.

Speaking about policy implementation, E1, E5, E6 and E7 all suggested that *jiedaoban* (street office) and village or town governments would be more involved in the actual policy implementation. E1 further explained that it is this department that helps the District People's Government to implement policies and administer *shequ* (residential communities) and villagers' groups (see Chapter 5 for an explanation of the administrative division of Beijing).

At the same time, E1 also mentioned the Beijing Municipal Public Security Bureau (PSB), serving as the city's police stations and police departments. He thought that the *jiedaoban* always need to coordinate with the smallest-level police station called a police post

(*paichusuo*) to enforce the law. For example, during evictions, PSB officers are supposed to help handle policing, social order and public security. In addition, they are also responsible for residence registration and internal and external migration matters, such as the registration of temporary residents.

In summary, Figure 7-1 depicts the multi-level governments from the state to the street for informal settlements for both policy making and implementation (dweller interviews also found other departments supervising informal settlements, see Chapter 9). It shows that no unified system was found to govern and manage the overall informal settlements issues. Partnerships between separate local government departments, street offices and the police have been created to undertake the demolition and redevelopment of the different types of informal settlement.

Figure 7-1 Multi-level governments for informal settlements governance
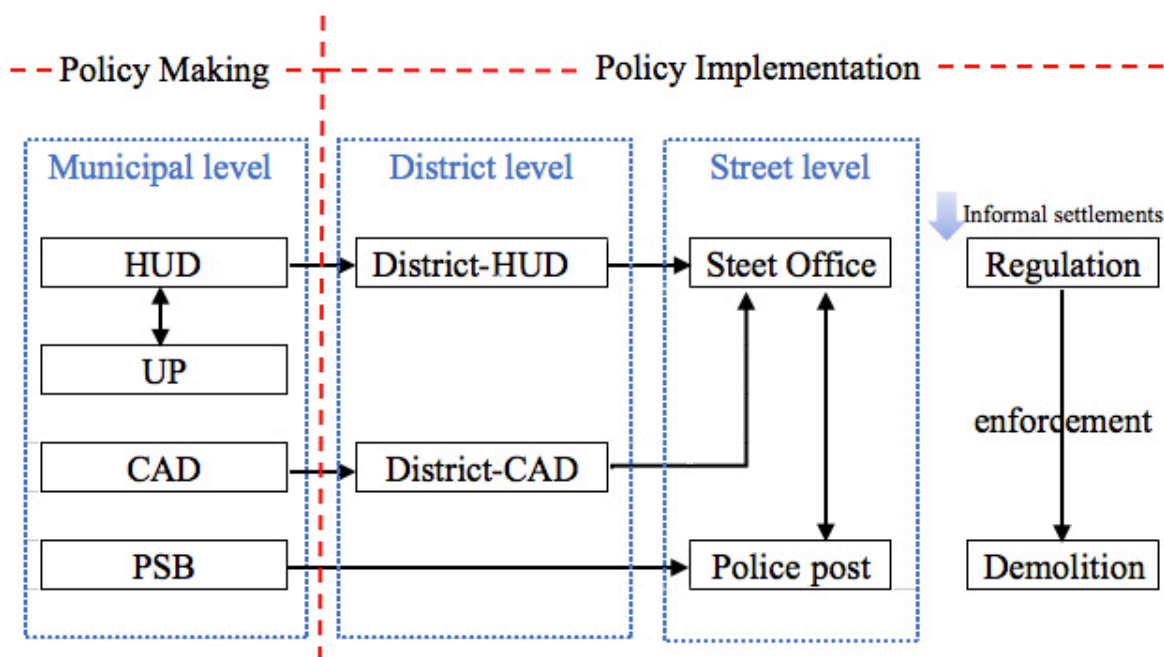
Note:

CHUD: Beijing Municipal Commission of Housing and Urban-rural Development; UP: Beijing Municipal Commission of Urban Planning; CAD: Beijing Civil Air Defence Office; PSB: Beijing Municipal Public Security Bureau.

Black arrow means affiliation, black double-sided arrow means collaboration, blue arrow means decrease.

Source: created by the author

7.4 Explaining and understanding policy change

7.4.1 Increasing migrants and housing demands

The overpopulation issue in Beijing raised the government's concerns about the increasing housing demand. In less than twenty years, urban sprawl has led to massive growth of the floating population in Beijing from around 3.5 million in 2005 (Zhai *et al*., 2007) to 8 million in 2016 (Beijing Bureau of Statistics of China, 2017). E1 said that this means that every year Beijing has to house around 450,000 more migrants. Moreover, most of them are individuals rather than families, which means that each of them needs housing rather than family members sharing accommodation. Beijing needs to keep up with this rapid pace of change by constructing enough housing for the growing population.

Faced with such rapid population growth, it really is a problem for any city to manage the growing strain on public services, infrastructure and so on. One of the most obvious difficulties which Beijing faced was traffic congestion:

> *It stretched for three hours in the morning, from 7am to 10am; several hours at noon; and it started again from 5pm until 9pm. Traffic jams caused problems for everyone living in the city.* (E1)

However, given that policy-making should fit with a city's comprehensive economic strength and sustainable development capacity, E7 said that it seemed that Beijing was not capable of accommodating all the groups, so it left the issue to the market and many informal settlements emerged to meet the increasing housing demand. E7 commented that:

> *From my point of view, informal housing was one of the solutions which spontaneously evolved through the market. The state's incapacity to satisfy people's basic housing needs drove the market to meet their demand by providing informal dwellings. This was not only because the geographical advantage of informal settlements provided dwellers with proximity to their work-places, but also because informal settlements reduced their housing costs.* (E7)

7.4.2 Tensions between the state government and other actors

The government then intervened to control and regulate the informal settlement phenomenon. However, the government did not achieve effective results either through redevelopment,

regulation or demolition. E1 suggested two possible reasons for this and explained why the government had abandoned it after several evictions:

One possibility is that some of them had not be identified and demolished, and the other is that they had been under control for a period but revived afterwards. I think that there were challenges to find these informal settlements in Beijing because of their enormous numbers, the complexities which they presented and their hidden characteristic. Besides, informal settlements in Beijing were too spread out, and that would have caused the government to have to pay for the demolition at great cost, consuming both manpower and material resources. (E1)

Elites also analysed the tensions between the state government and a variety of actors raised in the whole process, considering the problems (such as a chaotic environment) and benefits (such as manpower) which informal settlements would bring. This makes it more difficult for the government to supervise and control the large amount of informal dwelling.

For the state government, as already stated, the revenue from informal economy is unclear. In addition, the state government could not see any direct benefits from informal settlement dwellers as well. Moreover, they generate problems as discussed in section 7.2. So E1 and E7 commented that the state government strengthened the management and demolition regulations rather than tolerating the informal settlement phenomenon.

However, for the local government, E1 explained that because it benefits from the considerable tax revenues from migrants, it is not in the interests of a local government to drive migrants away:

The Chinese political system is a monolithic unity, which has been further strengthened under Communist rule, and the central government requires the local governments' compliance with national policy. However, when it comes to the implementation of national policy by the local governments, demolition and eviction have an impact on many actors: the migrants, the employers and the landlords. (E1)

Take the 'Flower Village' in Fengtai District which we've investigated, for example, it's the distributing centre for flower production in Beijing. Due to the eviction of migrants, the whole industry collapsed, not only hitting the economy of the village by preventing the industry from making money, but also because of the loss of rental

income and the reduction of self-sufficient peasant economic income. It also affected employment in the village because no one worked for the industry any more. The loss of economic benefits was the last thing the local government expected. (E1)

For the urban locals and employers, the benefits were noted by E7 and E1, who thought that informal settlements where most dwellers are migrants enable service provision and provide a cheap urban labour force contributing to urban development and the labour market:

I admit that informal settlements could help with labour-cost savings. For instance, if the housing cost for domestic service providers increases, correspondingly their service charge will go up. (E7)

Most migrants are willing to do and can only do elementary occupations such as sales and service workers (street vendors, cleaners, garbage collectors, domestic helpers, building caretakers and so on). But local people wouldn't choose to do these jobs. Evicting migrants would create a loss for employers as well as affecting the local residents' daily life. (E1)

Contractors of informal settlements and the owners of shanty-town housing who live on the rental business, were also affected by the government's decision making. It was found that some migrants, as well as Beijing residents contracted to lease a property and then lived on the income from sub-letting a room, a portion of the property, or all of the property to somebody else (see Chapter 9). The sub-tenant needed to pay rent and had to comply with a sub-lease contract, but the initial tenant remained ultimately responsible for the lease. This means that if the government wants to evict those sub-tenant, the principle tenants become responsible for evicting them, which not only results in the loss of rental income for them but they may also face eviction for failing to do so.

7.4.3 What are demolition and eviction for?

E7 expressed her own thoughts of including informal settlement dwellers into urban planning:

Sometimes we also wonder whether since a few urban areas are already inhabited by migrants and it's difficult for work on urban planning to focus on revamping of the city centre or the green system in the short term, we could take management

action to normalise the situation. In this case, it would satisfy their temporary living needs and at the same time standardise their fire protection, sanitation and safety issues. Learning from the southern China's well-regulated management could also help in the future. Lots of informal dwellings, especially urban villages, are well regulated in terms of their morphology and management, such as fire protection and sanitation. (E7)

However, it seems that the central government would push more for demolishing informal settlements, even though the complicated motives and the involvement of several actors make it difficult for them to prevent the development of informal settlements. The elite interviewees thought the government is attempting to reduce the current relatively high migrant density in the urban centre in the short term. The population cut campaign[31] was also strengthened on the government staff, E2 stated that even BMPG were compulsorily required to move to Tongzhou District as the new municipal administrative centre (Beijing Tongzhou Government, 2015). Unlike other groups of people, these civil servants would be allocated with economically affordable housing, of less than 10,000 m^2:

The Central Commission for Discipline Inspection (CCDI) needed to know the impact which the removal would have on employees' well-being and asked us to carry out some research. That's how I knew that even though many of the employees were unwilling to move, they could do nothing about it. The government used its political power to control capital and drive away dwellers, so this demolition and eviction was more about political power and had nothing to do with the market. (E2)

The government also wants to guide people to outer Beijing by means of a compensation scheme. E5 cited as an example the renovated old and dilapidated homes which they were dealing with, this indicated that the government did not plan for residents' moving back and wanted to relocate them to places outside central Beijing, such as Tongzhou, Daxing, Fangshan, Mentougou, Miyun (for the locations of these districts, see the Beijing map in Chapter 5):

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[31] The population cut campaign and Beijing municipal administrative centre moving is part of the Jing-Jin-Ji Project (Jing for Beijing, Jin for Tianjin and Ji for Hebei Province), which was designed to integrate Beijing, Tianjin and Hebei province into a single megalopolis, namely the Jing-Jin-Ji region, acting as the national capital region of China (CPC Central Committee Political Bureau, 2015).

As far as I know in order to encourage residents to move to Tongzhou, there are companies (not only our company is responsible for rebuilding projects) offering them five suites of housing in Tongzhou for giving up the one in central Beijing. But these efforts failed in part because of some residents' intransigence. (E5)

Driving people to outer Beijing, is also associated with the restructuring of the labour force by industry and occupation. In some instances, this has given rise to the development of informal settlements in new areas:

For example, Changping District used to have a hundred thousand people but now there has been a dramatic increase to millions of people. Even though it's outside central Beijing, it's an upturned model with more outsiders than local people. There are several huge science parks and an innovation base in Changping District and it's close to Zhongguancun Technical and Business Centre [32] in Haidian District, so it gradually turned into a white-collar workers' colony. (See Chapter 6 for the methodology limitation which excluded this district for sampling.)

However, I've also seen quite a few people with the accent of H Province, living on waste dumps or rag picking and selling. The community where they lived was just on the opposite side of a white-collar workers' apartment community. This might be one of the newly emerging areas for future informal settlements development; you could investigate it further. (E2)

There were also suggestions made about encouraging a reduction in the population by raising the cost of living in Beijing:

Lots of migrants pour into Beijing because they can earn money [this was also proved by the survey data and the dweller interviews]. *If they couldn't afford the higher cost of living, then they would have to leave Beijing.* (E1)

As well as reducing the population in central Beijing, the elite interviewees also thought the demolition and eviction would also help to solve the safety issues of dwellers living in such a chaotic environment. E7 remarked that the low cost of living is a good thing for those who live in informal settlements, but only as long as there are no accidents. Any accident which

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[32] This is a high-tech hub locate in Haidian District of Beijing, and is well known as 'China's Silicon Valley'. (China.org.cn, 2002)

might happen could raise horrific consequences, like the fire which broke out in Daxing District in 2007, causing loss of life and property (E7).

Sure enough, during the writing-up process of this thesis, it was reported on 18 November 2017 that a fire had broken out in a rental building in the *Daxing* District, killing nineteen people. The Beijing government immediately launched a 40-day campaign[33] to demolish thousands of informal settlements and evict migrant workers through electricity and heating cuts. The mass media were full of stories of homeless informal dwellers, especially families with children and the elderly. There was little chance of them finding alternative accommodation, which raised significant safety concerns at the time of a cold winter with temperatures below 0 °C. These people were described by the government as 'the low-end population (*Diduan Renkou*)' and now the word has been banned from social media and elsewhere.

However, E1 mentioned discussing two aspects which had triggered the authority to take the matter of safety seriously, both from the overall political system and from individual's political position:

> *If the government sits back and lets informal dwelling develop without supervision, like Tangjialing urban village, it is a huge issue of misgovernment because it would create a severe fire hazard.* (E7)

> *Most importantly, to build a harmonious society it is necessary to ensure and protect the safety of all citizens, which is also the central government's primary task. So junior officials were pushed by the higher authority to implement the policy. There was also a personal motivation to protect their own career which made the junior officials respond actively. They were responsible for public safety and under pressure of dismissal if any accident happened. For example, after the fire tragedy in Shanghai with 58 deaths, the chief executive and secretary of the District Committee were dismissed from office. It is even worse for Beijing officials to see any accident happen.* (E1)

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[33] the Beijing Action Plan on Investigating, eliminating and Remediating for Safety Hazard ([2017] 15) (Beijing Administration of Work Safety, 2017)

Finally, the government was also concerned to avoid or reduce complaints from local Beijing residents when making decisions. For example, group-rented housing was considered problematic by local neighbours in terms of the number of people sharing a house, as well as the short-term tenancy, because constantly changing and unfamiliar faces always made local residents feel unsafe. This also happened with underground basements, because local residents felt at risk even when they shared the same community rather than just the same building. In contrast, E7 revealed that quite a few people showed their generosity in these circumstances, because they thought that fear was often greater than the danger.

7.5 Housing welfare expansion

The elite interviewees suggested that informal settlements were a periodical phenomenon which every country would go through during urbanization, and they were very optimistic about the future improvement of informal settlements considering the newly introduced and innovative Public Housing System and the government's expansion of housing welfare.

7.5.1 Current Public Housing Provision System

E4 said the government had carried out considerable research since 2007 and had set up the current public housing system in Beijing to guarantee the whole process, from construction and allocation to management. He also talked about the newly built Beijing Public Housing Centre (BPHC):

> *In order to carry out the 'Suggestions of the State Council on Solving the Housing Difficulties of Urban Low-income Families (2007: 24)' (State Council, 2007), we've set up a professional network to manage the public housing provision system under the guidance of three administrative divisions from municipal to street (village/town). There are leading teams for each administrative level (for example, the mayor is leading the municipal level) and offices are also set up under their guidance in 16 districts and 321 streets.*

> *And the BPHC, founded in 2011 and operated as an enterprise, plays an executive role for investment, financing, construction and management. This has helped to divert the enterprise function from the government, so they focus on policy making and implementation. That's why I think the centre was the basis for a heathier development of public housing. We also realised that the way to solve the housing*

difficulties was to meet the multi-layered demands, which meant that the market could satisfy the rich and the government should be responsible for helping with the poor's housing needs of the poor. (E4)

In addition, E5 also added the motivations to set up BPHC. First, it can help to unify all the districts' solutions and easily be under control of the authority; second, it is difficult for the government to receive financing and manage the money; and third, when renovating the old and dilapidated homes, the government was afraid of being blamed, so it set up a company to tackle any challenges (which will be discussed later in this section). He also mentioned that it had subsidiary companies under the centre, which meant that at the moment, not all projects were fully open to the market, because the State-owned Assets Supervision and Administration Commission (SASAC) was afraid of capital outflow. But this would gradually change in the future.

Figure 7-2 depicts the Beijing Public Housing Provision System with added information collected from the BPHS official website. The centre has an organisational structure comprising a CEO, an executive committee and sub-departments to accomplish its '123' goal: '1 mission' to establish a 'Public Housing to Rent' scheme; '2 tasks' of *Gongzufang* (public rental housing) and *Penggaifang* (Renovated old and dilapidated homes for relocation) construction; and '3 functions' comprising investment and financing management; construction and acquisition, and operations management (real-estate development and property management). This centre also enables the transparency of the governance system in that all information is open to the public and shown on its official website, such as the housing allocation scheme and process.

Figure 7-2 Current Beijing Public Housing Provision System
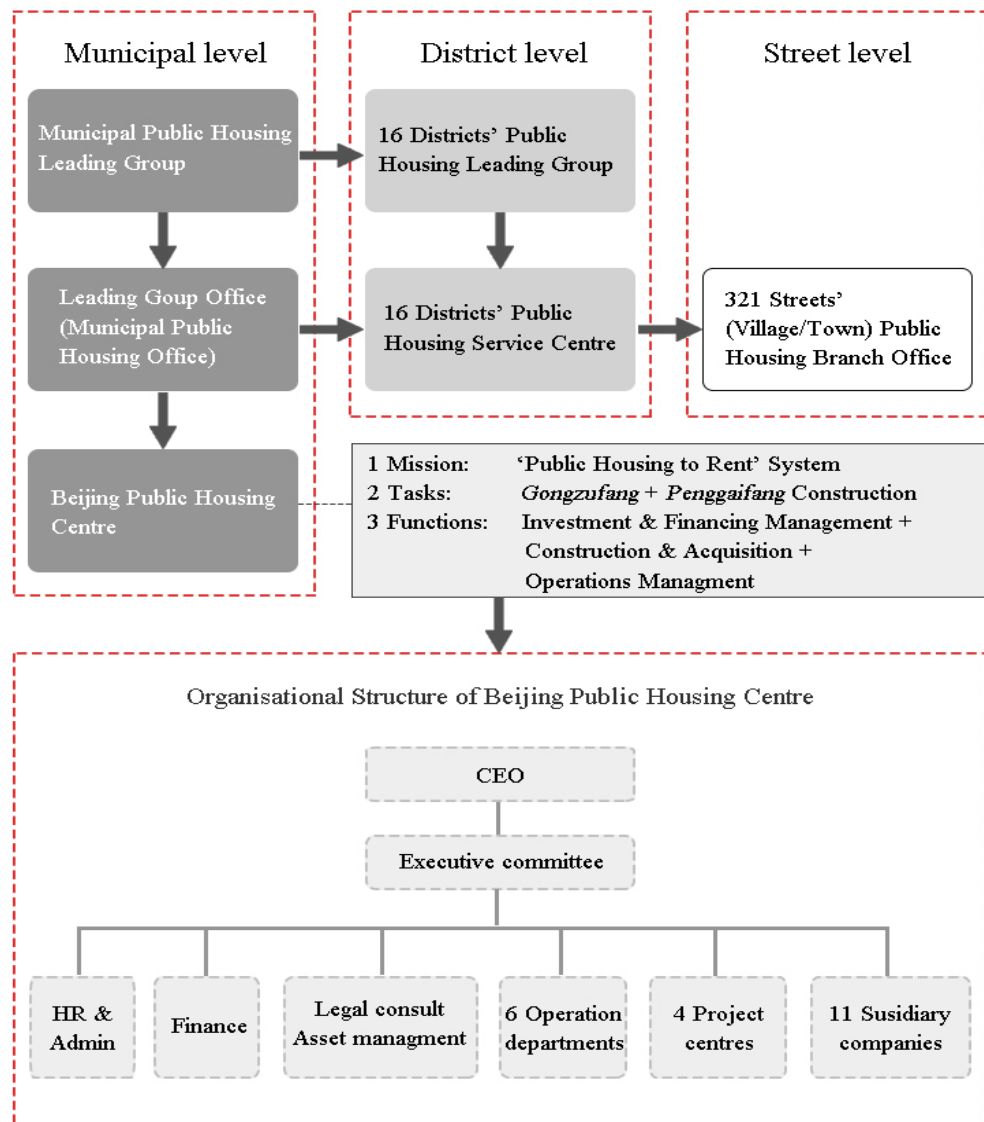
Under this systematic operation, Beijing made great achievements during the innovation. In fact, the government is expanding the welfare provision. E4 compared it with the previous system and said:

> *We used to have seven types of public housing* [see Chapter 4]*, but since 2013, we called off Jingshifang (Economically Affordable Housing) and Xianjiafang (Price-controlled Housing) and changed to a 'Public Housing to rent rather than to buy' system. Lianzufang (Low-rent Housing) was combined with Gongzufang (Public Rental Housing) and they are all called 'public rental housing'.*

During the 12th Five-Year Plan for National Economic and Social Development, we successfully completed the goal of one million public housing units, through construction, acquisition, long-term leasing, renovation, distributing subsidies and so on. Eventually, we solved the housing difficulties of 900,000 households (some are still in the process), provided 14,000 households with housing subsidies and renovated 95,000 housing units, with a total number of 1.9 million.

The one million public housing units included increasing the renovation of old and dilapidated homes, including urban villages. We planned to redevelop 150,000 units and by 2016 84,000 units had been finished, including 35,000 units located in the city centre to address the decline in the population there. (E4)

There were also challenges during the implementation, as E5 explained:

The first challenge was the Dingzihu[34] *[a 'nail household', also called 'stubborn nails']. Because they have lived there for several decades, why should they be willing to move? So, we have to negotiate with owners household-by-household and rebuild bit-by-bit. Moreover, everyone has a fundamental human right to housing. The courthouse will guarantee that they can exercise this right to live in security, free from forced eviction.*

The other challenge was the compensation with respect to how much should be offered and in what form? If financial compensation was to be offered, there was a huge price gap between what the government could afford and what the owners would demand. (E5)

7.5.2 Future public housing welfare expansion

From the government's perspective, all the elite interviewees suggested that welfare expansion, especially the construction of public housing, would gradually solve the issue of informal settlements in the future:

Beijing is now constructing large amounts of public rental housing which will replace all the other types of secure housing in the long term. If this pace of construction can

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[34] The term is a pun referring to nails which cannot be knocked in with a hammer and remain sticking out of the wood. It is a neologism for property owners who refuse to give up their homes for real-estate development (Ewing, K., 2007).

house more of the population as well as improving the condition of housing, people with relatively higher incomes would have upgraded housing choices and for the informal settlement dwellers, their housing could be escalated by acquiring 'eliminated' housing from people with higher incomes than them. Gradually, the government will solve the issue of informal settlements. This will also help to stabilise the rental housing prices offered by the government with much lower rents than the market price. (E1)

Unlike what has happened in developed countries, Beijing is dealing with unexpected population growth of 450,000 migrant people every year. I think that the city tries its best to manage this situation well. I also feel that China will solve this problem even more quickly than developed countries because of its surging economy. (E1)

E4 further emphasised three shifts which would be considered for developing public housing in the next stage. First the government would continue to develop the BPHC to a more professional platform, learning from the Hong Kong Housing Authority (HA).[35] Second, it would also shift its focus from construction to a combination of construction and management. He said that public housing did not represent low-end housing. It could be small in size, but not poor in quality. Third, it has also been argued that considering that many people own two to three houses which is a waste of social resources, BPHC should continue revitalising the housing stock by distributing housing subsidies, rather than providing actual houses for those who have housing difficulties. E4 said:

In 2015, we firstly published the housing subsidy notice online, and within half a day, 4000 households had submitted applications. This enabled them to have a free choice about where they want to live. If they were able to afford a house in the future, it's also easy to get out of the scheme, both for them (by paying back the subsidy) and for the government to manage (it is easier than actually owning and managing houses). (E4)

In order to further achieve the multi-layered housing support provision, Figure 7-3 was developed from the findings from the elite interviews and shows the three types of public housing for the government to meet the different demands: first, it would provide

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[35] This is a statutory body established to develop and implement Hong Kong's public housing programme, dedicated to helping low-income families in need to gain access to affordable housing.

Gongzufang (Public Rental Housing) to guarantee and meet people's basic housing needs; second, *Penggaifang* (renovated old and dilapidated homes for relocation) would be increasingly renovated to support people's moderate housing demand; and third, *Zizhufang* (Owner-occupied Commercial Housing) would built and promoted to control the high-end market (see Chapter 10 for further discussion on public housing).

Figure 7-3 Three types of public housing to meet multi-layered housing demand

3. High-end market control

2. Moderate housing demand support

1. Basic housing needs guarantee

Zizhufang
(Owner-occupied Commercial Housing)

Penggaifang
(Renovated old and dilapidated homes for relocation)

Gongzufang
(Public Rental Housing)
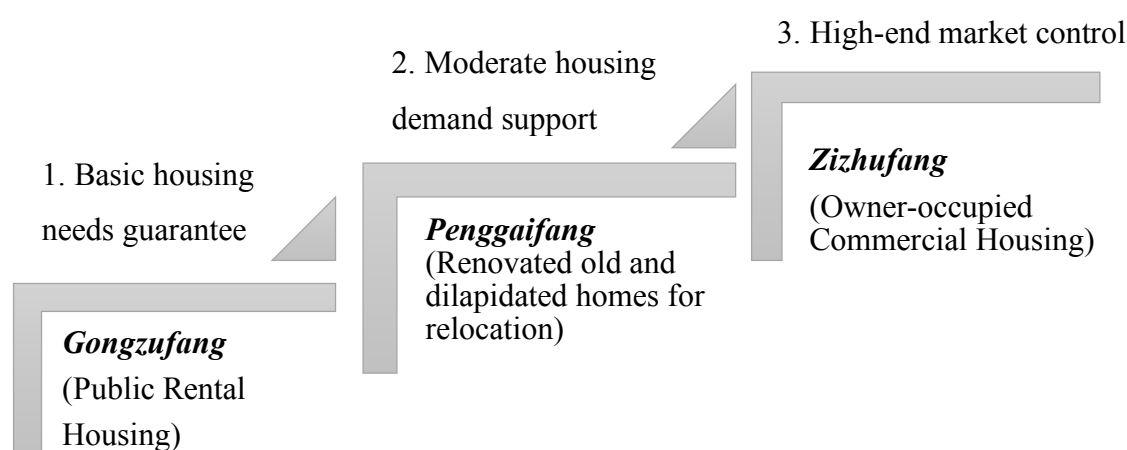
Source: created by the author. Information adapted from the elite interviews and presentations in the *Conference on Marxist theory and China Urban Development* at Beijing Party School of Communist Party of China in 2016.

E7, however, pointed out that the welfare expansion relies on the fiscal capacity of the Beijing government and the feedback from previous public housing projects. She thought that it is very clear that the current general public housing policies in Beijing are mainly available only for Beijing *hukou* holders. Only a few district policies are currently open to 'outsiders' who work in enterprises in the same area. Even if the government were to plan to expand and cover more people, *orderly migrants* (*Youxu Liudongrenkou*) would be considered first, which means that they must have formal employment. Considering that their tax contributions matter to Beijing's economic development, she thought that the government would seek to solve its housing issues moderately. Also, financial support for public housing comes from the taxpayer, which is why there have been a number of objections made by other citizens to the welfare expansion. So, she suggested:

> *Therefore, I think it's not a question of who rather than who, or outsider exclusion,*
> *but it is an issue of social justice and fairness. But there are large numbers of*

'disorderly migrants' (Wuxu Liudongrenkou) who have no formal employment but are seeking housing on the market, and they are excluded from the government's housing security system. I think that in the next stage, it is first necessary to define who needs to be provided with housing welfare.

Those who sell vegetables or clothes on the wholesale market and can hardly pay regular taxes haven't been included in the social housing security system. Moreover, these are groups of people with low housing affordability, which means that even if the government might be able to provide secure housing for them, they don't have the money to pay for it. For example, many migrants can only afford less than 500 yuan per month, whereas some public housing schemes charge tenants 1000 yuan. (E7)

In addition, given that the *hukou* policy results in the urban/rural dual system and causes holders of different *hukou* to have access to different welfare schemes, E7 thought that this was an issue of the need for a national unified system. Because a majority of migrants have homesteads in rural areas, it is unrealistic to discuss their housing security in an isolated way before there is a circulating market between urban and rural land.

7.6 Summary

This chapter has explored phase 1 of the elite interviewees' perceptions of informal settlements in terms of their definition of and criteria for understanding housing informality, their analysis of the motivations for the government's decisions on changing the policies regulating the development of informal settlements, and their attitudes towards future housing welfare plans as the solution for informal settlements.

This chapter began with a discussion of how the elites defined informal settlements. There is no systematic understanding of informal settlements agreed by both the government and the public in China. But the elites generally showed a negative attitude towards informal settlements because they violate official regulations. The elites also followed regulations and changing policies to define housing informality from the aspects of land tenure, urban planning, property ownership, construction rules, safety rules and leasing rules. They showed a diversified understanding of the definition of informal settlements from interpreting policies and regulations based on their different research and their own experience.

The chapter then turned to the question of why the government makes policy changes by reviewing changing policies over the past twenty years and the roles of the different levels of government involved in the governance of informal settlements. Changing policies also indicated an ineffective governance of informal settlements in that whenever the government demolished or evicted one form of informal settlement, a new form turned up and prevailed. Furthermore, there is no unified system for governing and managing the overall informal settlement issues. Following the state government's master plan, partnerships between separate local government departments have been created to undertake demolition and eviction.

The motivation for the government to continue the simple demolition after previous poor results was also considered. Although informal settlements, or rather the people who live in them, could bring benefit to other actors such as the local government, Beijing residents, employers, landlords or contractors, the state government could not see any direct benefit but only the chaotic environment of informal settlements. The aim of the government to demolish informal settlements and evict migrants was identified: first, to reduce the population; second, to build a stable society and protect government officers' political position; and third, to avoid complaints from the local people.

This chapter also outlined the achievements and future plans made by BMPG for public housing provision to meet the multi-layered housing demand. The limited housing resources will be gradually made open to non-Beijing-*hukou* holders, but only to those who have formal and stable employment.

The following chapter addresses phase 2 of the survey findings and examine the functions which informal settlements perform in Beijing, in terms of the residence attributes, dweller characteristics and their satisfaction with the current living environment

CHAPTER 8: WHAT FUNCTIONS DO INFORMAL SETTLEMENTS PERFORM IN BEIJING?

8.1 Introduction

In this chapter, using SPSS software, data derived from the questionnaire are subjected to descriptive analysis. Residence characteristics, the frequencies and percentages of respondents' personal profiles, and satisfaction scores on residence and housing decisions are all presented.

Scholars have suggested that one way to set criteria for measuring the performance of informal settlements could be derived from how dwellers see their residence and the importance which they attach to it (Preiser, 1999; Parker & Mathews, 2001; Davara *et al*., 2006; Ueltschy *et al*., 2007; Hanif *et al*., 2010). Gupta and Chandiwala (2010) stated that evaluating how a residential environment performs was traditionally based on physical attributes as well as users' perspectives, and Vischer (2008) showed that they could provide their views or feelings about property-in-use based on their experience of and interaction with their housing. This chapter explores whether, in the perspective of the dwellers (users), informal settlements meet their needs and aspirations by supporting their daily activities.

It is on this premise that the conceptual framework (see Figure 8-1) of this chapter is based, outlining residence attributes and dwellers' characteristics, then using their satisfaction with or views on housing as indicators of how informal settlements perform in meeting their needs and expectations. Finally, it shall consider their impact on dwellers' housing decisions.

Figure 8-1 Conceptual framework of this chapter (*Source*: created by the author)
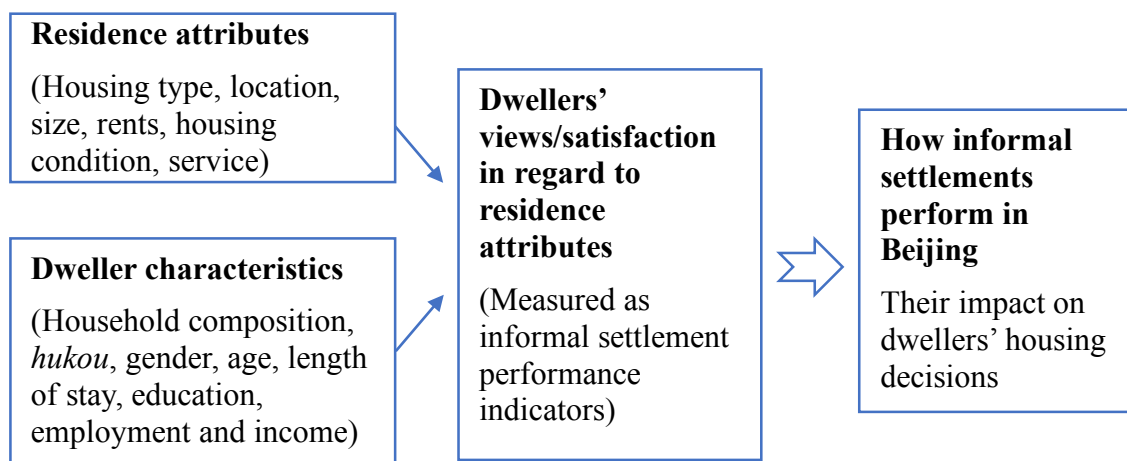
8.2 Residence Attributes

Dwellers typically look for housing which meets their needs and preferences (Hurtubia *et al.*, 2010) and this reflects a range of residence attributes. It is important to identify the informal housing characteristics or attributes in order to be able to assess what their current residences provided and whether this matched what the dwellers needed and/or preferred.

In the following section, several attributes which characterise informal settlements are listed and their features are described. The goal of this analysis is to discuss housing types and locations and identify the sizes, rents, housing conditions and services provided in informal settlements in Beijing.

8.2.1 Housing type

Table[36] 8-1 shows the respondents' eight housing types. The largest proportion of them (32.4%) lived in underground basements, followed by 23.9% living in urban villages; 17.2% and 13.6% in multi-bed group rentals and subdivided housing respectively. A small proportion, 8.3%, lived in dormitories and 2.3% in shanty towns. Only 1.3% lived in standard formal housing and 1% in other types of housing, such as self-built or policy-related housing (see Chapter 5).

Table 8-1 Respondents' housing types

Housing type	Number	%
Underground basement	194	32.4
Urban village	143	23.9
Multi-bed group rental	103	17.2
Subdivided housing	81	13.6
Dormitory	50	8.3
Shanty-town	14	2.3
Standard formal housing	8	1.3
Others	6	1.0
Total	**599**	**100**

Source: created by the author

In addition, there were overlaps between the types: 6.8% and 29% of multi-bed group dwellers lived in urban villages and underground basements respectively; 9.9% and 1.2% of subdivided houses were located in urban villages and underground basements respectively.

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[36] 'Total' in the following tables of this chapter refers to the total number of participants filling out relevant question.

There were also 7.1% of shanty-town dwellers living underground, 44% of dormitory dwellers resided in urban village and 12% in underground basements.

8.2.2 Location

The residential location preference has been understood as a householder's rational decision (Hurtubia *et al*., 2010), because it is related to facilities, commercial activities, services or education. Location is therefore considered in the decision-making process (Levy, 2003), and in this analysis it includes neighbourhood familiarity and transport network. Spatial distribution will be discussed in Chapter 10.

Neighbourhood familiarity

Neighbourhood familiarity is regarded as part of the household location choice (Levy, 2003). This can be largely explained by the fact that people might prefer to stay close to their social network (family, friends or hometown fellowship) (Hurtubia *et al*., 2010).

In this survey, dwellers were asked who their neighbours were. The results presented in Table 8-2 show that 63.5% of them lived alongside mostly non-local residents. Looking further into these dwellers, the largest percentage (38.5%) lived in underground basements, followed by urban village dwellers at 27%. Subdivided housing and multi-bed group rental dwellers had similar shares of 11.2% and 12.8% respectively. The proportion of shanty-town dweller was smaller, at 1.6%, because their total number was small. Close neighbours for the underground basement dwellers were those living informally alongside their unit rather than formal neighbours upstairs within the community, which is perhaps one reason why they formed the highest percentage.

Only 7.3% lived with mostly local residents. It is interesting to see that quite a few local people lived in informal settlements as 18.6% of urban village and subdivided housing dwellers said that most of their neighbours were local, followed by 16.3% of underground basement dwellers, 14% of those in standard formal housing and multi-bed group rentals, 11.6% of dormitory and 7% of shanty-town housing. It is not surprising that most standard formal housing dwellers (75%) lived alongside neighbours of whom most were local residents, because standard formal housing rents are too high for migrants to afford. However, 18% were unclear about their neighbours because of frequent mobility or no acquaintance with neighbours.

Table 8-2 Neighbour demographics

Neighbours	Number	%
Non-local	374	63.5
Unclear (mobility)	72	12.2
Half-half	66	11.2
Local resident	43	7.3
Unclear (no acquaintance with them)	34	5.8
Total	**574**	**100**

Source: created by the author

When asked how often they had dealings with their neighbours (see Table 8-3), over a third (35.4%) rarely had acquaintance with neighbours, whilst 26.9% often did. There were 17.3% who had never interacted with neighbours. Although they had different types of housing, most dwellers rarely dealt with neighbours living in standard formal housing (75%), subdivided housing (44.4%), multi-bed group rentals (39.6%) and underground basements (35.1%). Most dwellers who often interacted with their neighbours lived in dormitories (35.4%), urban villages (44.3%) and shanty-towns (42.9%).

Table 8-3 Acquaintance with neighbours

Acquaintance with neighbours	Number	%
Rarely	208	35.4
Often	158	26.9
Sometimes	120	20.4
Never	102	17.3
Total	**588**	**100**

Source: created by the author

Transport network

Housing location 'will determine dwellers' travel time and cost to work or different possible activities, ultimately affecting their perceived travel benefit' (Hurbubia *et al*., 2010). This current survey is interested in their transport to work, so respondents were asked how they travelled to work and how long they spent doing so.

The largest percentage (41.4%) lived within walking distance of their workplace; 20.7% took a bus to work and fewer than 1% chose a taxi. In travel time, 41.6% spent less than fifteen minutes travelling to work, followed by 25.2% who spent between sixteen and thirty minutes. Fewer than 10% spent more than an hour on the journey. People tend to consider transport based on a commutable distance to the workplace.

8.2.3 Size

Housing size in Beijing

The scale variable of 'housing area size per person' was recoded into a new ordinal variable divided into seven groups using 5 m^2 as the interval: 'less than 5 m^2 group' to 'more than 30 m^2 group'. The rationale for this grouping is according to the regulation on house leasing that per-capita living area of a tenant in a rental unit should not be less than 5 m^2 (see Chapter7). Table 8-4 shows the frequency and percentage of each housing size group. The greatest proportion had less than 10 m^2 (39.5% had 6-10 m^2 and 27.4% had less than 5 m^2). Only 2.6% of their housing sizes were more than 31 m^2.

Table 8-4 Respondents' housing sizes

Housing area size per person group	Number	%
<5 m^2	157	27.4
6-10 m^2	227	39.5
11-15 m^2	88	14.6
16-20 m^2	68	11.3
21-25 m^2	7	1.2
26-30 m^2	11	1.8
>31 m^2	16	2.6
Total	**574**	**100**

Source: created by the author

Figure 8-2 shows a comparison of the housing sizes in each type of housing. Most dwellers in each type lived in less than 10 m^2, excluding standard formal housing which was mostly more than 11 m^2. Interestingly, none of the standard formal houses in this survey were over 21 m^2, although this regularly happens for multi-bed group rentals, shanty-towns and 'others'.

The largest proportion (43.3%) of underground basements were 6-10 m^2 and only 0.5% were more than 31 m^2. The majority (62.7%) of multi-bed group rentals were less than 5 m^2. However, respondents' living size in urban villages, subdivided housing, shanty-towns and standard housings tended to be bigger as they are in the larger housing size group from 6 m^2 to 20 m^2. This can also be shown from the average mean size of each housing type: 6.3 m^2 (multi-bed group rentals), 8.9 m^2 (underground basements), 11.4 m^2 (shanty-towns), 14 m^2 (dormitories), 14.1 m^2 (subdivided housing), 14.8 m^2 (standard formal housing), 15.9 m^2 (urban village) and 8.4 m^2 (others).

Figure 8-2 Housing area size per person of each housing type
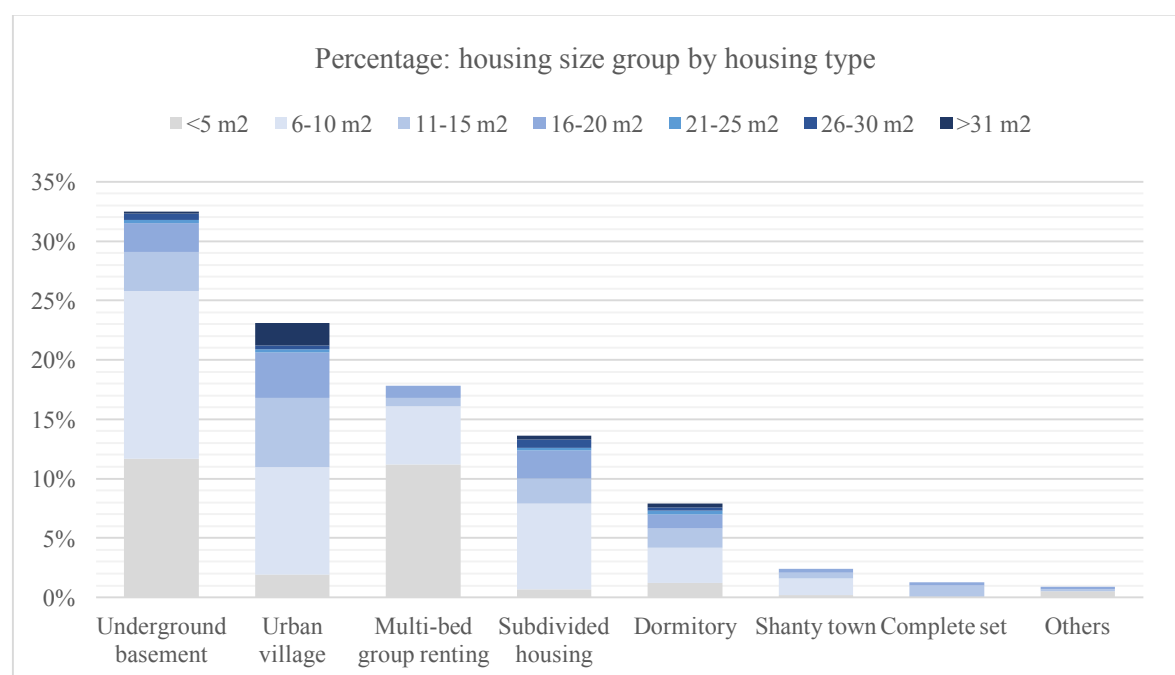
Size	Underground basement	Urban village	Multi-bed	Subdivided	Dormitory	Shanty town	Complete set	Others
<5 m^2	11.7%	1.9%	11.2%	0.7%	1.2%	0.2%	0	0.5%
6-10 m^2	14.1%	9.1%	4.9%	7.2%	3.0%	1.4%	0	0
11-15 m^2	3.3%	5.8%	0.7%	2.1%	1.6%	0.5%	1%	0.2%
16-20 m^2	2.4%	3.8%	1.0%	2.4%	1.2%	0.3%	0.3%	0.2%
21-25 m^2	0.3%	0.3%	0	0.2%	0.3%	0	0	0
26-30 m^2	0.5%	0.3%	0	0.7%	0.3%	0	0	0
>31 m^2	0.2%	1.9%	0	0.3%	0.3%	0	0	0
Total	**32.6%**	**23.2%**	**17.8%**	**13.6%**	**8.0%**	**2.4%**	**1.4%**	**0.9%**

Source: created by the author

Housing size in residents' *hukou*-registered place

Another question asked about the participants' family housing area size in their *hukou* registered place. The average size was 172 m^2 and for a large proportion (95.2%) it was more than 31 m^2. The maximum size was 667 m^2.

They were also asked to indicate whether they had rural homesteads, which is land previously allocated to farmers by the government to build homes and cannot be transferred to urban residents, as the city reforms the rural land transfer market: 78.3% of them said 'yes'. Even though they had been allocated rural homesteads for farming and had much

larger living space in their hometown, they nevertheless insisted on moving to and living in Beijing.

8.2.4 Rents

The questionnaire asked about the monthly amounts which each respondent paid for housing, excluding utility bills or other payments. 129 respondents (21.8%) said 0 yuan, as 79.8% of their employers or vocational school offered free accommodation and paid the rent for them; 4.7% lived in self-built housing (an extended house without permission), 3.9% lived in the work-place and 2.3% stayed in friends' or others' house temporarily. The great majority of the participants (78.2% or 463 cases) paid the rents themselves. However, four respondents who paid much higher rent (8000, 9000, 10000 and 13,000 yuan per month) were not typical of all respondents because they rented their houses both for residence and running their own businesses (such as a restaurant or a shoe shop). Also, 67.1% of dwellers stated that the maximum monthly rent they could afford was lower than 1000 yuan. Of these, 26% could only pay less than 500 yuan and 41.1% could pay 501-1000 yuan every month.

The following analysis relating to the rent levels discussed in the following paragraph are based on a reduced sample of 458 cases with rents of 0 yuan and more than 8000 yuan removed. Table 8-5 shows the monthly rent for this reduced sample of respondents, living in different housing types and paying rent between 0 and 8000 yuan. The table includes the mean rent, median and mode, and the range from minimum to maximum. Housing types are ordered from the lowest mean monthly rent. Figure 8-3 draws lines of mean, median, minimum and maximum rents for each housing type.

Table 8-5 Monthly rent (in yuan) by different housing types

Type	Mean	Median	Mode	Min	Max	Number
Underground basement	922	800	700	100	4500	144
Multi-bed group rental	965	800	800	380	3500	81
Shanty-town	1070	800	400 [a]	400	3000	10
Urban village	1122	1000	1000	200	4000	122
Dormitory	1141	800	800	128	3600	24
Others	1260	1000	1000	700	2800	5
Subdivided housing	1628	1450	1500	100	4900	68
Standard formal housing	1850	1850	1700 [a]	1700	2000	4
Total	1114	800	777	100	4900	458

Source: created by the author

Figure 8-3 Monthly rent (in yuan) by housing type: mean, median, minimum and maximum
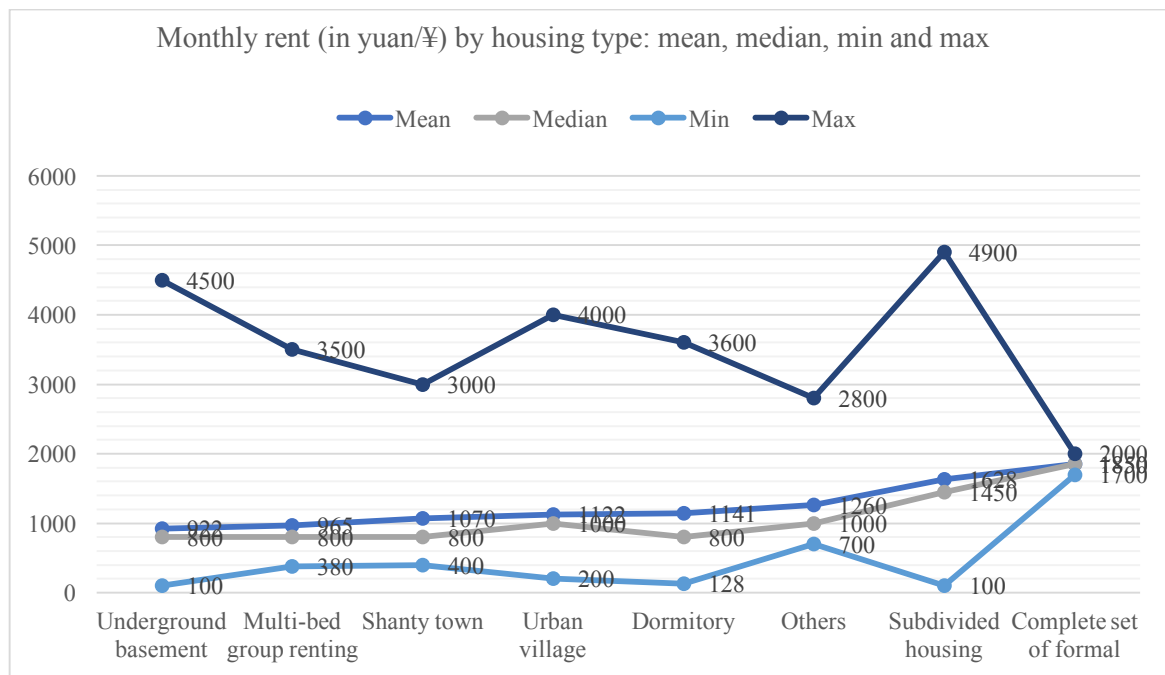
Source: created by the author

Mean monthly rents ranged from 922 yuan for an underground basement to 1850 yuan for standard formal housing. Subdivided housing showed the widest range in rents, including both the highest and lowest payments recorded. Underground basements also had a wide range from 100 to 4500 yuan. Rents for underground basements, multi-bed group rentals, shanty-towns and dormitories showed the same median of 800 yuan, but the dormitory mean was the furthest above the median, suggesting that the mean was influenced by higher rent payments (25.1% were paying over 2000 yuan). In other types, standard formal housing, urban villages and underground basements, the mean and the median were much closer together.

Housengel coefficient

Because of the housing market in China, a new word was created to describe the proportion of income spent on house rents: the *Housengel coefficient*[37]. This originates from Engel's law[38] and combines 'house' and 'Engel's coefficient'. It states that if the Housengel

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[37] This English term is created by the author, translated from Yang's (2013) Chinese statement.

[38] Engel's law is an observation in economics stating that as income rises, the proportion of income spent on food falls, even if absolute expenditure on food rises (Ogaki, 1992).

coefficient is more than 30%, occupants are under pressure in terms of their rent (Yang, 2013). But does the proportion of income spent on housing follow Yang's claim that it puts pressure on informal settlement dwellers? In the following section, the coefficient is used to analyse this.

A new variable, 'housengelcoefficient', has been computed here by dividing monthly rent (excluding 129 cases which paid nothing for their accommodation) by monthly income. The results showed a mean of 30.46%, ranging from 2% (minimum) to 800% (maximum). However, if the coefficient is applied to groups of less than 30%, 31%-100% and more than 100%, the result show that 72% of the Housengel coefficient were less than 30%, which means that most people were not under rent pressure or were living in substandard housing.

8.2.5 Housing condition

Two questions were asked relating to housing condition: one was about the state of usage of different aspects of the property (whether it was independently used or shared with others or without it), and the other was for rating them from very dissatisfied to very satisfied. Twenty separate factors provided information on property from the outside (access security, lift, corridor CCTV, corridor lighting, fire protection, passage clearness), to the inside (window, toilet, shower room, kitchen, laundry room), and from energy (water, gas, heating, air conditioning) to others (television, broadband, mobile signal, table or chair, wardrobe). Table 8-6 compares the usage state of each factor in different types of housing.

State of usage of different aspects of housing

Table 8-6 State of usage on twenty factors in different housing types

	Underground basement	Urban village	Multi-bed group rental	Subdivided housing	Dormitory	Shanty-town	Complete set	Others
External space								
Access security (n=596)	30.2%	23.1%	48%	56.8%	59.2%	14.3%	100%	33.3%
Lift (n=595)	12%	2.8%	37.3%	42%	24.5%	0	75%	16.7%
Corridor CCTV (n=591)	76.6%	40.4%	41%	60%	61.2%	21.4%	50%	66.7%
Corridor lighting (n=591)	97.9%	83.1%	99%	95%	89.6%	78.6%	100%	66.7%
Fire safety (n=590)	92.2%	59.9%	58.6%	71.3%	81.3%	57.1%	100%	83.3%
Passage clear (n=590)	89.6%	61%	74%	88.8%	83.3%	28.6%	100%	83.3%
Internal space								
Window (n=593)	35.9%	88%	87.3%	82.7%	91.7%	76.9%	100%	50%
Toilet (n=588)								
Independent use	8.4%	29.6%	10.2%	27.2%	16.7%	14.3%	25%	33.3%

Shared	90.6%	52.8%	88.8%	66.7%	81.3%	64.3%	75%	66.7%
None	1%	17.6%	1%	6.2%	2.1%	21.4%	0	0
Shower-room (n=591)								
Independent use	7.4%	37.3%	9.8%	24.7%	22.9%	42.9%	25%	50%
Shared	86.3%	36.6%	78.4%	65.4%	66.7%	28.6%	75%	50%
None	6.3%	26.1%	11.8%	9.9%	10.4%	28.6%	0	0
Kitchen (n=590)								
Independent use	13.2%	54.6%	6.9%	28.4%	16.7%	50%	25%	83.3%
Shared	23.7%	17%	57.8%	53.1%	39.6%	28.6%	75%	16.7%
None	63.2%	28.4%	35.3%	18.5%	43.8%	21.4%	0	0
Laundry room (n=589)								
Independent use	8.4%	33.1%	7%	12.3%	19.1%	28.6%	25%	33.3%
Shared	62.3%	19%	61%	34.6%	42.6%	14.3%	50%	50%
None	29.3%	47.9%	32%	53.1%	38.3%	57.1%	25%	16.7%
Energy and Water								
Water supply (n=588)								
Independent use	10.5%	60.7%	11.8%	31.3%	37.5%	42.9%	25%	50%
Shared	86.8%	35.7%	84.3%	68.8%	60.4%	57.1%	75%	50%
None	2.6%	3.6%	3.9%	0	2.1%	0	0	0
Gas (n=586)								
Independent use	9.5%	57.6%	10%	23.5%	14.6%	64.3%	25%	50%
Shared	8.4%	11.5%	54%	50.6%	27.1%	21.4%	75%	16.7%
None	82.1%	30.9%	36%	25.9%	58.3%	14.3%	0	33.3%
Heating (n=590)								
Independent use	23.0%	46.1%	18.8%	25.9%	39.6%	35.7%	25%	50%
Shared	17.3%	13.5%	68.3%	56.8%	33.3%	28.6%	50%	16.7%
None	59.7%	40.4%	11.9%	17.3%	27.1%	35.7%	25%	33.3%
Air conditioning (n=593)								
Independent use	12.6%	51%	18.6%	44.4%	41.7%	57.1%	75%	33.3%
Shared	6.3%	4.9%	51%	23.5%	33.3%	7.1%	25%	66.7%
None	81.2%	44.1%	30.4%	32.1%	25%	35.7%	0	0
Others								
Television (n=593)	45.0%	73.4%	50%	76.5%	60.4%	85.7%	50%	33.3%
Broadband (n=589)	66.5%	67.6%	77%	91.4%	72.3%	50%	100%	50%
Mobile signal (n=592)	68.1%	91.5%	93.1%	84%	97.9%	85.7%	100%	66.7%
Table/chair (n=592)								
Independent use	72.8%	85.2%	22.5%	79%	62.5%	78.6%	75%	66.7%
Shared	9.9%	7.7%	59.8%	12.3%	29.2%	14.3%	25%	16.7%
None	17.3%	7%	17.6%	8.6%	8.3%	7.1%	0	16.7%
Wardrobe (n=592)								
Independent use	49.7%	81%	24.5%	71.6%	54.2%	71.4%	75%	33.3%
Shared	7.3%	5.6%	48%	9.9%	27.1%	7.1%	25%	0
None	42.9%	13.4%	27.5%	18.5%	18.8%	21.4%	0	66.7%

Source: created by the author

First, for the outside, every type of housing had a higher proportion for corridor lighting and fire protection than for the other four factors. In each housing type, the findings showed that a lift was not always installed. The standard formal houses in the survey showed an obvious highest standard in five factors: all those properties had access security, corridor lighting, fire protection and clear passages; 75% had a lift and only 50% had CCTV in the corridor. Shanty-towns had the poorest conditions with the lowest proportions in every aspect of the six facilities. Urban villages ranked the second lowest proportion after shanty-towns, having access security (23%), lift (2.8%), corridor CCTV (40.4%), lighting (83.1%) and clear passage (61%). Underground basements had the most corridor CCTV (76.6%) among all the housing types. They also had the second highest percentage (92.2%) in fire protection after standard formal housing.

Second, looking at the inside aspect, all standard formal houses had most facilities, whether they were independently used or shared with others, although 50% had no window and 16.7% no laundry room. The most no-window accommodation was in underground basements (64.1%). Over 80% had a toilet, but 21.4% of shanty-town dwellings had no toilet. The highest among all types (90.6%) of underground basement dwellers had to share a toilet. The highest proportion with a shared shower-room (86.3%) were underground basements, and 26.1% of urban village properties and 28.6% of shanty-town properties had no shower-room. Comparison of inside facilities suggests that a large proportion of houses had no kitchen or laundry room: 63.2% had no kitchen in underground basements, followed by 43.8% in dormitories, 35.3% in multi-bed group rentals, 28.4% in urban villages, 21.4% in shanty-towns and 18.5% of subdivided housing. However, underground basements were not the most that had no laundry room and 62.3% of them shared a laundry room with other dwellers.

Of energy[39] and water, water was a necessity in nearly all housing types whereas the gas, heating and air conditioning were a far less everyday needs. A significant proportion of underground dwellers had no gas (82.1%), heating (59.7%) or air conditioning (81.2%). Urban villages followed as the second highest proportion of having no heating (40.4%) or air conditioning (44.1%).

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[39] Air conditioning is included with water, gas and heating because in contrast with heating in winter, air conditioners are required in the hot summer.

Shanty-town dwellers had the most occurrences of television in the accommodation at 85.7%. and around half of underground basements, multi-bed group rentals and even standard formal housing had televisions. However, the proportion of broadband usage increased in most types of housing compared with the proportion with televisions, except that only half of shanty-towns had broadband. All standard formal houses had broadband, followed by 91.4% of subdivided houses. The mobile signal was poorest in underground basements and only 68.1% of dwellers said that there was a signal, compared with over 84% in other housing types. Most housing type dwellers had their own table or chairs whilst more than half of multi-bed group rentals shared them and also had the highest proportion of having no table or chair (17.6%). The extreme situation was found in underground basements, where 72.8% used them independently and 17.3% did not have them. Also 49.7% of underground basements had wardrobes whereas 42.9% had no wardrobe. The highest proportion of shared wardrobes (48%) was in multi-bed group rentals and a high 27.5% of them had no wardrobe.

8.2.6 Services

Housing services were provided by different sectors. Nearly half of the landlords provided services, followed by 16% who used property management companies. Only one dweller said that the government provided the services, and 9.3% of them had no housing services.

The survey asked about satisfaction with the services provided for dwellers in gatekeepers, sanitation, entertaining facilities, planted areas and maintenance checks. In general, half of them expressed neither satisfaction nor dissatisfaction; 26.5% were satisfied and 23% dissatisfied, suggesting a slightly higher level of satisfaction with housing services.

More than half of them (58%) had a gatekeeper at the entrance; 81.3% had daily garbage collections, but 7.4% had no such service for accommodation in underground basements, subdivided housing and multi-bed group rentals. Over half, 53%, of the communities had an entertaining area and 51.6% had green space and planting. A large proportion (79.8%) had no regular maintenance check.

8.3 Dweller Characteristics

In this section, I shall explore the dweller characteristics of informal settlements. This covers their household composition (size, type and marital status), *hukou* registration, length of stay, gender, age and socio-economic status (including education, employment and income). To

explore dweller characteristics between each housing type, where possible comparisons are made in this section to identify similarities and differences between the different types.

8.3.1 Household composition

Household size

The survey asked the number of people living together in one house to indicate the household size. Table 8-7 shows the number and percentage of each household size from fewer than ten people to more than ten living in a house. The average household size was four (mean (SD)=3.52 (2.99)), whereas 27.1% consisted of only two (mode=2). Closer examination of households with four and more people shows that 36.9% of the respondents lived with more than four people in a house. Moreover, 5.2% had ten or more people and the largest recorded house contained thirty. There were 19.5% of respondents living alone in Beijing.

Table 8-7 Household size in number and percentage

Household size	Number	%
1	115	19.5
2	160	27.1
3	97	16.4
4	77	13.1
5	48	8.1
6	40	6.8
7	9	1.5
8	14	2.4
9	0	0
10 or more	30	5.2
Total	**590**	**100**

Source: created by the author

To identify household size by housing type, Figure 8-4 shows the household size composition in each housing type. Given that the average household size was four people and for a comparison convenience, the Figure shows larger than average groups (by calculating household size of more than five) from the least to the highest proportion in each housing type. The colour change from light to dark blue indicates the household size from small to large.

The differences in household size composition between each housing type are substantial. With respect to the larger household composition (five or more per household), multi-bed group rentals, standard formal housing and dormitories had a much higher proportion of

larger household sizes (55.3%). Half of the standard formal houses held more than five people. Of the dormitories, 43.8% had larger household size. However, the other four types of housing contained much lower proportions of larger household sizes, with underground basements having the fewest at 7.3%. In shanty-towns, except for fewer-than-three-person households, there were 15.4% of ten-or-more-person households, just behind multi-bed group rentals with 19.4% of ten or more people.

Figure 8-4 Household size composition in different housing types

Household size compostion in different housing types

■1 ■2 ■3 ■4 ■5 ■6 ■7 ■8 ■10 or more

	Underground basement	Urban village	Shanty town	Subdivided housing	Dormitory	Standard formal	Multi-bed group renting
■10 or more	0	1.4	15.4	0	12.5	0	19.4
■8	1.6	1.4	0	0	4.2	0	6.8
■7	0.5	0	0	3.8	6.3	0	1.9
■6	2.1	5	0	7.6	10.4	25	15.5
■5	3.1	7.1	0	12.7	10.4	25	11.7
■4	9.9	9.9	0	19	8.3	0	21.4
■3	9.9	25.5	23.1	27.8	14.6	25	6.8
■2	38.7	29.8	38.5	13.9	22.9	0	16.5
■1	34	19.9	23.1	15.2	10.4	25	0
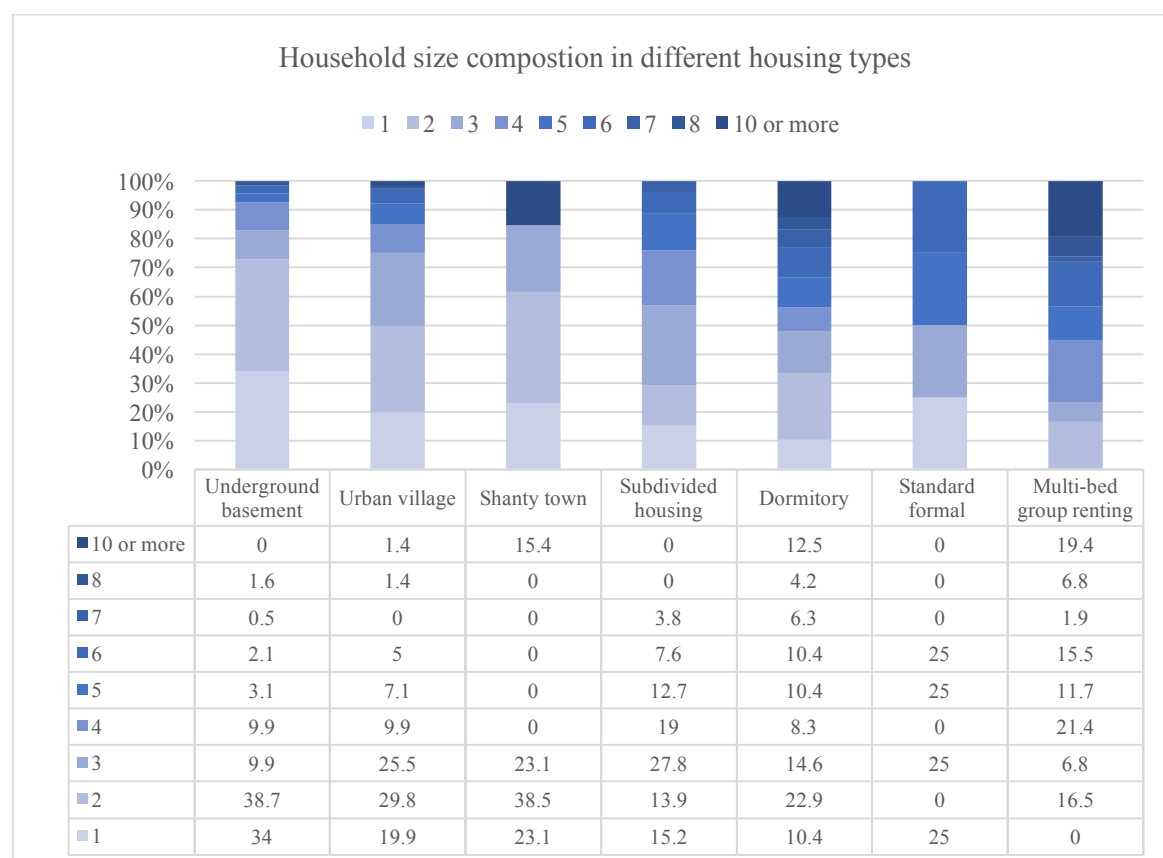
Source: created by the author

Household type

Household type here refers to three basic divisions: lone occupant, family shared and non-

family shared households, because family structure is one of the most important demographic indicators in China (Multicultural NSW, 2011). Table 8-8 shows detailed household types of informal settlement dwellers under the three main groups. In lone-person households, a gender difference is revealed that more males live alone than females. 'Family shared' household in this context refers to a household which contains at least one census-

defined family,[40] which is a married couple with or without children or parents. A 'non-family shared' household is classified as a group of two or more people who share a private dwelling but who do not constitute a census family, such as living with a partner, workmate, friend, hometown fellow or stranger. However, the responding household might be lone person or family shared, which is why the total number of responses was 755, which is more than the population of 604.

Of the three main divisions, lone-person was the smallest group (15.3%). The number of the living-alone males (11.7%) was almost three times greater than the number of living-alone females (3.6%). The second largest group (39.3%) has been split into spouse, children and parents to indicate the family-shared household type. Of them, 22.5% lived with spouses. 11.5% with children; very few had parents with them, only 5.3%. The largest group (45.4% of the sample) comprised non-family shares with unmarried couple, workmate, friend, hometown fellow or stranger; 15% of this group shared a house with workmate(s), followed by 12.2% sharing with strangers.

Table 8-8 Detailed household type profiles

Household type	Number	%	% of cases
Lone-person	**115**	**15.3**	**19.6**
Male	88	11.7	15
Female	27	3.6	4.6
Family-shared	**297**	**39.3**	**49.8**
Including spouse	174	23	29.2
Including children	87	11.5	14.6
Including parents	40	5.3	6.7
Non-family-shared	**343**	**45.4**	**57.6**
Share with boyfriend/girlfriend	25	3.3	4.2
Share with workmate	113	15	19
Share with friend (exclude bf/gf)	59	7.8	9.9
Share with hometown fellow	50	6.6	8.4
Share with stranger	92	12.2	15.4
Total	**755**	**100**	**127**

Source: created by the author

Table 8-9 compares the profiles of the different household types. Within the multiple response analysis in SPSS, underground basements had the highest proportion (33.9%) of lone people than other types of housing, and correspondingly lower proportions of shared

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[40] 'Census family' here means family members registered in one *hukou*.

household (family shares and non-family shares). Urban villages and shanty-towns were markedly different with much higher proportions of family-shared households; these were 97.2% and 84.6% respectively. Standard formal housing in this survey showed no family-shared households. Dormitories and multi-bed group rentals had much fewer family-shared households of 18.4% and 21.4% respectively. Among family-shared households in each type of housing, those including spouse showed the highest proportion, followed by those including children. Households with parents had the lowest proportion. Among non-family-shared households, multi-bed group rentals (99%), standard formal housing (95%), dormitories (87.7%) and subdivided housing (75.3%) had greater proportions than other housing types. In multi-bed group rentals and subdivided housing, most non-family-shared households were with stranger(s), but in other types, workmates formed the highest proportion.

Table 8-9 Household type in different housing type

Household type	Underground basement	Urban village	Multi-bed group renting	Subdivided housing	Dormitory	Shanty town	Standard formal
Lone-person	**33.9**	**19.6**	**0**	**14.8**	**10.2**	**23.1**	**25**
Family-shared	**37.5**	**97.2**	**21.4**	**45.7**	**18.4**	**84.6**	**0**
Including spouse	27.1	53.1	10.7	23.5	10.2	53.8	0
Including children	5.7	33.6	9.7	11.1	4.1	23.1	0
Including parent	4.7	10.5	1	11.1	4.1	7.7	0
Non-family-shared	**42.1**	**25.9**	**99**	**75.3**	**87.7**	**23.1**	**95**
Boyfriend/girlfriend	5.2	2.8	0	8.6	2	7.7	25
Workmate	16.1	6.3	30.1	14.8	44.9	7.7	50
Friend (exclude bf/gf)	7.3	3.5	14.6	21	16.3	0	0
Hometown fellow	10.9	6.3	8.7	2.5	14.3	7.7	0
Stranger	2.6	7	45.6	28.4	10.2	0	25
Total	**32.6%**	**24.3%**	**17.5%**	**13.8%**	**8.3%**	**2.2%**	**1.4%**

Source: created by the author

Marital status

Six marital statuses were provided for respondents to select; single person and unmarried couple were both considered as unmarried status. No substantial proportional differences existed between married (48.2%) and unmarried (51.8%). (chi square test: $p=.021$, significant at the .05 critical alpha level) Among the unmarried, 41.4% were single and 7.5%

were in a relationship. There were 1.7% of them divorced and 1% widowed (*see* Table 8-10).

Table 8-10 Current marital status composition

Current marital status	Number	%
Married	288	48.2
Unmarried (single)	249	41.6
Unmarried (couple)	45	7.5
Divorced	10	1.7
Widowed	6	1
Remarried	0	0
Total	598	100

Source: created by the author

Table 8-11 compares married and unmarried status in each household type. Not all married people lived with their spouse in Beijing; only 22% lived together. Among the remaining married people, most (6.8%) chose to live alone rather than share with workmate(s) (4.4%), stranger(s) (3.5%), hometown fellow(s) (2.5%) or friend(s) (0.4%). However, in the unmarried group, the largest proportion (10.5%) lived with workmate(s), followed by groups living with strangers (8.5%) and living alone (8.4%).

Table 8-11 Marital status by household types

Marital status in each household type	Married Number	%	Unmarried Number	%
Lone-person	**51**	**6.8**	**63**	**8.4**
Family-shared	**269**	**35.9**	**27**	**3.6**
Including spouse	165	22	9	1.2
Including children	82	10.9	5	0.7
Including parents	26	3.5	13	1.7
Non-family-shared	**85**	**11.3**	**255**	**34**
Share with boyfriend/girlfriend	0	0	25	3.3
Share with workmate	33	4.4	79	10.5
Share with friend (exclude bf/gf)	3	0.4	56	7.5
Share with hometown fellow	19	2.5	31	4.1
Share with stranger	26	3.5	64	8.5
Total	**405**	**54**	**345**	**46**

Source: created by the author

Table 8-12 shows that shanty-towns (78.6%), urban villages (67.6%) and underground basements (59.8%) had higher proportions of married dwellers, whilst multi-bed group rentals, dormitories and subdivided housing had more unmarried dwellers. Standard formal housing had 75% single dwellers and 25% dwellers who were in a relationship.

Table 8-12 Marital status by housing types

Marital status	Underground basement	Urban village	Multi-bed group renting	Subdivided housing	Dormitory	Shanty town	Standard formal
Married	59.8	67.6	27.5	24.7	22.4	78.6	0
Unmarried (single)	13.4	23.9	65.7	59.3	61.2	14.3	75
Unmarried (couple)	6.2	4.2	6.9	16	10.2	0	25
Divorced	1	2.8	0	0	6.1	7.1	0
Widowed	1.5	1.4	0	0	0	0	0
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: created by the author

8.3.2 *Hukou* (household[41]) registration

Hukou type composition

It was found that 94% of the participants came from cities outside Beijing. Of them, 72.7% held agricultural *hukou* and 21.27% held a non-agricultural *hukou*. 5.36% of the participants were Beijing residents and 4.02% were non-agricultural *hukou* holders (*see* Figure 8-5).

Figure 8-5 Type of *hukou* registration (household)
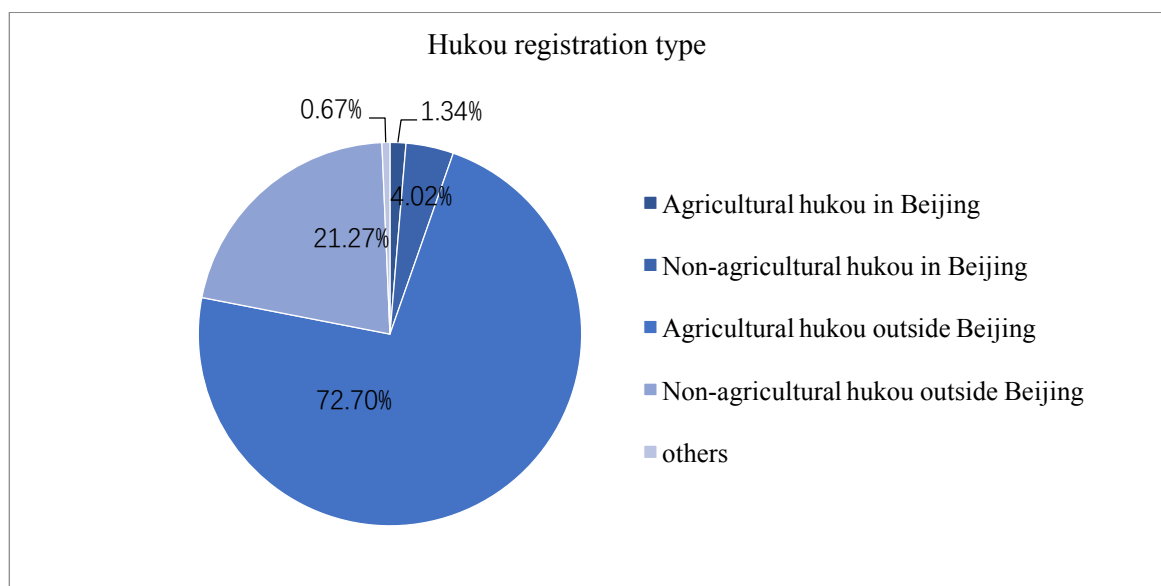
Source: created by the author

Hukou registered province

Figure 8-6 shows the spatial distribution of where the participants came from by asking their *hukou*-registered province. There are 28 provinces marked on the map. The size of the blue

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[41] 'Household' here means respondent's hometown registered household, also named as his/her *hukou*, which is different from their current living household in Beijing.

circles indicates the population rate from each province. The related figures are shown in Table 8-13.

Of all the informal settlement dwellers, the largest proportion (18.7%) came from He Nan province, the second largest from He Bei province (17.1%) and then Shan Dong province (10%). It can also be identified from the map that He Bei is the province surrounding Beijing. He Nan and Shandong provinces are also close to Beijing.

Table 8-13 Percentage of respondents from each province (descending from highest to lowest percentage)

	HN	HB	SD	SX1	AH	SC	BJ	HLJ	HB	GS	JL	JX	IM	SX3
P %	18.7	17.1	10	6.5	5.7	5.1	4.3	3.8	3.8	3.3	2.6	2.6	2.4	3.3
	LN	CQ	HuN	GD	TJ	YN	GZ	NX	QH	ZJ	FJ	GX	JS	XJ
P %	2.2	1.4	1.4	1.2	1	1	0.7	0.5	0.5	0.4	0.3	0.2	0.2	0.2

Figure 8-6 Spatial distribution of the respondents from *hukou*-registered province

Note:

The location of the circles on the map indicates the province from which participants came, the size of the circle indicates the relative numbers of participants.

Source: created by the author

8.3.3 Length of stay

Length of working in Beijing

Respondents' average working period in Beijing was 4.6 years. Five had only been in Beijing for less than two weeks at the time of the survey. There were eleven people (including local Beijing residents) who had worked in Beijing for over twenty years. As 75.2% of the participants had worked in Beijing for fewer than five years, Table 8-14 shows a subdivided group at one-year intervals. It is evident that the newest arrivals (who had worked in Beijing for less than one year) and long-term dwellers (who had worked there for more than five years) formed similarly higher proportions of 28.4% and 29.6% respectively.

Table 8-14 Length of working in Beijing of different groups

Length group	Number	%
Less than 1 year	169	28.4
2 years	89	15
3 years	66	11.1
4 years	44	7.4
5 years	35	5.9
More than 5 years	176	29.6
Local	16	2.7
Total	**595**	**100**

Source: created by the author

Figure 8-7 compares the proportion of working length in Beijing by housing type. The bars are based on the proportion of those working for more than five years from the least to the most. Of all the housing types, shanty-towns had the most dwellers who had worked in Beijing for more than five years (64.3%); followed by 44% of urban village dwellers, 31.6% of underground basement dwellers, 22.4% of dormitory dwellers, 18.6% of multi-bed group rental dwellers and 17.7% of subdivided housing dwellers. Shorter working periods (less than two years) followed the reverse trend in that subdivided housing had the most people and shanty-towns has the fewest people working there for less than two years. No respondents had lived for more than four years in the surveyed subdivided housing.

Figure 8-7 Working length in Beijing by housing type

Working length in Beijing by housing type

	Standard formal	Subdivided housing	Multi-bed group renting	Dormitory	Underground basement	Urban village	Shanty town housing
■ Local		2.5%		2.0%	2.6%	2.8%	14.3%
■ >5 years		17.7%	18.6%	22.4%	31.6%	44.0%	64.3%
■ 5 years		3.8%	6.9%	4.1%	8.8%	4.3%	
■ 4 years	50.0%	2.5%	7.8%	8.2%	5.2%	10.6%	
■ 3 years	25.0%	12.7%	13.7%	14.3%	9.3%	9.9%	
■ 2 years	0.0%	21.5%	16.7%	16.3%	16.1%	9.2%	
■ <1 year	25.0%	39.2%	36.3%	32.7%	26.4%	19.1%	21.4%
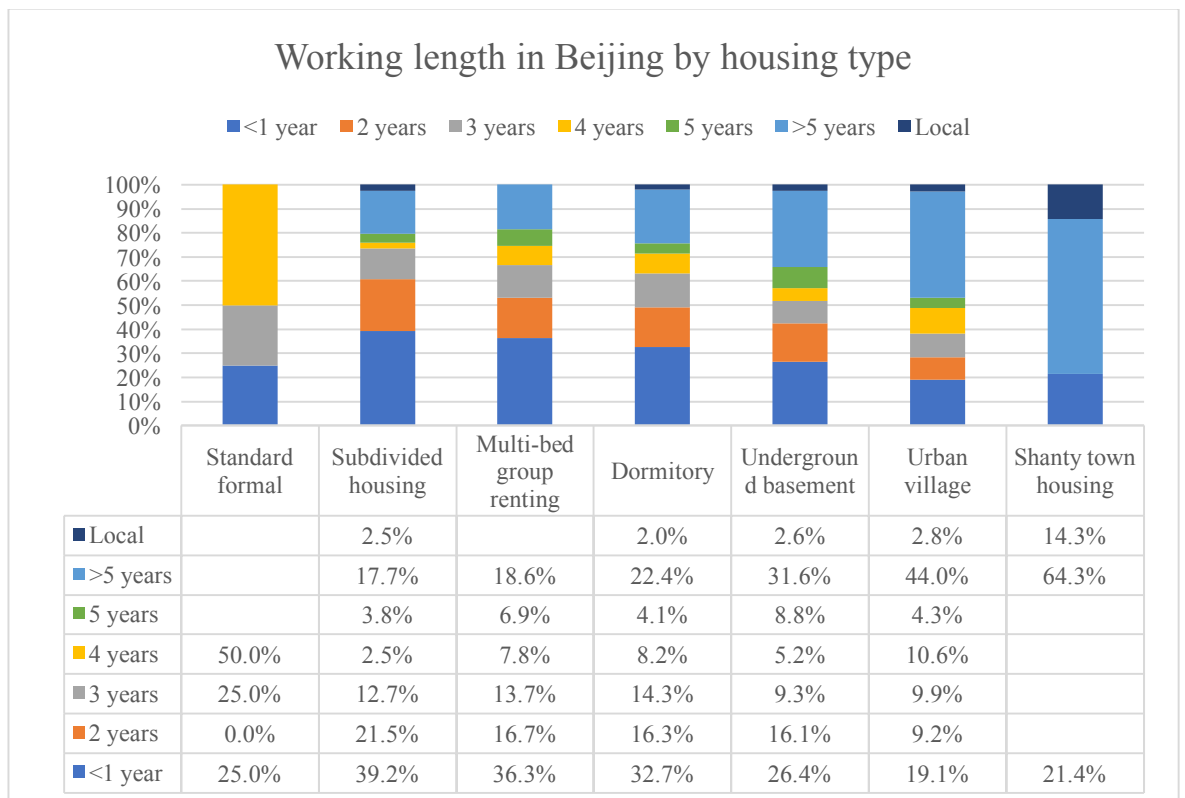
Source: created by the author

Length of residence in current property

A new variable was computed to measure their residence length by years. The results showed that the average length was two years in the current property (mean (SD)=2.00 (4.29); minimum=0.04; maximum=61). However, 73% had lived in their current house for less than two years, so a division was made into five groups with six-month interval to see the proportion distribution under two years. Table 8-15 shows the numbers and percentages of people in each group.

About 35.8% of tenants have lived there for less than six months; 23.3% between six months and one year. At the other end of the scale, 23% had been living there for over two years. Based on their working length, period of residency seems less stable as people are more likely to have been at their property for less than one year (59.1%).

Table 8-15 Length of residence at current property

Residence length	Number	%
<6 months	210	35.8
0.5-1 year	137	23.3
1-1.5 years	36	6.1
1.5-2years	69	11.8
>2 years	135	23
Total	**587**	**100**

Source: created by the author

In terms of household type, family-shared households were more likely to have lived in their current property for more than two years. However, unrelated shared households tended to have been in their current house for less than six months (see Table 8-16).

Table 8-16 Length at current property in each household type

	<6 months	6 m-1 year	1-1.5 years	1.5-2 years	> 2 years
Live alone	**6.8**	**4.8**	**1.9**	**2.2**	**3.9**
Family-shared	**10.7**	**7.4**	**1.7**	**8.9**	**22.1**
Including spouse	5.6	4.8	1	4.6	12.5
Including children	2.7	1.9	0.7	1.7	7.2
Including parents	2.4	0.7	0	0.9	2.4
Non-family-shared	**24.2**	**15.1**	**4.5**	**9.6**	**8.2**
Share with boyfriend/girlfriend	0.7	1.5	0.5	0.3	1.2
Share with workmate	9	4.6	0.7	1.7	3.1
Share with friend (exclude bf/gf)	5.5	2.4	0.7	0.7	0.5
Share with hometown fellow	3.2	2	0.5	1	1.7
Share with stranger	5.8	4.6	2.1	1.4	1.7
Total	**35.6%**	**23.5%**	**6.2%**	**11.6%**	**23.1%**

Source: created by the author

In terms of housing type, Figure 8-8 shows how long respondents had been living in their current property. Bars are ordered by the composition of dwellers living there for less than six months from the highest proportion to the lowest. Shanty-towns had the most dwellers who had lived there for more than two years (38.5%), followed by 36% urban village dwellers, 24.1% underground basement dwellers, 18.8% dormitory dwellers, 15.2% multi-bed group rental dwellers, 9.8% subdivided housing dwellers and no standard formal housing dwellers. Shorter lengths (less than six months) followed a reverse trend in that standard formal housing had the most people living there for less than six months but urban villages, and not shanty-towns, had the fewest people living there for less than six months.

Figure 8-8 Residence length at current property in different housing types

Residence length in current property by housing type

	Standard formal	Multi-bed group renting	Subdivided housing	Dormitory	Underground basement	Shanty town housing	Urban village
■ >2 years	0	9.80%	15.20%	18.80%	24.10%	38.50%	36.00%
■ 1.5-2 years	25.00%	4.90%	19.00%	8.30%	8.90%	7.70%	17.30%
■ 1-1.5 years	25.00%	9.80%	2.50%	2.10%	7.30%	0	4.30%
■ 0.5-1 year	0	31.40%	20.30%	31.30%	23.60%	23.10%	18.00%
■ <6 months	50.00%	44.10%	43.00%	39.60%	36.10%	30.80%	24.50%
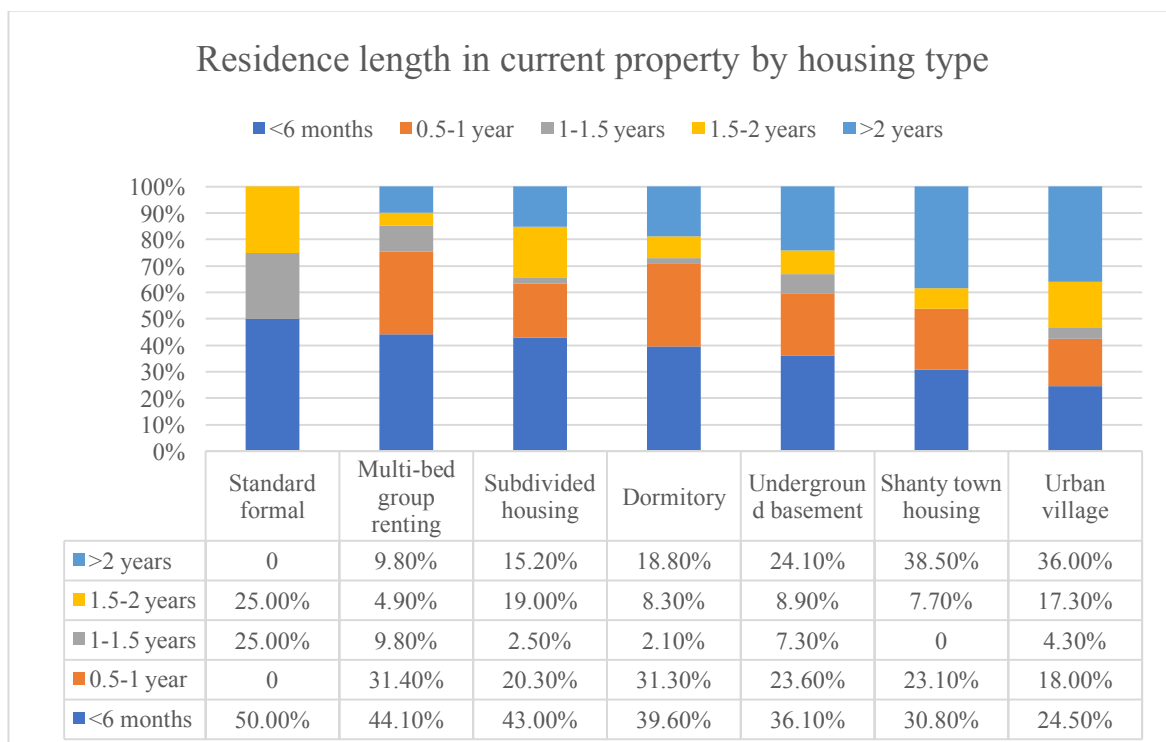
Source: created by the author

8.3.4 Age and gender

The mean age of respondents was 32.9 years and most were 29 (mean (SD)=32.9 (11.45); mode=23; minimum=16; maximum=71). At aggregate level, there were more male respondents (52%) than females (48%). However, the scale variable of age was recoded into age groups from 16 to 76 with five-year intervals. It is interesting to see the population distribution by gender and age difference.

The population pyramid (Figure 8-9) shows the age distribution, grouped by gender, of 604 people living in informal settlement in Beijing. However, it illustrates a total population based on 572 answers (32 missing).

Over half, 58%, of the sample were aged under 30, which included the largest proportion (26.8%) of 21-25 year-olds and the second largest proportion (24%) of 26-30 year-olds, whereas the 16-20 group comprised 5.7%. This shows that a significant proportion of the people living in informal settlements in Beijing are adults, particularly of working age from 21 to 30 years. In terms of gender, among the older respondents (at least 56 years), the younger ages (below 25 years) and the middle-aged of 36-40 years, females outnumbered males.

Figure 8-9 Population pyramid for informal settlement dwellers

Population distribution: age and gender

	<15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	71-75	>76
■ Male	0	-20	-62	-80	-24	-20	-23	-26	-26	-9	-2	0	-1	0
■ Female	0	21	89	55	22	28	19	17	6	10	3	0	0	0
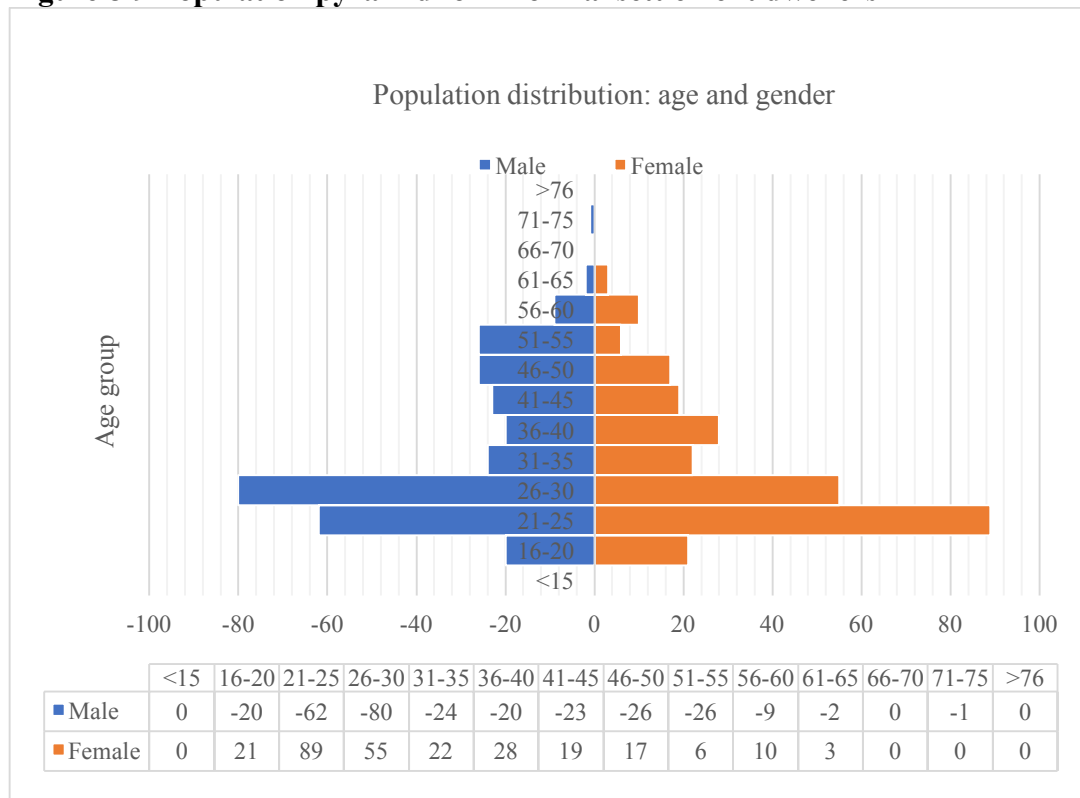
Source: created by the author

In terms of gender difference, Figure 8-10 shows that standard formal housing in this survey had half male and half female respondents. On the left-hand side, shanty town, dormitory, underground basement and urban village have more male than female dwellers. On the right-hand side, subdivided housing and multi-bed group rentals have fewer male than female dwellers. Of all types of housing, shanty-towns had the highest male dweller composition at 78.6% and multi-bed group rentals had the lowest at 32%.

Figure 8-10 Gender composition by housing type

Gender composition by housing type

	Shanty town housing	Dormitory	Underground basement	Urban village	Standard formal	Subdivided housing	Multi-bed group renting
■ Female	21.40%	34.00%	39.10%	43.30%	50.00%	58.20%	68.00%
■ Male	78.60%	66.00%	60.90%	56.70%	50.00%	41.80%	32.00%
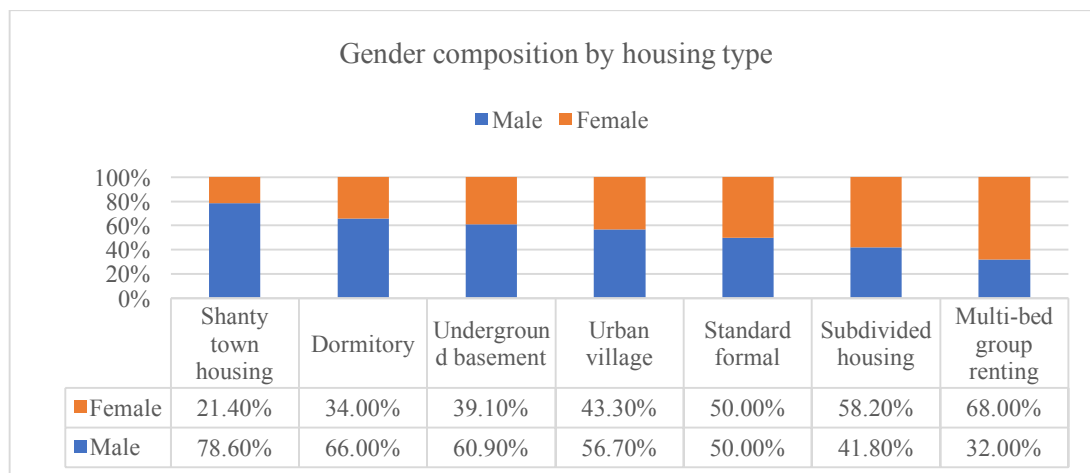
With respect to the age profile of the participants, Figure 8-11 compares age composition in each housing type. The colour change from light to dark blue shows the age from younger to older. The largest age band follows the general trend in Figure 8-9, which is 21-30, and this was the same for every housing type. It is also clearly seen from Figure 8-11 that all standard formal housing dwellers were young people aged from 21-30. Dwellers living in subdivided housing, dormitories and multi-bed group rentals were mostly aged under 30. Older respondents occupied underground basements, urban villages and shanty-towns.

Figure 8-11 Age profile in different housing types

	Standard formal	Subdivided housing	Dormitory	Multi-bed group renting	Underground basement	Urban village	Shanty town housing
■71-75	0	0	0	0	0.5%	0	0
■61-65	0	1.3%	0	0	1.1%	0.7%	7.7%
■56-60	0	1.3%	0	3.1%	4.3%	3.7%	0
■51-55	0	0	8.7%	3.1%	8.6%	7.5%	7.7%
■46-50	0	2.6%	2.2%	7.1%	8.0%	11.9%	15.4%
■41-45	0	1.3%	4.3%	1.0%	11.2%	9.7%	23.1%
■36-40	0	5.1%	2.2%	7.1%	9.1%	12.7%	15.4%
■31-35	0	6.4%	2.2%	4.1%	10.7%	9.7%	15.4%
■26-30	62.5%	32.1%	19.6%	16.3%	26.2%	23.1%	7.7%
■21-25	37.5%	42.3%	45.7%	43.9%	18.2%	14.2%	7.7%
■16-20	0	7.7%	15.2%	14.3%	2.1%	6.7%	0
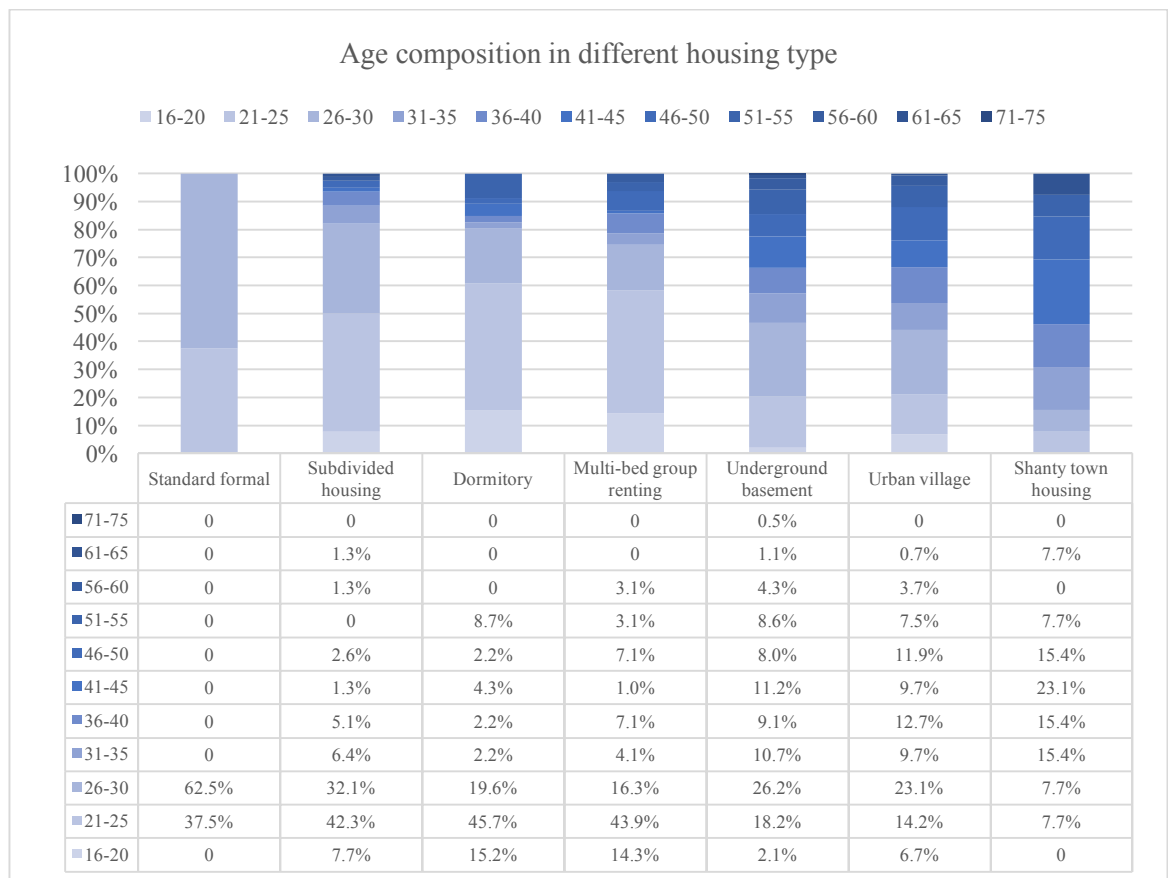
8.3.5 Socio-economic status

Socio-economic status has been used to depict economic differences in society as a whole. It is not altogether clear what indicators signal access to what resources and whether there is sufficient social consensus on the desirable resources themselves (Oakes, 2011). LaVeist (2005) suggested that wealth, income, educational attainment and occupational prestige are

indicators of socio-economic status. In this section, education, work unit, occupation and income (Winkleby *et al*., 1992) are used to examine the dwellers' socio-economic status.

Education

'Education level' in this survey refers to the highest education level achieved, ranging from primary school level or lower to postgraduate. The average education which respondents had received was to technical secondary school level, but many (28.5%) had finished junior high school. One person responded 'Other' and did not specify what, so that result is categorised as missing.

It is interesting to look at the contrasts within each education level by gender. Figure 8-12 shows the highest education level gained by respondents by gender. Fewer than 2.5% of them had postgraduate qualifications. At the other extreme, 79.6% have received no higher education (at least undergraduate level in this context). Of them, 28.6% had attended junior high school and the least stated was technical secondary school level, which only 8.6% had achieved. Females tended to have higher education levels than males, with 12.4% compared with only 8.1% of males. At the lower education levels, males formed higher percentages at each level than females.

Figure 8-12 Highest education level gained: male and female
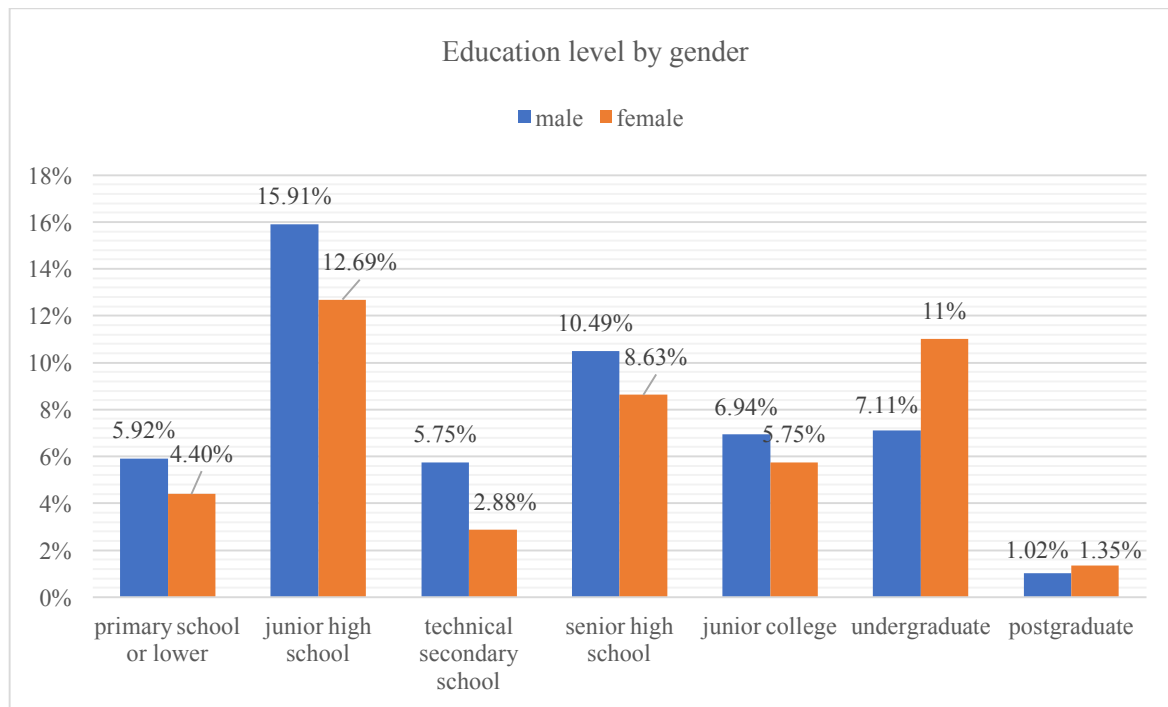
Source: created by the author

Figure 8-13 shows the contrast in the composition of the highest level of education gained in each housing type. The colour change from light to dark blue indicates the education level from lower to higher. It is clear that standard formal housing had more occupants with higher educational backgrounds, with 75% above undergraduate level. Subdivided housing followed with 46.9% of dwellers achieving higher education. At the other extreme, no shanty-town dwellers had achieved educational levels above junior college and only half (50%) had completed junior high school. Similarly, urban village dwellers also have a lower proportion of higher education level achievers (less than 10%).

Figure 8-13 Educational level composition in different housing types

Educational level composition in different housing type

	Complete formal housing	Subdivided housing	Multi-bed group renting	Dormitory	Underground basement	Urban village	Shanty town housing
■ Postgraduate	25.0%	7.4%	0	10.2%	0	0.7%	0
■ Undergraduate	50.0%	39.5%	34.0%	12.2%	11.4%	4.9%	0
■ Junior college		17.3%	12.6%	18.4%	12.4%	9.8%	0
■ Secondary school	0	7.4%	10.7%	4.1%	8.3%	11.2%	7.1%
■ Senior high school	25.0%	17.3%	16.5%	16.3%	23.3%	18.2%	28.6%
■ Junior high school	0	11.1%	22.3%	32.7%	33.7%	33.6%	50.0%
■ Primary school or lower	0	0	3.9%	6.1%	10.9%	21.7%	14.3%

Source: created by the author

Employment and welfare

Responses to the question on work-unit showed that 49.2% of the participants worked for private enterprises; 24.9% were self-employed. A few people worked for government institutions (4.2%), state enterprises (5.9%) and collective enterprises (3.2%).

In terms of contract, 34.8% had fixed-term contracts, but 31.6% had no contract with their work-unit. Table 8-17 shows the different contracts provided by each type of work-unit.

Almost 80% of government institutions had fixed-term contract with employees. Most state enterprises (45.7%) also provide fixed-term contracts. However self-run businesses (68.1%) followed by private enterprises (20.6%) were more likely to have no contracts.

In terms of welfare provision, 52.8% received nothing from their work-unit. The other six types of welfare received from work-units showed a fairly even proportion of around 15%, except for only 8.1% receiving money from the Housing Provident Fund (HPF). Table 8-17 shows that all surveyed Sino-foreign joint ventures provided all six types of welfare. More than 70% of government institutions provided almost all types of welfare, but only half of them offered the HPF. State enterprises provided most welfare, especially health-care (60.6%). However, the majority of private enterprises (47.7%) and almost all the self-run business (86.5%) provided no welfare at all.

Table 8-17 Contract and welfare provided by different work unit

	Government institution	State enterprise	Collective enterprise	Sino-foreign joint venture	Private enterprise	Self-run business
Contract	(% of work-unit sign each type of contract)					
Open-ended	12	31.4	10.5	0	18.9	6.3
Fixed-term	80	45.7	36.8	80	46.9	9.7
One-off	0	2.9	15.8	0	3.5	0
Probationary	0.2	2.9	15.8	0	7.7	3/5
No contract	0.2	14.3	15.8	0	20.6	68.1
Unknown	0	2.9	5.3	0	1	2.1
Others	0	0	0	20	1.4	10.4
No.	**25**	**35**	**19**	**5**	**286**	**144**
Welfare	(% of work-unit offer each type of welfare)					
Pension	76	54.5	47.4	100	38.9	7.5
Health-care	76	60.6	52.6	100	45.2	8.3
Unemployment	76	48.5	42.1	100	35.7	4.5
Work-related injury	72	57.6	57.9	100	42.4	9
Maternity insurance	72	42.4	42.1	100	28.3	3.8
HPF	52	48.5	31.6	100	19.8	2.3
No welfare	20	36.4	26.3	0	47.7	86.5
No.	**25**	**33**	**19**	**5**	**283**	**133**

Source: created by the author

In order to determine whether working length influenced welfare acquisition, Figure 8-14 shows the different welfare provisions for new arrivals and long-term migrants. The variable of working length in Beijing (discussed above in section 8.3.3 *Length of working in Beijing*, Table 8-14) was used to indicate new arrivals and long-term migrants. The results show that

the rate of welfare received from a work-unit was low (generally no more than 6%) for all working lengths.

It is evident from Figure 8-14 that most employers provided health-care (20.9%) and work-related injury insurance (19.8%), whereas the fewest work units provided the HPF (10.7%). More new arrivals received welfare than other work-length groups in the first five kinds of welfare, except for HPF. The two-year group followed the trend and showed a relatively high proportion of welfare receipt than the other residence-length groups. Both the new arrival group or the long-term households received statistically higher welfare provision than local households in pensions, health-care, unemployment insurance, work-related injury insurance, maternity insurance and HPF.

Figure 8-14 Welfare received from work unit: new arrivals and long-time migrants

Welfare for new arrivals and long-term migrants

	Pention	Health care	Unemployment insurance	Work-related injury insurance	Maternity insurance	Housing provident fund
<1 year	4.4%	5.6%	4.1%	5.5%	3.6%	2.2%
2 years	3.9%	4.6%	4.1%	4.2%	3.5%	2.5%
3 years	2.2%	2.4%	1.9%	1.9%	1.6%	1.6%
4 years	2.0%	2.0%	1.6%	2.0%	1.1%	1.0%
5 years	0.8%	1.1%	0.9%	1.4%	0.8%	0.7%
>5 years	3.8%	4.0%	3.0%	3.7%	2.4%	1.9%
Local	1.2%	1.2%	0.8%	1.0%	0.8%	0.8%
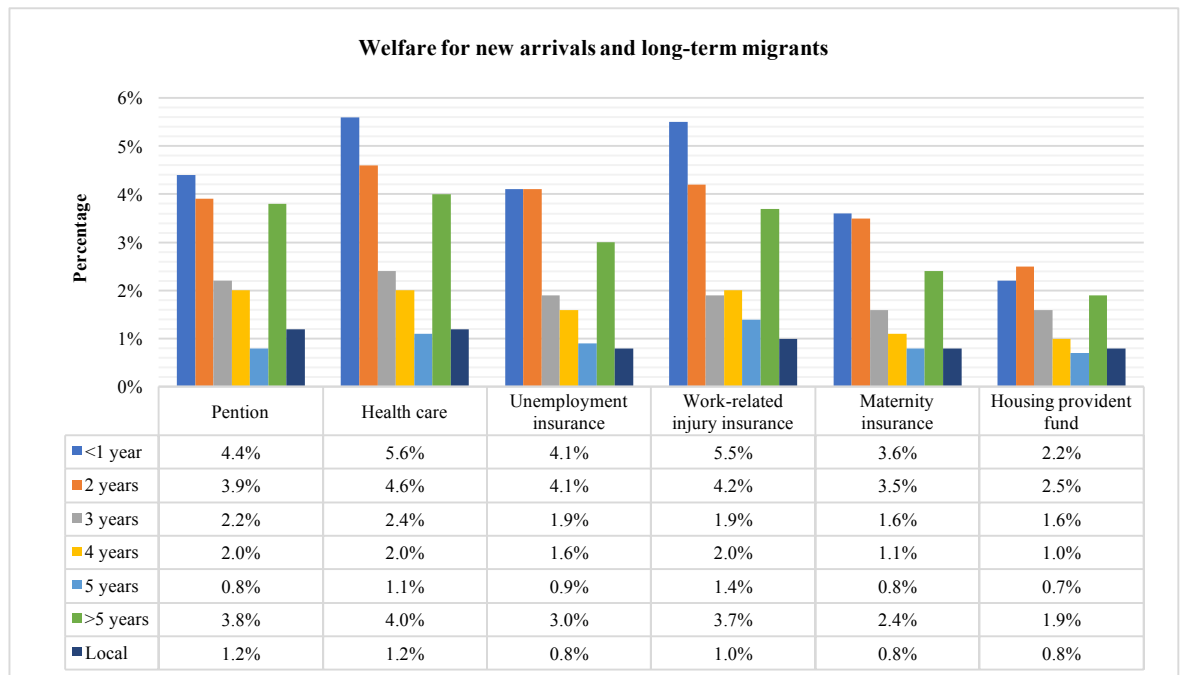
Source: created by the author

In terms of the low HPF provision, dwellers were asked whether they had previously applied for any other housing subsidies from the government: 98.5% of them answered 'no' and 34.9% had never thought about asking for housing help from the government.

They were also asked what would be beneficial in terms of housing support from the government, and the highest proportion (17.6%) suggested control over housing rents, 15.8% expressed their desire to apply for public rental housing and 14.6% hoped to receive housing

subsidies. Only 8.3% had thought about buying policy-related commodity housing, and 6.5% wanted the authority to govern the rental market. There were still 2.2% of dwellers who expected nothing from the government as they assumed that policy-related housing was limited to local *hukou* holders. They were also asked whether they would transfer their *hukou* to Beijing if there were no restriction, and 52.2% agreed.

Occupation and employment

The survey asked dwellers to state their type of work from two choices, unemployed and other, representing people not in the labour force, for example, students, people with family responsibilities, people not actively seeking work and retired people. Figure 8-15 lists the population distribution from different professions in descending order.

It is clearly seen that almost half of those employed (43.1%) were service workers, followed by self-employed at 12.3%. This suggests that the informal sector made up the bulk of respondents' choices, including catering, housekeeping, sanitation, security, real estate, petty sales and many other small-scale businesses.

Figure 8-16 also compares employment with no working contract in descending order; 57.1% of them were service workers, followed by the self-employed (17.5%). These two occupations also ranked as the highest two occupations without employment benefits.

Due to the insecure feeling of people employed in the informal sector, they tend to seek other support when considering a job. Some employers provide support with the aim of enabling the initiatives of these workers. This includes providing free dormitory accommodation, free meals and transportation fee as subsidies; 32.2% of the participants stated that they had been offered support in this way other than their salary. Among this group of people, 52.4% had free accommodation as their employers paid the rent for them. Moreover, 13.8% of the participants still tended to take more than one job in order to afford their rent in case they found themselves temporarily without work.

Figure 8-15 Respondents employed in current work, by occupation

Percentage of each occupation

Occupation	Percentage
Service worker	43.1%
Self-employed	12.3%
Professional and technician	11.8%
Normal civil servant	9.8%
Others	6.4%
Construction worker	5.7%
Manufacture worker	4.0%
Freelancer	2.4%
Unemployed	1.9%
Manager	1.7%
Government/party/institution staff	1.0%
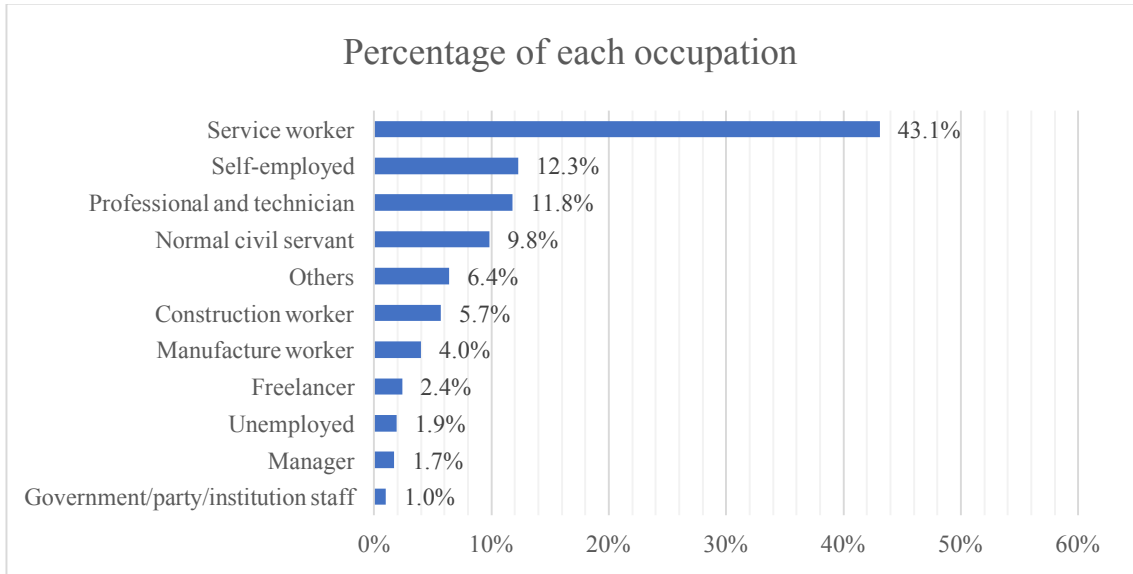
Source: created by the author

Figure 8-16 Respondents employed without contract

Percentage of employment with no contract

Occupation	Percentage
Service worker	57.1%
Self-employed	17.5%
Construction worker	7.0%
Others	3.8%
Freelancer	3.5%
Professional and technician	3.5%
Normal civil servant	2.5%
Unemployed	2.2%
Manufacture worker	2.2%
Manager	0.3%
Government/party/institution staff	0.3%
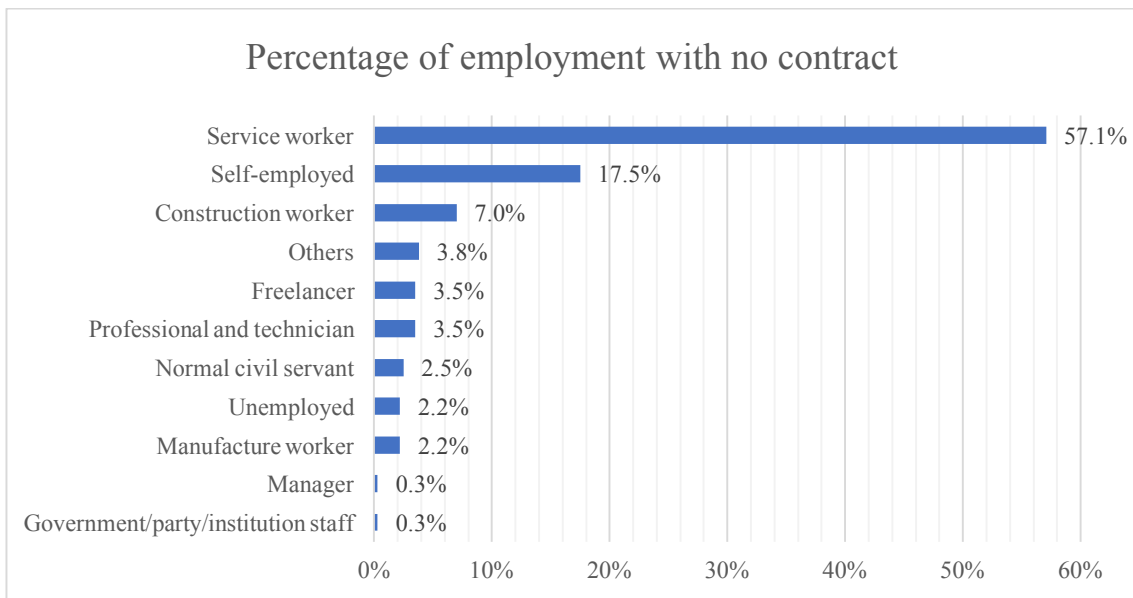
Source: created by the author

Income

Respondents were asked to state their personal annual income in Chinese yuan.[42] Total annual personal income collected from the survey included all income from all sources, not just from salaries. It was converted to monthly income and the frequency results show that

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[42] The recent exchange rate between pound and yuan is around 8.6, which means that £1 = 8.6 yuan.

the mean income was 5061 yuan, which is slightly higher than median of 4167 yuan as it had a wide range from the 250 yuan minimum to a maximum of 33333 yuan.

Dwellers' income was associated with their education and occupation. Figure 8-17 compares monthly rents by education level and gender, as they are statistically associated ($p<0.05$, $x^2=3788.264$), The average highest incomes were those of postgraduates, both males at 10,417 yuan and females at 8214 yuan per month. It is also clearly seen that the male respondents had higher incomes than females at every education level. Not surprisingly, a general trend is that income increased as the education level grew. Interestingly, males who had graduated at junior college had a slightly higher monthly income than undergraduates. Female junior high school graduates earned more than secondary school graduates.

Figure 8-17 Monthly income by education and gender
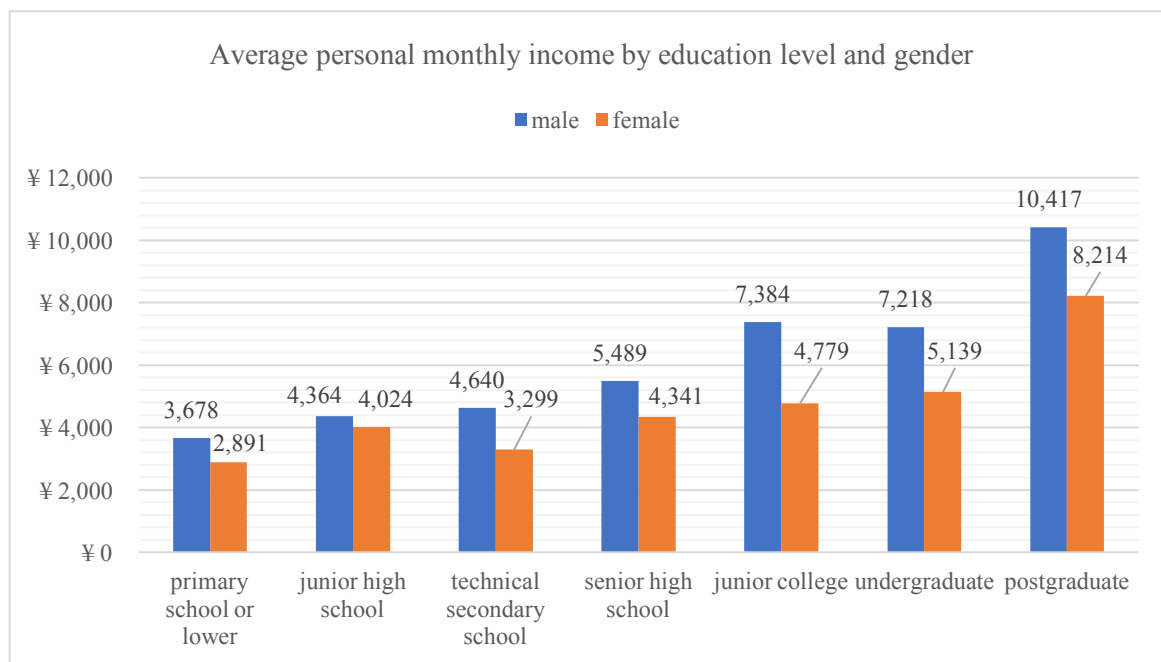
Source: created by the author

Income also varied by occupation, but the 'unemployed' and 'others' choices have been removed from these findings. Figure 8-18 ranks the mean monthly income of different occupations from the highest to the lowest. 'Manager' was in first place with 8,787.04 yuan per month and 'Freelancer' had the lowest monthly pay of 2,809.09 yuan. 'Service workers' earned 4096.15 yuan. It is interesting that the self-employed earned a relatively high monthly income of 5829.55 yuan, taking fourth place over other occupation, which was unexpected. Because the working hours of different occupations were not taken into consideration, a new

variable of monthly payment was generated from monthly income divided by monthly working hours.

Figure 8-19 shows the distribution and changes. First, the ranking follows the general trend of monthly payments, with only 'Manufacturing worker' exchanging place with 'Construction worker' for a higher hourly payment. The second change is the unexpected low hourly income for most jobs, except that 'Manager' had by far the highest hourly pay of 174.19 yuan, almost more than triple the other occupations. The lowest hourly income was 12.51 yuan for 'Freelancer', followed by service workers earning 23.15 yuan. This is because they have long working hours: construction workers have the longest working time of 59 hours per week, and managers usually work for 34 hours every week.

Figure 8-18 Average monthly income by occupation

Mean monthly income

Occupation	Value
Manager	¥ 8,787.04
Professional and technician	¥ 7,467.86
Normal civil servant	¥ 6,211.90
Self-employed	¥ 5,829.55
Construction worker	¥ 5,114.94
Government/party/institution staff	¥ 4,722.22
Manufacture worker	¥ 4,506.94
Service worker	¥ 4,096.15
Freelancer	¥ 2,809.09
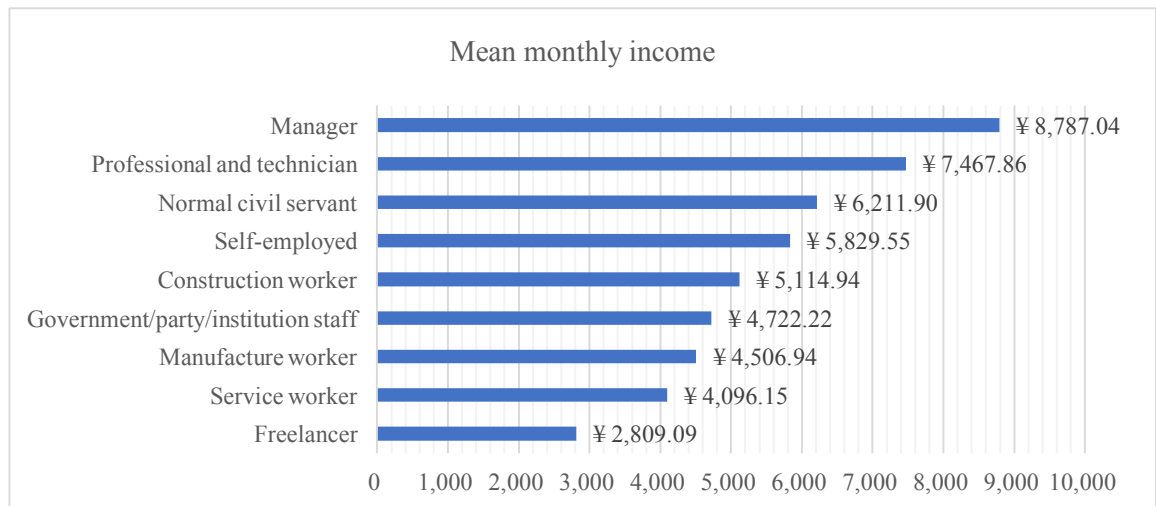
Source: created by the author

Figure 8-19 Average hourly payment by occupation

Mean hourly payment

Occupation	Value
Manager	¥ 174.19
Professional and technician	¥ 52.82
Normal civil servant	¥ 49.18
Self-employed	¥ 40.93
Manufacture worker	¥ 27.13
Government/party/institution staff	¥ 25.91
Construction worker	¥ 25.50
Service worker	¥ 23.15
Freelancer	¥ 12.51
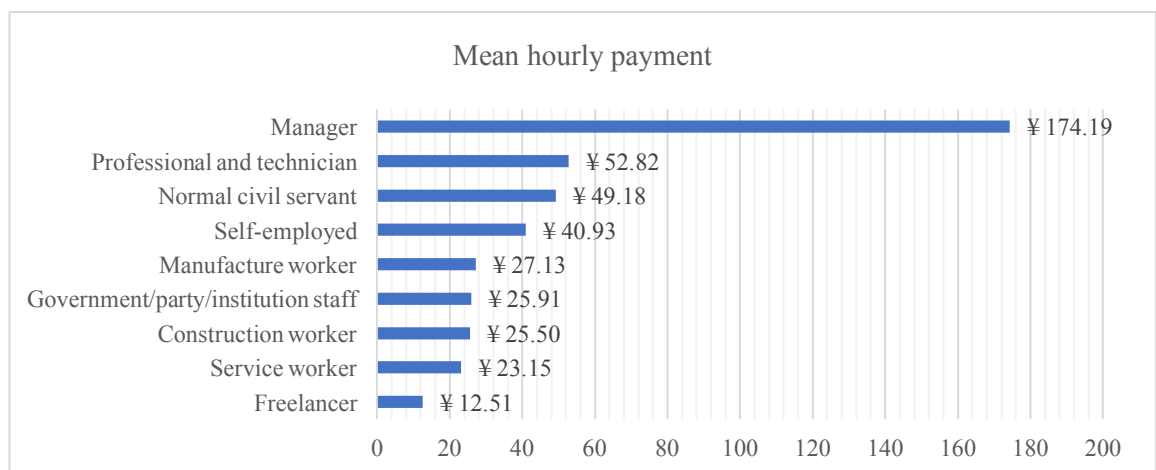
Source: created by the author

Figure 8-20 shows the average monthly income for different housing type dwellers. Incomes were higher for standard formal housing dwellers at 7,541.67 yuan. Urban village and underground basement dwellers had similar mean monthly incomes of 5,070.77 and 5,068.69 yuan respectively; multi-bed group rental and dormitory dwellers had similar mean monthly incomes of 4,193.33 and 4,185.61 yuan. The incomes of shanty-town housing dwellers were the lowest, at 3,633.33 yuan each month.

Figure 8-20 Average monthly income by housing type (in yuan)
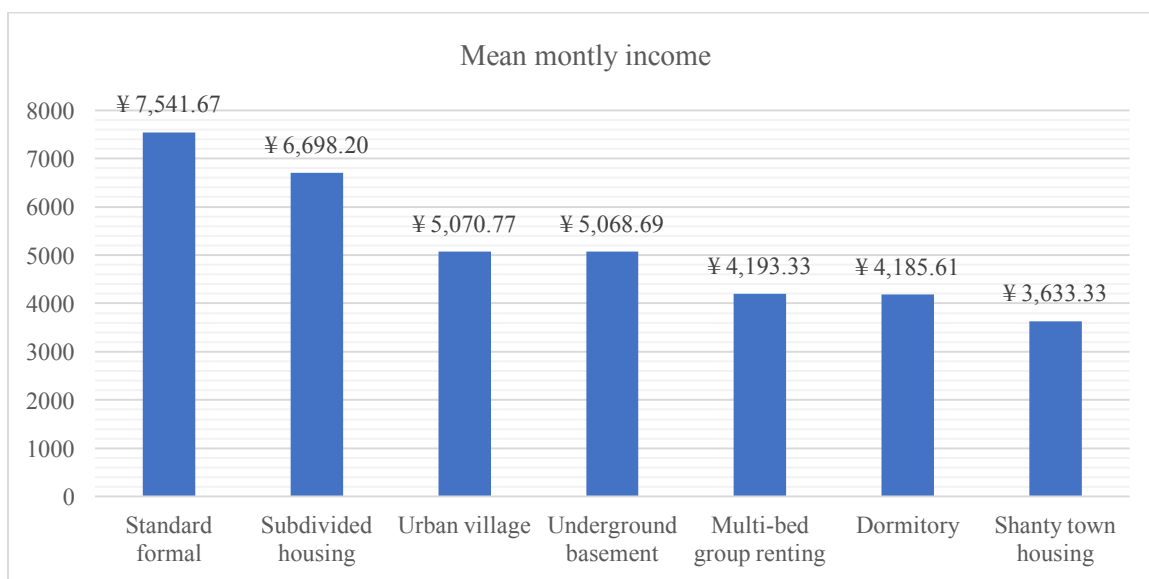
Source: created by the author

8.4 Dwellers' satisfaction and housing decisions

Generally speaking, satisfaction is a subjective evaluation of the performance of products or services in meeting the needs and expectations of users (Parker & Mathews, 2001; Ueltschy *et al*., 2007; Hanif *et al.,* 2010). It is a measure of the difference between the actual and expected performance of products or services in meeting users' needs and expectations from the users' perspective. Oliver (1981) and Parker and Mathews (2001) also suggested that if the performance of a product or service meets users' needs and expectations, they are said to be satisfied with the product, and *vice versa*. Satisfaction is an important factor in the household decision-making process for moving or relocating (Clark & Onaka, 1983). In this section, I shall first discuss the satisfaction ratings on twenty residence attributes, and then

explore participants' reasons for moving to their current accommodation, searching patterns and information sources, and considering how these influence their future plans.

8.4.1 Satisfaction ratings on twenty residence attributes

Adapted from previous studies on building performance and satisfaction (Fatoye and Odusami, 2009; Gupta & Chandiwala, 2010; Ibem *et al*, 2013), the questions in this current survey were designed to quantify the residents' satisfaction with twenty selected items related to internal and external space, energy and other attributes of their housing. Residents were asked to rank their satisfaction levels on a five-point Likert Scale ranging from '1' for very dissatisfied, '2' for dissatisfied, '3' for neutral, '4' for satisfied to '5' for very satisfied.

Following Ibem *et al*'s (2013:182) methodology, the following variables were generated to identify dwellers' satisfaction with and evaluation of their housing performance:

1. Individual Satisfaction Scores (ISS): the sum of individual respondents' scores on all twenty residence attributes. This expresses dwellers' satisfaction with all the residence attributes put together;
2. Mean Satisfaction Scores (MSS): the average satisfaction score rated by all respondents on each attribute. This was used to assess the degree of satisfaction with each residence attribute by all the respondents;
3. Actual Satisfaction Score (ASS_{ac}): the sum of the actual satisfaction scores on the five-point Likert scale given by all respondents on each residence attribute;
4. Maximum Actual Satisfaction Score (ASS_{max}): the sum of the maximum possible satisfaction score on the five-point Likert scale which all respondents could give on each attribute;
5. Relative Performance Index (RPI_a): this is computed mathematically as:

$$RPI_a = \frac{\sum ASSac}{\sum ASSmax}$$

ASS_{ac} as a proportion of ASS_{max} measures the relative contribution or importance of each residence attribute towards enhancing the activities and well-being of the dwellers. With respect to the interpretation of the results, the maximum value of RPI_a was 1 and the closer the RPI_a value to 1, the more contribution the residence attributes made in terms of meeting the dwellers' needs and expectations, and *vice versa*.

Dwellers were also asked to give an overall rating for general housing condition. With a Mean Satisfaction Score (MSS) of 3.03 overall, dwellers were generally satisfied with their housing condition. However, Figure 8-21 reveals that nearly half of respondents (49.7%)

were neither satisfied nor dissatisfied, and fairly even proportions of 25.4% indicated satisfaction and 24.1% showed dissatisfaction. This result is an indication that a quarter of the respondents were satisfied with their dwellings.

Figure 8-21 Dwellers' overall satisfaction with housing condition
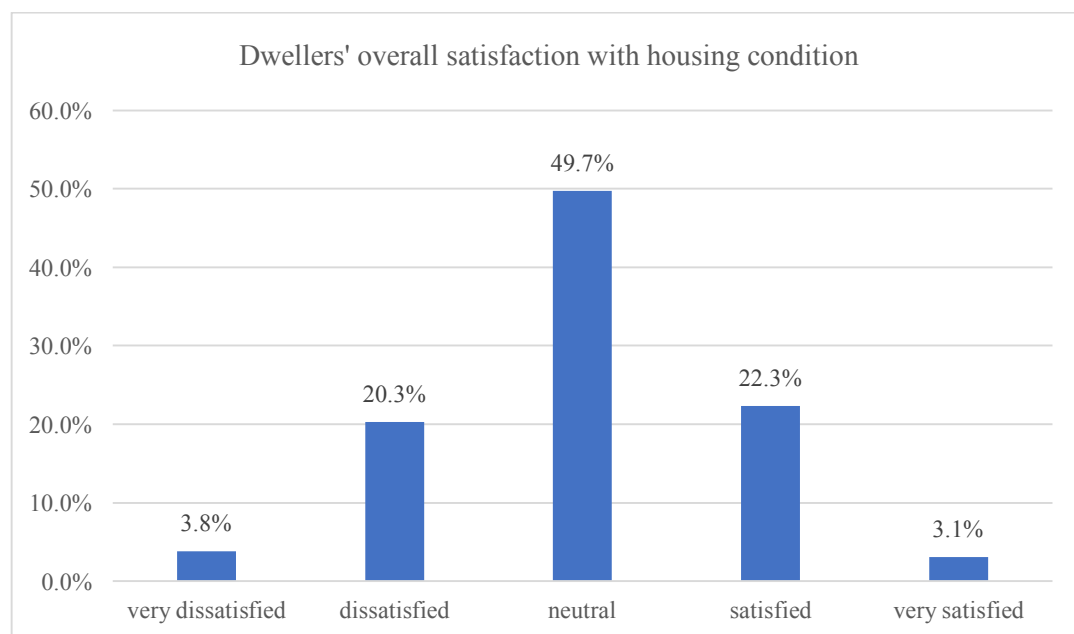
Source: created by the author

With respect to the dwellers' satisfaction with each of the twenty residence attributes investigated, Table 8-18 shows the MSS, ASS_{ac} and RPI_a for each attribute. It is evident from the results that the dwellers were satisfied with fifteen of the twenty attributes investigated. They were most satisfied with corridor lights in external spaces, followed by the passage clearness in external spaces, table or chairs in their dwelling units, fire protection and corridor CCTV in external spaces respectively, but were least satisfied with toilet provision.

The results on the performance of informal settlements as measured by RPI_a (see Table 8-18) are similar to the results for the MSS: corridor lights had the highest RPI_a value of 0.659 and toilet facilities the lowest RPI_a value at 0.565. This suggests that these attributes contributed most and least, respectively, to the performance of informal settlements in this survey.

The result presented in Table 8-18 on the performance of different residence attributes show that the attributes with RPI_a values above 0.650 performing adequately, those with RPI_a

values between 0.602 and 0.638 performing well, and those with RPI_a values below 0.602 underperforming in meeting dwellers' needs and expectations.

Table 8-18 Mean satisfaction scores and relative performance index (in descending order of satisfaction score)

S/N	Residence attributes	MSS	ASS_{ac}	RPI_a
1	Corridor light (n=505)	3.3	1664	0.659
2	Passage clear (n=480)	3.19	1530	0.638
3	Table/chair (n=501)	3.19	1598	0.638
4	Fire protection (n=480)	3.17	1521	0.634
5	Corridor CCTV (n=457)	3.16	1445	0.632
6	Window (n=471)	3.15	1482	0.629
7	Wardrobe (n=470)	3.13	1473	0.627
8	Access security (n=412)	3.11	1281	0.622
9	Air conditioning (n=441)	3.1	1366	0.620
10	Water (n=505)	3.08	1555	0.616
11	Heating (n=451)	3.04	1371	0.608
12	Broadband (n=463)	3.04	1406	0.607
13	Mobile signal (n=498)	3.04	1513	0.608
14	Gas (n=441)	3.02	1333	0.605
15	Lift(s) (n=390)	3.01	1173	0.602
16	Television (n=455)	2.99	1361	0.598
17	Laundry room (n=465)	2.95	1373	0.591
18	Kitchen (n=464)	2.9	1347	0.581
19	Shower room (n=497)	2.87	1427	0.574
20	Toilet (n=508)	2.83	1436	0.565
Overall		**3.03**	**1740**	**0.605**

Source: created by the author

Table 8-19 shows the results of the twenty aspects ordered according to the proportion of respondents rating their property as either fair or very poor. The property interior emerged as the main issue, with over 30% of the respondents rating housing as poor on toilet provision and shower room. Ratings in other aspects suggest that around a quarter of the respondents required more improvement in broadband, television and mobile signal, than that in furniture. There were few significant differences between poor ratings on energy factors; water performed better than heating, gas and air conditioning, with no more than 20% of respondents giving a poor rating. A majority of respondents were satisfied with the six outside factors and lift was rated poor by the largest proportion of dwellers (22.8%).

Table 8-19 Satisfaction ratings on the twenty factors

Facility	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Internal space					
Toilet (n=508)	2.6	18.3	45.5	26.6	7.1
Shower room (n=497)	2.6	19.5	46.9	24.3	6.6
Kitchen (n=464)	2.4	20.9	48.5	21.1	7.1
Laundry room (n=465)	2.4	20	53.8	18.3	5.6
Window (n=471)	4.9	29.9	45	15.3	4.9
Others					
Broadband (n=463)	4.5	27.4	41.9	19.4	6.7
Mobile signal (n=498)	5	27.1	43	16.5	8.4
Television (n=455)	2.2	25.1	49	17.1	6.6
Shared wardrobe (n=470)	4.3	30	46	14.5	5.3
Shared table/chair (n=501)	3.4	32.7	47.5	12.2	4.2
Energy					
Heating (n=451)	2.9	26.2	48.6	16.9	5.5
Gas (n=441)	2.3	24.5	52.4	15	5.9
Air conditioning (n=441)	2.9	29.9	46.5	15.2	5.4
Water (n=505)	3	26.9	50.5	14.3	5.3
External space					
Lift(s) (n=390)	3.6	24.4	49.2	14.9	7.9
Access security (n=412)	4.9	28.6	45.4	14.8	6.3
Corridor CCTV (n=457)	3.9	34.1	41.1	15.8	5
Fire protection (n=480)	3.5	34	42.9	15	4.6
Passage clear (n=480)	4	34.6	42.7	13.8	5
Corridor lighting (n=505)	3.4	41.6	40.2	10.9	4

Source: created by the author

There were, however, a few significant differences between different housing types; the following analysis shows some interesting results of the comparison (see attached Appendix 5 for data ratings comparisons on all factors). Shanty-towns had the highest proportion of respondents rating property as poor on all twenty factors. Except for standard formal housing, underground basements had a higher quality in the outside security aspects of corridor CCTV, lighting and fire protection. However, windows, shower room and mobile signal were rated as poorer than those in other housing types. Additionally, the energy aspect of underground basements in water, gas and air conditioning was considered less satisfactory than in other housing types. Urban village dwellers gave a lower rating on passage clearness, toilet provision and heating. Multi-bed group rental dwellers were concerned more about outside security, especially access security, corridor CCTV and fire protection. They were also not satisfied with kitchens and laundry rooms. In their accommodation, television, broadband,

table, chair and wardrobe were all rated as poor. Further analysis will be carried out to check the factors associated with respondents' dissatisfaction in Chapter 10.

8.4.2 Securing dwellings: process and choice

This section will look first at reasons for moving to the current accommodation, then at patterns of search and sources of information. Preferences and priorities are described and some of the compromises made in securing accommodation are identified.

Reasons for moving

Meeting the dwellers' needs is important in housing delivery. It is therefore necessary to consider personal motivations in their housing decision-making process. I shall discuss the motivating factors which determined participants' selection of housing.

A closed question asked why participants had moved to Beijing rather than to other cities. A list of pull or push factors and their percentages are presented in Table 8-20 (see Appendix 3 for questionnaire details). The most important reason was the financial aspect. More than half of the participants had moved to Beijing because they wanted to seek opportunities to earn more money. Life change was another important factor. About one tenth (9.7%) were encouraged by skills-learning and eye-opening in Beijing. Being surrounded by people was another reason influencing participants: friends (8.7% of them had moved to Beijing because their friends were there and they could look after each other), family (6.8% of them had move there to be reunited with family members) or fellows (5.9% of them had followed suggestions from fellows, friends or family). Location advantage was considered by 5.4% of people as their hometowns were close to Beijing. Very few (0.8%) had taken child education into consideration and 0.7% of them had chosen Beijing because they liked the friendly local residents. Some of these reasons are contained in the

'Others' option (5.6%). The in-depth interviews will also illustrate some further motivations for them to move (*see* Chapter 9).

Table 8-20 Main reasons for moving to Beijing

Main reasons for moving to Beijing	Number	%
More opportunity to earn more money	332	56.4
Skill learning and eye opening	57	9.7
Friends in Beijing could look after each other	51	8.7
Family member(s) in Beijing	40	6.8

Fellows/friends/family suggestions	35	5.9
Others	33	5.6
Close to hometown and convenient	32	5.4
Better education for children	5	0.8
Friendly local Beijingers	4	0.7
Base	589	100

Source: created by the author

Preference and priorities

The survey also used multiple-choice questions to explore respondents' choices and ask the primary two reasons for dwellers' choice of their current accommodation. The percentages of preferences and priorities are listed in Table 8-21. Preferences are expressed in terms of housing attributes (rent, size, room numbers, facilities), location and neighbourhood circumstances. Dwellers had a wide range of preferences and different people prioritised different aspects.

The primary reason was the financial consideration: 40.9% of them chose the house for its affordable rent. Furthermore, 27.1% also chose a place regarded as being close to their workplace. Following this, 16.2% of them emphasised the importance of convenience; walking distance was especially important to them for shops, public transport and amenities.

Less than 1% chose safety and security; a further indication of choice being associated with the unsecure and problematic characteristics of informal settlements. Fewer than 1% were concerned about the number of rooms. Given that the room size was limited, the number of rooms was not an issue influencing choice for dwellers.

Table 8-21 Main reasons for moving to current property

Main reasons for moving to current property	Number	%
Rent	348	40.9
Close to workplace	231	27.1
Convenience to transport/shops	138	16.2
Neighbours are friends or familiar	45	5.3
Housing size	22	2.6
Surrounding facility/infrastructure	21	2.5
Convenience for children and the elderly	18	2.1
Housing facility/decoration	13	1.5
Safety/security	8	0.9
Room numbers	7	0.8
Base	851	100

Source: created by the author

Sources of information and search pattern

A closed question asked about how dwellers had found their current accommodation. They had applied diverse sources of information when searching. These can be concluded as the following two main aspects from Table 8-22.

First, most information came by word of mouth from people they knew in Beijing: 19.1% from local friends and colleagues; 10.6% from migrant friends; 10.5% from hometown fellowship, but only 7.1% from local family or relatives.

The second largest proportion of people (16%) had found their current home by themselves. Their search patterns included letting or estate agents (9.6%), online advertisements (also, 9.6%), roadside advertisements (6.3%) and fewer than 1% had used advertisements in other media.

There were also 10.6% of the respondents who had used other sources of information to find their current house which were not listed in the questionnaire.

Table 8-22 How did they find their current house

How did they find their current house	Number	%
Local friend/colleague	113	19.1
Self-found	95	16
Migrant friends	63	10.6
Others	63	10.6
Hometown fellows	62	10.5
Letting/estate agents	57	9.6
Online advertisements	57	9.6
Local family/relatives	42	7.1
Roadside advertisements	37	6.3
Other media advertisements	3	0.5
Base	592	100

Source: created by the author

Challenges and compromises

Considering their budget constraints, dwellers always need to balance their housing decision by rejecting one choice and deciding on another. Their responses were approached in a slightly different way: they were asked what was the most challenging aspect they felt for their current living accommodation.

Table 8-23 shows that the largest proportion had chosen their current house for its affordable rent: 27.2% gave rent as the most challenging aspect of their current living; 23.4% of them complained about the crowded space and 19.3% suffered from poor living conditions.

However, fewer than 5% of the respondents were unsatisfied with distance from the work-place and transport. This is consistent with the higher percentage of reasons why people chose their current house shown in Table 8-23. Moving to a place with more people or poorer conditions might be a compromise in order to achieve a shorter distance to work or more convenient transport.

Table 8-23 Challenges ot the current living accommodation

Challenges of the current living accommodation	Number	%
High rent	158	27.2
Crowded space	136	23.4
Poor living conditions	112	19.3
Others	65	11.2
Insufficient housing facilities	47	8.1
Long distance to work-place	29	5
Inconvenient transport access	14	2.4
Frequent house moving	14	2.4
Lack of rental advertisements	5	0.9
Base	580	100

Source: created by the author

8.4.3 Future plans

The survey asked about dwellers' future plans on four aspects: expenditure, moving home intentions, housing choice and house type on next move.

The first question asked them to pick their top three priorities for spending their money in the near future. Except for basic living conditions, 37.2% of them expected to become home owners in the future.

A second question asked whether they would bring their family members to Beijing in the future: 31.5% of them replied 'no', which meant that they would eventually go back to their home city. Only 10.9% said that they would stay in Beijing. There were 12.3% of them already in Beijing with their whole family.

A third question asked where they planned to buy house or construct a house: 22.3% had no plans; 55.6% would not choose Beijing to live but would return to their *hukou* place to buy or construct a house. Only 12.8% of them planned to buy property in Beijing.

A fourth question asked about the type of accommodation which they expected to move into in the future. Table 8-24 shows that the largest percentage (27.6%) are standard formal housing as their expectation. However, more than half (57.1%) intended to keep moving to informal settlements, among which urban villages were the most popular choice at 19%, followed by underground basements at 15.1%. Only 2.9% would like to live in a shanty-town.

Table 8-24 Type of accommodation expected on next move

Type of accommodation	Number	%
Standard formal housing	163	27.6
Urban village	112	19
Others	90	15.3
Underground basement	89	15.1
Multi-bed group rental	74	12.5
Subdivided housing	45	7.6
Shanty-town	17	2.9
Base	590	100

Source: created by the author

8.5 Summary

This Chapter used SPSS software to analyse the survey data, and provided a descriptive finding in residence characteristics and dweller characteristics, so as to explore how satisfied dwellers were with their housing condition in informal settlements.

Firstly this chapter summarised residence attributes from their housing type, location, size, rents, housing condition (with the usage of 20 factors in informal settlements) and housing services. Second, it outlined the dweller characteristics in terms of their demographic status including household composition, hukou registration, length of stay in Beijing and current housing, age and gender; as well as their socio-economic status. Finally, it analysed dwellers' satisfaction and explained their housing choices. Generally, dwellers were satisfied with their current living even in poor condition such as lack of a toilet or kitchen. But the use of broadband and mobile became more and more important to them for daily communication,

and, as a result, they were prepared to sacrifice other conditions such as the quality of housing in order to secure low rents and good locations.

Through the use of semi-structured interviews, the next chapter will confirm these findings, using the insights of dwellers themselves to depict the particular conditions and life circumstances that they are experiencing.

CHAPTER 9: DWELLERS' PERSPECTIVES ON INFORMAL SETTLEMENTS

9.1 Introduction

This chapter will focus on dwellers' perspectives to understand the concept of informal settlements. As John Turner said (1968) demonstrated, 'the most suitable shelter for a poor family may be something rather flimsy. In the short term, a poor family can survive in inadequate shelter whereas it cannot survive without food or water'. Desai and Potter (2013) suggested that adequate accommodation fits the circumstances of the family rather than being determined on purely physical grounds. Therefore, considering the multifaceted housing problems (Gilbert, 2014), this section will not only discuss dwellers' views on physical housing problems, but also their perspectives on the social aspects associated with their housing.

Interviews were conducted with nine urban village dwellers, 17 underground basement dwellers and 12 group renting dwellers. But there are intersections of group renting and underground basement dwelling; intersections of group renting and urban village dwelling. They consist of Beijing residents, cross-provincial migrants, within-provincial migrants. Cross-provincial migrants refer to migrants from another province. Within-province migrants are those who came from a different city in the same province. As Beijing is the municipal city with the same administrative level of province, so it refers to migrants from a different district in the same city. These two migrant directions comprise the main types of internal migration in China. Table 9-1 shows the key demographic information of the 38 interviewees in regard to their housing type, living district, migrant status, profession, coded name.

Table 9-1 Demographic information of dweller interviewees

No.	Housing type	District	Migrant direction	Profession	Coded Name[*a]
1	Urban village	Chaoyang District	Cross-provincial	IT Programmer	DV1
2			Cross-provincial	Chef & Kitchener	DV2

3			Cross-provincial	Rice shop owner	DV3
4			Beijing residents	Landlord	DV4
5			Cross-provincial	Retired grandma	DV5
6		Fengtai District	Cross-provincial	Apartment host	DV6
7			Cross-provincial	Noodle shop owner	DV7
8			Within-provincial	Factory worker	DVG8
9		Haidian District	Cross-provincial	Apartment owner	DV9
1	Underground basement	Haidian District	Within-provincial	Underground administrator	DU1
2			Cross-provincial	Cleaner	DU2
3			Cross-provincial	Underground administrator	DU3
4			Cross-provincial	Construction worker - husband Babysitter - wife	DU4
5			Beijing residents	Convenient service provider	DU5
6			Within-provincial	Supervise bike parking - retired couple	DU6
7		Chaoyang District	Cross-provincial	Housekeeper	DU7
8			Beijing residents	Supervise bike parking - retired	DU8
9			Beijing residents	Retired local husband & wife	DU9

			Housekeeper (have retired payment)	DU10
10		Cross-provincial		
11		Cross-provincial	Beauty salon owner; Christian	DU11
12	Fengtai District	Cross-provincial	Property managing	DU12
13		Cross-provincial	Civil servant	DU13
14	Dongcheng District	Cross-provincial	Breakfast seller	DU14
15		Cross-provincial	*Daigou*[43]	DU15
16	Xicheng District	Cross-provincial	Housekeeper-wife Unemployed-husband	DU16
17		Cross-provincial	Babysitter-wife Unknown-husband	DUG17
1	Haidian District	Cross-provincial	Traveler, searching their running away sons Beautician	DG1
2		Cross-provincial	*Chengguan*[44] (policeman)	DG2
3	Group renting	Cross-provincial	Waitress	DGU3
4	Xicheng District	Within-provincial	Estate agency	DG4
5		Within-provincial	Retired woman; Stay-at-home mom	DG5

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[43] This gradually become a popular occupation in China, referring to Chinese expats who buy consumer goods for people back home in China via social messaging app Wechat to connect with customers. They are also called remote shopper. Some of them are personal shoppers, and some of them have partners (friends or family) in China helping with goods delivery. This booming trade was born as a result of mistrust in the authenticity of products sold in China, greatly increased after the 2008 fake baby milk scandal. For more discussion on this phenomenon: http://www.bbc.co.uk/news/business-43259904.

[44] This is the enforcer for Urban Management Law Enforcement. Separate from conventional police forces, Chengguan in China are responsible for managing more quotidian aspects of urban life, such as regulating street vendors and unlicensed construction sites. This job is particularly Chinese phenomenon because of the influx of rural migrants greatly expanding China's informal economy.

6			Cross-provincial	Tailor	DG6
7			Cross-provincial	Breakfast seller	DG7
8			Cross-provincial	Manicurist	DGU8
9		Chaoyang District	Cross-provincial	Baby-sitter & housekeeper	DGU9
10			Cross-provincial	Sanitation/ greening	DGU10
11			Cross-provincial	Cook	DGU11
12			Cross-provincial	Underground basement contractor	DGU12

Note:

*a: DV: Dweller interview of urban village; DU: Dweller interview of underground basement; DG : Dweller interview of group renting; DUG/DGU: intersection of underground basement and group renting; DVG: intersection of unban village and group renting

Source: created by the author

Dwellers' views will be covered in the following four sections: first, why did they make the current choice, including their migration motivation and current housing choice motivation. Next, the nature of their housing needs in Beijing in terms of their housing conditions and living environment and community will be considered. Lastly, the nature of the socio-economic networks that dwellers establish to facilitate social integration in Beijing will be discussed.

9.2 Factors contributing to dweller's migration to Beijing

As introduced in the previous section, there are two migrant directions of the dweller interviewees: cross-provincial and within-provincial. Before moving to Beijing, dwellers tried and migrated to other cities in China, like Shenzhen (DG8), Tibet (DU3). They also migrated to multiple places around China. DV2 said he had been to Sichuan (in the south west of China), then Guangzhou (the coastal special economic zone) and has just come to Beijing this year. Except migrants from other provinces, five interviewees are from outer

Beijing districts such as Daxing (DU6) and Shunyi (DU1), among them four are Beijing residents and they will be excluded from the discussion of migration.

Different factors pushed or pulled these interviewees' migration to Beijing, and the length of their time away from their hometown varied from one week (DU16) to 20 years (DU6; DU12). The following sections will demonstrate dwellers' views in detail with respect to push factors such as the income gap, education quality, migration trend following their marriage (DG5), the quality of their hometown fellowship (DGU10; DGU11), or their family; and pull factors such as the advantages of living in a capital city.

9.2.1 Push factors

Interviewees were asked to explain the motivation behind their migration, and economic motivation was unquestionably the primary factor for everyone to make a living in a mega city. Pushed by the income gap between Beijing and their hometown or other cities, they moved to earn more money to cover more than their basic needs:

> *No matter in big city or rural village, how can a family survive without any savings?! Every day when you open the door, you will spend money, even staying at home, you need to pay electricity every month. (DU16)*

> *How can you eat if you don't earn money? You can't even live in rural hometown. At least we can earn around 4000 yuan per month in Beijing. Hometown is in poor economic condition. (DG7)*

> *Compared with my hometown, a small village- Jinmen in Hubei province, Less and less people stayed in my hometown, only the old left there. The low consumption can hardly boost the domestic economy! (DG8)*

> *Beijing is the first-tier city with higher average income. Migrant workers like us can earn a bit more here than in other cities. (DU10)*

> *What you earned in Beijing in one year, it might take you more than two years in hometown. (DGU12)*

> *Even if you are a cleaner here, you will earn more than running small business in hometown. (DUG17)*

Secondly, during the implementation of China's Reform and Opening-up Economic Policy, a growing trend of 'going to big city for work' pushed lots of people to migrate. DU6 from Henan, Beijing's neighbourhood province, were encouraged by the trend. DGU10 also commented:

> *It was quite popular moving to big cities at that time from the media. I followed the trend from earlier migrants returning to our village. I'm here for eye-opening. If it's not Beijing, I wouldn't spend a penny on it!* (DGU10)

Respondents have been introduced to Beijing, following the networks of hometown fellowship (DV3), friends (DGU3) or family (DU3; DU16). And it's convenient for them to live close and take care of each other in Beijing (DV3). One interviewee said she would not go back to her hometown at the moment, because:

> *As most hometown people migrated to big cities, few were left at home. I will feel lonely while all my other friends go to work. I would like to keep busy, I do not want to be left behind in hometown.* (DU10)

Thirdly, poor education in the hometown also pushed interviewee's migration. Several teenagers mentioned not completing their compulsory education in their hometowns. DGU11 expressed his little interest in hometown school. Conversely, they move to Beijing for individual development with the desire to learn more skills and techniques (DG8; DGU3; DU3). Besides, the inability and unwillingness to pay for schooling pushed them to migrate when job opportunities in cities become available.

> *My family was too poor to pay for the tuition fee when I was in junior high school. So I dropped out and decided to learn tailoring skills in Beijing.* (DG6)

There is also another factor that push dwellers to Beijing. Some dwellers moved because of the needs from their job. In one case a successful business bid for a Beijing project required that the respondent came for construction work (DU16).

9.2.2 Pull factors

Beijing, as China's capital city, is considered by migrants as occupying lots of advantages in terms of capital city priority. A few of them believed that Beijing must be better in overall

terms, especially where health, safety, better opportunities and attraction of city life are converned:

> *As the capital city of China, Beijing has a better sense of humanity, education, consumption and so on. Take price inflation as an example, Beijing can control well every time, while it can be out of control in second-tier city.* (DU10)

> *Beijing must be better in every aspect. At least we don't worry about safety issue here.* (DU6)

They also chose the better living environment of Beijing:

> *The drinking water in Beijing is better, and good for health.* (DU3)

> *There are less mosquitos or flies in Beijing, clean environment.* (DU4)

> *Beijing is cold outside but warm inside with heating. I don't need to wear coat inside, which is convenient for doing housework. It's not like southern area that inner room is coder than outside.* (DU16)

Interviewees also indicated that Beijing is full of opportunities, so the migration resulted from their desire to diversify personal development or sources of income:

> *Even if it's hard to save money in Beijing, you can't have better development in hometown. Besides, we experienced differently and learned skills here.* (DG8)

> *We have the skill of making bing (bread). If we can find somewhere with a variety of people, we can sell and earn money.* (DU14)

> *In 2004, my friend bought a house of 70 m^2, now it grows to 3 million! Land in Beijing values gold. We stayed here for any chance.* (DG1)

Younger respondents expressed their different considerations for migration. They were pulled by the excitement of city life. Quite a few teenagers shared the sentiment of moving to Beijing 'for fun and entertainment', to 'explore the world' or 'to chase their dreams'. One also noted the pursuit of freedom from their parents arranging marriage or expected career for him. (DV2) These young migrants put more emphasis on their personal lives, leisure time, and their willingness to enjoy life.

Beijing is big city with lots of people, full of bustle and hustle. (DU3)

Beijing is full of interesting place. I often travel around, to Great Wall, Tiananmen Square, forest park and other parks. (DGU11)

There are also individual cases showing different motivations. A Christian said this is arranged by the God (DU11). The other man said he suffered from relationship break down and ran away from it to Beijing, feeling totally numb (DV2).

9.3 Dweller's motivation for their current housing choice

9.3.1 Employment

Findings demonstrate that the job-housing relationship always has an impact on dweller's housing choice. Interviewees not only chose but also changed their dwelling because of job needs. Meanwhile in order to facilitate recruitment, employers arranged housing for migrants that was convenient for work (DG2): some employers offered free accommodation (DU3), sometimes including bills as well (DU6). Dwellers have no choice about where to live but findings show a range of their living places:

I used to work for a factory, our boss rented one big room for all workmates to sleep in so as to save cost. He couldn't afford single rooms for so many people. (DV7)

We previously lived in temporary house in construction site or school accommodation close to construction site because they were cheaper than other housing type. (DG5)

When I was an apprentice, I slept on tailor table. (DG6)

I lived in the restaurant before, because I worked in it. (DGU11)

Before I came here, I live at home before as I was in high school. (DGU3)

I used to work for the military museum in 2008, and our staff dormitory even has superior showing facility haha. (DV2)

And quite a few dwellers prioritised free accommodation with less earnings, because they thought the rent was too high:

If you choose higher salary job, you have to rent a house and pay the bills on your own. You won't get too much left afterwards. (DU6)

Dwellers not offered accommodation by employers, also preferred housing close sto work, because they felt tired of getting up very early in the morning (DU4) and they also considered transportation cost:

I would like to choose somewhere close to my work place. I will get so tired after one day work, why should I waste time and energy on the way? Besides, if living far from central Beijing, it also costs a lot for transportation fee, and you have to get up very early in the morning. Not worth it anyway. (DG8)

We lived in the same village and work within that area. (DU14)

9.3.2 Financial considerations

Considering their financial situation, dwellers are likely to choose housing on the basis of the relatively low rent. (DU15) Some dwellers said people choosing to live in an underground basement is for its cheap price, otherwise no one would want to live in the dark and damp (DU15). Some expressed the maximum rent they could afford was 500 yuan for DU6; 1000 yuan for DG7 and 1300 for DG8. They need to make a living in the city (DG7) or save money (DG5). And they have different reasons to save money by living in the current dwelling, either for their children or their own later life.

When interviewees described how they spent their income, firstly the major reason mentioned by quite a few of them was for their children, such as earning for university costs or saving for better future education (DG5; DG7; DU4; DU16):

We paid all our earnings to support my son's university expenditure in the previous years. (DU16)

We earn money enough for children to go to university, so in the future we don't need to work here. They can't be like us without education! They have to go to university and gain certificates, so they can have a proper job! (DU4)

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Secondly, parent respondents considered housing for their children, especially their sons[45]:

> *Living here can save me money to construct new house in my hometown for my son, then he can marry a wife and give me a grandson.* (DGU10)

> *I have a house of 54 m² upstairs and I spare it for my children: one son and one daughter with their own families, including a granddaughter. Its shame that a small house holds so many people. I contracted to administrate the underground storage, so I could save the housing upstairs for my children. My wife and I can stand living here.* (DU8)

Thirdly, they also worried about their children's marriage, as well as better life for their grandchildren (DGU9; DGU10; DU14; DU16; DUG17):

> *I have two sons, the younger one is 28 years old and the elder is 30. If there's only one, I won't need to come here then. They can't make it on their own. I have to help them get a wife and raise my grandson by earning money in Beijing.* (DGU10)

> *The key for earning is to help my son find a wife, buy his own house and have his own children. Until then I don't need to work in Beijing and my mission is accomplished.* (DGU9)

There are also dwellers, either from Beijing or other cities, saving money for later life:

> *We have neighbour who's local Beijing. They rent out their own house at thousands every month. They can earn some money living here with only hundreds of rents.* (DU11)

> *A lot of local residents whose home is located in outer Beijing. They live here to save money for several years, so they can change to buy a better house.* (DU4)

> *I need to earn more money when I am still able to work, just to save enough of it for late life.* (DU10)

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[45] Following Chinese wedding tradition of exchange of betrothal gifts, house and car gradually become the groom's basic condition to get married in China. Because China's population control policies along with some Chinese families' traditional preference to have sons rather than daughters have created a demographic imbalance, the increasing shortage of women in recent years has caused the groom's family to pay significantly more for betrothal gifts.

My ultimate goal is to earn enough money in Beijing first so that I can go back to hometown, buying a house, decorating then buying a car! (DU14)

Teenagers indicated different reasons for earning money:

I didn't earn too much, couldn't save any. Using earnings to pay rents, eating. Besides, girls love dressing up, it's more difficult for us to save money. (DG8)

I need to find a girlfriend, so I will spend my earnings on clothes in the future. (DGU11)

9.3.3 Instability

Findings in Chapter 8 show that due to the changing BMPG policies on informal settlement, dwellers always felt insecure in Beijing and were often forced to move location. They complained about Beijing government policies that resulted in housing instability:

There were rural villages in Daxing District before, now they are demolished. I have low salary and I have to live further in suburbs now. (DU6)

We did five house moving! God knows what the government officials want. See, we have to move again very soon. (DU16)

Following the government's decision, landlords also tended to make unpredictable changes. Moreover, because informal settlements are is privately owned, landlords can decide to change letting rules themselves:

The shop is not ours we just rent it for business. If the landlord take it back we can't do anything. We will have to leave, at any time. (DU14)

I made myself another rule when having my property to let, no people from Sichuan Province are accepted. I prefer to let my property to university students, or those preparing their postgraduate entrance examinations. My other renters have decent jobs in law firm. I won't let it to decoration workers. All my tenants must have a proper job. (DV4)

Besides, the majority of interviewees also complained about their temporary and unstable jobs, with some jobs having no contract at all, and some contracted only on a daily basis. As

discussed in 9.3.1, the job-housing relationship influenced dweller's housing choice. Therefore, the changeable nature of dweller's informal job (DU10) resulted in their housing instability.

> *My job is daily base, depending on what is available at work, so I have no choice on a stable housing. I wish I could settle down with a boss signing at least 6 months' contract, which could be oral if no signed one.* (DU8)

> *My job is always temporary, and I have been forced to change jobs every few weeks, and nobody bother sign contract with me.* (DU4)

Due to the instability created by government policies, landlords and employers, plus dwellers' primary economic motivation to cut costs, informal settlement became a temporary transition/choice to meet migrants' housing needs in Beijing. So dwellers thought it was not necessary to invest more on housing improvement (DU11) and, further, that feeling wronged or uncomfortable in informal settlements did not matter (DGU9) because they didn't plan to live in Beijing for long:

> *Renting this room is just for temporary decision for cost saving. My daughter run a beauty salon in other district in Beijing. I always go there and help with her. It's not necessary to cost a lot on housing just for me. Besides, I traveled a lot, here and there, I saw a lot, so I didn't spent too much time in this room.*

> *My family is not in Beijing, these (house, clothes etc.) becomes external or superficial. This place (underground basement) is quiet down here, I love to read the bible alone and enjoy life myself after experienced my husband's death. To be honest, I don't feel anywhere in Beijing is like home. Anyway, I don't' live here for long term, it doesn't matter how poor the living condition is.* (DU11)

Dwellers' 'visitor psychology' and the instability of their housing situation also influenced their future plans, both for housing and living. In the short term, interviewees said frequent house moving was upsetting. If an informal settlement was to be demolished sooner or later, they might as well move to another, more stable, place (DU14). Besides rents will only increase, they would only be able to live in outer Beijing in the future:

1400 yuan is even higher for us now! There are cheaper houses, but located outside the fifth ring of Beijing. It will be much cheaper in Tongzhou district. (DU14)

Rents in city centre is unable to afford now, you can only move to the fourth ring or beyond that of Beijing. (DU5)

In the long term, most interviewees planned to go back to their hometown. They talked about the reality that lots of migrant workers cannot afford living in Beijing currently (DG8); they also wouldn't be able to afford any house purchase in the future:

We have been in Beijing for 7 years and we are still far more unable to buy a house. (DU16)

It's too much expensive to live here. you earn your whole life you can't even buy a toilet here, which cost you one million! (DGU12)

Who can buy houses here?! not a chance! Millions of money. (DV3)

DU16 also lost trust in government, given that they didn't offer 'affordable' social housing:

If government will offer social housing, they must be far away from central Beijing and to be honest people like us even couldn't afford it. (DU16)

9.4 Dweller's housing need in Beijing

Based on the walking interview (see Chapter 6 for methodology explanation), this section further develops on the survey material in Chapter 8 and applies visual analysis to reveal dwellers' perceptions of their housing needs in Beijing. Findings will focus on the use of housing, housing conditions, the living environment and community, which all contribute to the development of a picture of the physical manifestation of the informal settlement living experience.

9.4.1 Use of housing

Different dwellers rent a house for different use according to their needs and plans. When asked how informal settlement functioned and was used, lots of them described it as a sleeping place; some used it for mixed purposes, as both a residential and commercial place, or as both residence and workplace; there were also other uses.

Findings show different level of dweller's informal living conditions, including temporary dormitories in urban villages (DG2, *see* photo 9-1), subterranean group-rental dormitories (DGU3, *see* photo 9-2) and subdivided group-rental apartments with kitchens and bathrooms (DG8, *see* photo 9-3). However, they were all described as 'sleeping place only' by dwellers:

> *These are our bungalow dormitory, for sleep only. We have no privacy as all construction workers live in the one big room.* (DG2)

Photo 9-1 Bungalow dormitory in urban village

> *Our employee offered us free accommodation and rent this room for four of us to live. Actually, we only use it for sleep, because it's busy working as the waitress in the restaurant.* (DGU3)

Photo 9-2 Subterranean group-rental dormitory for four employers

I rent a room of 10 m² subdivided by the landlord and located in a tall building. We got kitchen, bathroom to share. But for me, I only use it for sleep as I have lunch and dinner outside near my workplace. I don't have wardrobe so I laid clothes on the sofa (DG8)

Photo 9-3 Subdivided group-rental apartment with kitchen and bathroom

In order for economic competitiveness, some dwellers have made their own way to mix use the rental housing. For example,　DV3 ran her retail business and used the shop for rest (see Photo 9-4); DV2 said his boss rented the restaurant with an extra room used as bedroom for himself (see Photo 9-5); DG6 restructured her tailor shop and slept on the added second layer (see Photo 9-6):

This clothes shop has one room inside, just in case we need a rest during noon break[46]. We also rent another house not very far from here, but with better condition for our children to live. (DV3)

Photo 9-4 Clothes shop with a spare room for rest

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[46] *Noon break* is a tradition for most companies in China, which comes after lunch and allows employers to have around one hour nap time, so as to be energetic prepared for more efficient work in the afternoon.

Door hidden behind hanging clotes

Our boss lives in the restaurant. Did you see the room inside? That's especially for him to live. On one hand, it can save his money. On the other hand, it's safer for the restaurant to have one person keeping an eye on. (DV2)

Photo 9-5 Restaurant with a living room

After the landlord increase the rent and subdivided the rear space into another room, I can only afford this room. Then I put up a board to make the second layer. I sleep in the loft, which hold the bedding set, TV. I also install an air conditioner over there. Though I can only hold still when I'm sitting up there, I feel relaxed in my own world. It's enough for a rest. Besides, I can also do my tailor job downstairs, and cooking as well. If you rent one more room for cooking and sleep, the cost will be much higher. It's saving money like this, which is good, I think. (DG6)

Photo 9-6 Restructured tailor shop with kitchen, 'bedroom'

Kitchen ware behind the cloth under tailor table   Upper loft entrance using ladder
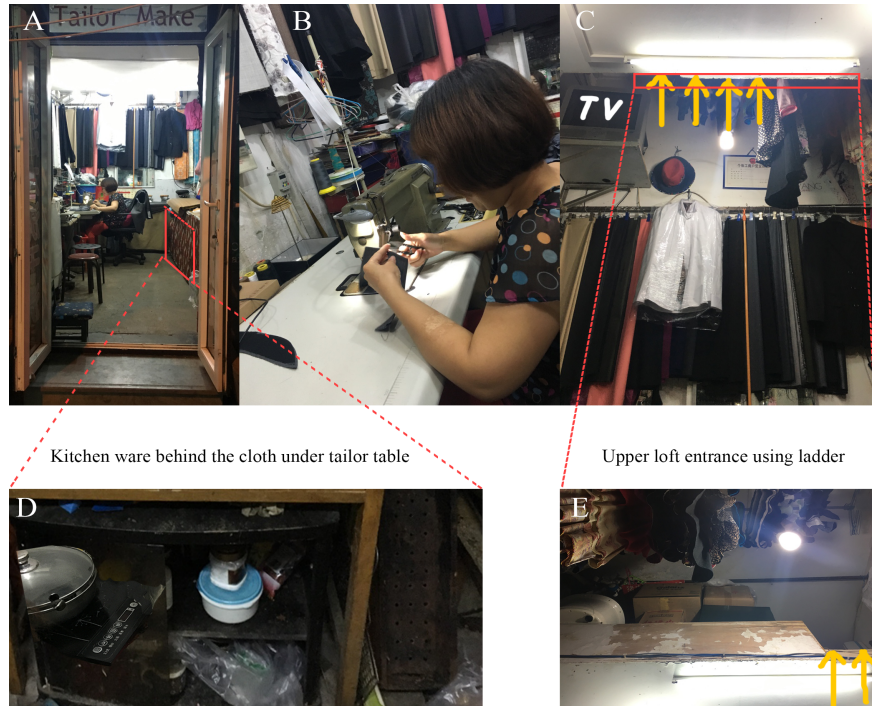
Some of them use workplace for residence. DG4 worked in a beauty salon containing separate beds as shown in Photo 9-7, the beds being used for sleeping after work.

Photo 9-7 Beauty salon beds used for sleeping by employers after work

These dwelling were not only rent for living. One landlord (DV6) reported some manufacturers rented for products storage because of the cheap rent (*see* Photo 9-8). DU3 also suggested to use cleared-out underground basement as storage, hiring people to keep an eye on the goods:

There are several metal containers being used as storage. Owners come with some goods or cargos stored inside, and they are doing business nearby. (DV6)

Photo 9-8 Urban village space used for storage

There are also other functions of informal settlements, not only for personal interests, but more for community benefit, such as a discounted dry cleaning service or the bike garage shown in Photo 9-9:

This is a community convenient service site, providing very very cheap dry cleaning service for residents. The property management company offered me a low rent to run the service. The other section you saw here is for bike garage, not for renting. (DU5)

Photo 9-9 Underground space used for community service/benefit

9.4.2 Housing condition

Chapter 8 outlined a general overview of informal housing condition in Beijing and this section focuses on the details of dwellers' housing and living environments, specifically concentrating on three aspects: housing/room structure; housing facility and utility.

Housing/room structure

Housing and rooms in informal dwellings were often restructured either by the landlord or the renter, so as to accommodate more people. DG8 showed his landlord used bunk beds to hold more dwellers (*see* Photo 9-10); Renters showed how they used boards to separate their single room for more privacy (DGU10, *see* Photo 9-11) or added extra layers for more living space (DG5, *see* Photo 9-12). They also commented on overcrowding:

> *Our house has been subdivided into five separate rooms. But soundproof is really bad. My colleague lives close to our workplace, but in a room of about 20 m^2, fulfilled with 7 or 8 bunk beds, and over ten people use one toilet and kitchen.* (DG8)

Photo 9-10 Subdivided apartment with bunk beds

> *It is a room of around 10 m^2, holding four of us, two families. We used the wood board to separate it into two space for more privacy.* (DGU10)

Photo 9-11 Subdivided room with multi-beds

Some informal settlements in Beijing were located in traditional *Hutong*[47]. They were not big, like what was previously in old Beijing, but arranged in small consecutive units (*see* Photo 9-12). However, findings revealed that the internal housing conditions were undeveloped. Photo 9-13 shows the entrance to DG5's housing (A to G): part of the corridor was occupied by her kitchenware (F), the other side over the corridor was used for hanging and drying clothes (E). She restructured the single room with an added layer for more space for their children to sleep.

Photo 9-12 Informal settlement hidden in Beijing *Hutong*

It's not enough for our family to sleep in this single room. So we made another layer for holding a bed. This is a ladder for children to climb. And my husband and I use the bed downstairs. (DG5)

Photo 9-13 Subdivided room with added layer

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[47] *Hutong* is a type of narrow street or alley formed by lines of quadra-yard (*siheyuan*), traditional courtyard residences.
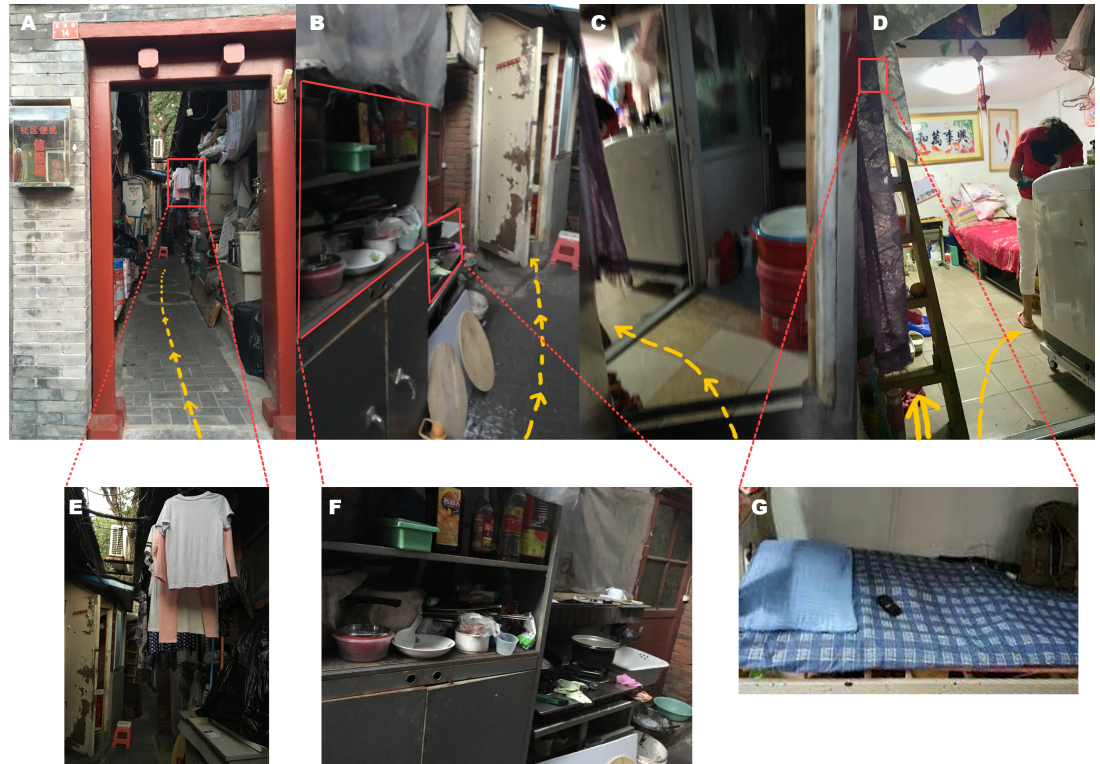
Findings revealed that the structure of underground basements was different, consisting of small single units/cells with limited space for restructuring. However, every single room was fully equipped with dweller's life living there. Photo 9-14 shows the general housing condition in underground basement: one bed plus their clothes:

Photo 9-14 Underground basement consisting of tiny single rooms

As for basic furniture shown from Photo 9-14, such as cookware, wardrobes, tables, sofas, TVs, and fans, possession of these items varied depending on dwellers' available resources and needs. The photo shows one room occupied by four people without any wardrobe. For

example, they can only put shoes under the fire extinguisher, clothes in suitcases or things over the bunk bed (*see* Photo 9-15). Some rooms had no furniture (DGU9, *see* Photo 9-16):

Photo 9-15 Underground unit with limited space for furniture

Nothing provided when we just rent the house. All you see here, the duvet, the bed pack, the table, the cookware, are given by the employer who hired us do housekeeping for them. They mercy us and give what they won't use but workable things to us. (DGU9)

Photo 9-16 Underground unit with no space for furniture

Different from underground basement units, there were upgraded units placed in urban villages. They were called '*Gongyu* (apartment[48])' and each unit performs like an en-suite,

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[48] They call it 'apartment' doesn't mean it's the same as what we normally understand. But it can indicate that they consider it with better condition and higher standard than other housing type. They are building blocks run privately, with separate

equipped with all necessary facilities, such as kitchen, toilet, bathroom (see Photo 9-17). The landlord personally constructed the apartment and lived in it as well:

> *I run the rental business of two buildings. The other building is under construction. And this building now only has four suits left for renting. My partner and I also live here, the very first is at the end of corridor is ours.* (DV9)

> *You could see the en-suite, with boiler, mattress provided, washing machine is in the toilet. There's battery car at the back, taking you 3-4 minutes to the metro station.* (DV9)

Photo 9-17 Upgraded en-suite in urban village

Housing facility

Findings show that daily facilities, such as toilets, shower rooms/bathrooms or kitchens, in informal settlements were not as fully equipped as those in formal housing. They were always shared by an overwhelming number of dwellers or none of these facilities were provided. Extreme situations, such as over fifty dwellers sharing two toilets, certainly occurred in Beijing. This section demonstrates how shower rooms, toilets and kitchens functioned for informal settlement dwellers. And the specific issue of 'windows' in underground basements will be discussed at the end of the section.

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rooms having very basic facility inside. Most of them are newly built within the recent ten years. Therefore, they are decorated and facilitated.

Interviewees indicated that they can tolerate having no dedicated **shower room** in rental housing, but they must have *somewhere* to take a shower. For example, dwellers from one underground basement located in a university went to the university bathhouse to take a shower (DU1). DV2 living in urban village laughed and said:

> *We don't have shower room. We boiled buckets of water and pouring over head ourselves. Find somewhere to cover, prepare a washing up bowl and rain cats and dogs!* (DV2)

As for **toilets**, they were not valued much by informal settlement dwellers, because many informal settlements were not equipped with them, or equipped with very poor ones. For instance, underground basement dwellers went to the property management office to use their toilet (DU8). While group rental (DG5) and urban village dwellers (DV3, 7), often used public toilets, which also raised concerns about health issues. Photo 9-18 shows the state of the public toilet in one urban village and Photo 9-19 is illustrative of the general situation of shared toilet facilities in poorly maintained underground basements:

> *The toilet is all public, you have to walk out house to use it.* You almost catch cold in winter after you go to toilet in midnight. (DG5)*There are so many people in this village, toilets were built every few steps. How can it not be stinking on the street?* How can it be healthy for us! (DV3)

> *The toilets are shallow and they have no money to refurbish them, so it sinks on the street.* We nearly get used to it. (DV7)

Photo 9-18 Public toilet in urban village

Photo 9-19 Shared toilet in underground basement

In terms of eating, **kitchen** facilities were commonly considered as essential for dwellers. However, a group of people, especially from the younger generation, indicated they never needed a kitchen in Beijing (DU11, DG8) because of the variety of street food choices as shown in Photo 9-20 – a cheap and convenient source of food for dwellers after a busy day at work (DU15). DUG17 also expressed he didn't know how to cook:

Normally we don't cook ourselves and go out for eating. (DU11)

We are busy working in the daytime. It's convenient for us to eat out. (DU15)

I eat outside near my workplace, both lunch and dinner. I just go back home for sleep. (DG8)

Photo 9-20 Various cheap street food in Beijing

Some university cleaners or gardeners who lived within campus communities also didn't cook, because they went to University canteen for food at a reasonable price (DU1) (*see* Photo 9-21).

Photo 9-21 University canteen with diversified food choice

However, there were also dwellers who needed to cook for themselves, of whom most were with families. DV5 considered the different eating habits. She cooked because her family didn't get used to Beijing food. Others did not like eating out because of the poor hygiene in local food outlets and preferred to trust their own cooking (DU4). Photo 9-22 shows four restaurants selling cheap food such as soup, BBQ, chicken or noodle, in an obviously dusty surrounding:

Photo 9-22 Restaurants in poor hygiene

Based on their needs, dwellers chose locations that allowed them to cook. However, most of them didn't have a proper 'kitchen' and figured out their own ways to cook outside the door (DG7, DU14, *see* Photot 9-23), in the corridor (DV3, DG6, *see* Photo 9-24) or in their own room (DU12, *see* Photo 9-25). For some underground basements with strict management, the use of an induction cooker is not allowed. In some cases, only basic kitchenware is provided (see DU1's housing, Photo 9-26):

> *We choose this basement because it's allowed to cook here. We have to raise three people in our family. It's expensive to eat out for all my family. Our breakfast shop is too small to cook there. Or I won't choose to live here. I just take these stuff to the door and cook.* (DU14)

Photo 9-23 'Kitchen' outside the door of dweller's room

> *Have a look at what is under this board* (she opened the cupboard, there were pots pans and bowls). *We all cook on the corridor, or it will occupy too much space of our bedroom.* (DU2)

Photo 9-24 'Kitchen' on the corridor of underground basement

Photo 9-25 Cooking inside dweller's room

In addition, for urban village families, they had the choice either to eat out or cook at home. It's convenient in the urban village as there were grocery markets around and the small-scale peasant economy helps to provide food (see next section 9.4.3 for more discussion).

The other issue specific to underground basements was dwellers' concerns about **window** facilities. Rooms with a window are likely to be bigger (DU15), with radiator (DU16) with better daylight and higher in price (DV7) because windows help ventilation (DU15). Otherwise it will be dark, damp and shabby (*see* Photo 9-26). However, it was found that some windows in underground basements were 'fake': Photo 9-27 shows rooms having a window on the wall, but it can't be opened, or it simply opens onto another wall rather than letting day light in. Some windows in semi-basements could ease dwellers' partial concerns about access to light in the way shown in Photo 9-28, which was taken outside a building from the angle overlooking a semi-basement.

Photo 9-26 Underground basement room without window

Photo 9-27 Underground basement room with fake window

Photo 9-28 Semi-basement with window

Because of the lack of windows, dwellers complained about the extreme damp and dark environment, especially on rainy days (DGU11, *see* Photo 9-29). There's no fresh air for the small space and it's humid in summer (DGU9):

> *Ventilation is not good, low fresh air is bad for skin. Besides the humidity is hard to go away. I have been away for a while and came back found that lots of my clothes got mold on them, see? The hairy. So disgusting!* (DU11)

> *The place is without window at all. The humidity makes us all itching A LOT! You can't imagine moisture in our body.* (DGU9)

Photo 9-29 Humidity and damp of underground basement

Utilities

When asked how utilities functioned in their dwellings, interviewees talked about their daily access to water, electricity, heating and air conditioning.

In some cases dwellers were charged by the whole year, which was 300 yuan for one household, no matter how much water they used (DU1). While in one urban village, water was free for the whole family, by virtue of the village's dig access to a well (DV7). Some underground basements had a room especially for water usage (DGU10). Some water rooms also had a washing machine (DGU10) while in some cases washing machines were provided by employers, and dwellers put them inside the room for their own use. (DGU3)

One underground basement gatekeeper was very upset about electricity usage.

> *There's limit for electricity utility. Here's the meter reading controlling your usage strictly. If you use beyond, 'pa' (the sound of switch tripping), all cut off! So we have to stay on a fine line.* (DU8)

There are also dwellers complaining on the electricity price.

> *If the electricity fee can go down a little bit. They charge us triple than other places.* (DU11)

Heating underground is special as it's not really supplying for these informal dwellers. Interviewees showed pipes exposed on the ceilings supplying heating for upstairs, that also warmed their room (*see* Photo 9-30):

Photo 9-30 Heating pipes in underground basement

In summer, it's hot in Beijing so people need air conditioning just like they need heating for winter. However most dwellings have no air conditioner, with fans considered enough for cost saving (DV2). Some underground dwellers also suggested that it's a good thing living underground because it's warm in winter and cool in summer (DU1).

9.4.3 Living environment and community

When asked about their opinions on the living environment and community, dwellers had complaints as well as concessions. Most complaints on living environment came from urban village dwellers talking specifically about the dirty surroundings. DV3 pointed out the rubbish piled on the road as shown in Photo 9-31:

> *How dirty is the surrounding! It's always dirty running a shop like this. You even can't step outside as all the cooking smell comes out on the street cause you choking! Can you also see the road blocked by the never-ending flow of people and traffic?* (DV3)

Photo 9-31 Rubbish piled on the road of urban village and shanty town

Another complaint on urban village dwelling is the safety issue. Dwellers felt upset and dissatisfied when burglary often happened:

> *This morning, that house was burgled, just in several minutes when the renter left to neighbour's house. It happens quite often in urban village, with bungalows easily flipped over. that's why more and more houses were installed with burglarproof door or window.* (DV7)

There was also an individual story complaining about the problems encountered in underground basements when it rains:

> *Every time when it's raining, we're the first to suffer. Flooding down here at this height (30-40cm). We have to take action to protect the bikes as well. I bought big ebucket and use pump to suck water from the basement. It happens three times until now this year! Terrible! Besides, if under bad maintenance, water will shutter out from the pipe connector. It stinks too!* (DU8)

While dwellers complained, they also made compromises over their housing choice depending on the quality of its connection to amenities, in terms of its safety, convenience and community services.

Underground basements usually hired a gatekeeper to ensure 24-hour safety, for garages (DU7) or dwellers living there (DU3). So gatekeepers were the typical means of guaranteeing safety in underground basements. Usually they lived in the first room at the entrance, where notices, information, regulations were put up on the wall (*see* Photo 9-32). The most important regulation for underground basement dwellers was fire precaution, such as evacuation planar graph and fire extinguisher on the corridor demonstrated in Photo 9-33:

> *If I'm not living here, who can guard the garage? There are no rooms down here for renting, only for bikes and motors.* (DU7)

> *I sleep here at night and put my things, such as luggage, clothes, daily-use stuff inside the dark small room. If I'm in the work shift, this room will be left for other colleague and I have to stay in other empty rooms under here.* (DU3)

Photo 9-32 Gatekeeper's room at the entrance of underground basement

Photo 9-33 Fire precaution in underground basement

Some dwellers chose to live close to Tiananmen Square, for its better public security than other places (DG5). Some would pay more rent for a convenient place (DGU3):

> *This location is convenient for everything. Even at late night the transport works. Bus stops are just in the front and the back. Besides, we're close to railway station with walking distance. It's also convenient for us to take train home.* (DU16)

Interviewees were also more satisfied when extra housing amenities were provided in their living community, such as greening (DU12), public sport facilities (DGU9, *see* Photo 9-34) and entertainment activity room (like the common room) (DU6, *see* Photo 9-35):

> *The residential community has lawn and small park.* (DU12)

> *Public sport facilities are over there, on the opposite is supermarket. Furthermore, there is a square that people can work out there.* (DGU9)

Photo 9-34 Public sport facility shared with formal dwellers in the community

There are mahjong and card room, and a small square over there, we could rest in the shade or play chess after dinner. (DU6)

Photo 9-35 Entertainment activity room

9.5 Dweller's socio-economic network in Beijing

In order to make a living in Beijing, dwellers not only used informal settlements as a way to accommodate themselves as discussed above, but also to establish a socio-economic network to form either living or online communities.

9.5.1 Small-scale peasant economy in urban village

Urban villages have their own small-scale peasant economy. Apart from private property letting becoming a main economic activity, different businesses such as restaurants, supermarkets, laundries or hairdressers (shown in Photo 9-36, 9-37) allow dwellers to live self-sufficiently.

Photo 9-36 Urban village overfilled with people, vehicles and signboards

Photo 9-37 Stalls with vegetables/clothes/daily necessities spread out on the ground for sale in urban village

9.5.2 Informal network

When talking about job and house hunting, it was found that dwellers established and traced their own informal networks to get access in Beijing. There were different ways that dwellers found their current house. Some went ask and see if any adverts were saying house available for rent (DG7). Photo 9-39 shows the road ads posted on telegraph pole distributing information on house renting and job hiring. Other dwellers used online ads (DU11), and this will be discussed later in section 9.5.3. As dwellers always prioritised their work, house-hunting followed after employment had been secured (DG8):

> *We first found the current job. Then we just wander on the street in this area and found ads posted on the wall. We have been thinking moving for a while but it's hard to find anywhere suitable (in this central area).* (DU14)

Photo 9-38 Road ads on telegraph pole saying house renting and job hiring

In addition, some migrant dwellers also used their hometown fellowship, friendship or family networks for both job and house hunting:

> *She used to work here last year and introduced us to come this year, so we followed her.* (DGU10)

> *Our hometown fellowship lived here! that's how we found the house.* (DUG17)

> *We've got a friend who's been doing decoration work for a long time. We've been known each other for over ten years and they introduced us to this job and current living* (DU6)

While dwellers tried to find a house, landlords also tried to find tenants. One landlord commented about the ineffectiveness of information dissemination:

> *How does it come with the ineffective communication? You want to find right house but you can't find the right landlord; In my case, it's that we have the right house but can't find the right tenant.* (DV4)

9.5.3 Online network

As discussed previously, access to mobile phones and the internet is a necessity for informal settlement dwellers, because the development of online networks allows integration into Beijing life. However most underground basement have very poor or no mobile signals (DU14; DU16). Sometimes, dwellers could connect by the window but the signal was often too weak, so they often have to go upstairs (DU14, *see* Photo 9-39) or chose a break in worktime to contact their family (DU16). Two interviewees said that only *China Mobile* service (mobile service provider) can be used underground and *China Unicom* won't work

(DU4; DU16). That's why most underground basement dwellers said they must have wifi to connect with family (DU14). Most teenagers only chose houses that provide wifi. Some housing providers offered different speed levels such as 10M and 20M. Most underground dwellings had quite a few wifi hubs (DGU11) and each house had access to its own own wifi (DGU3).

Photo 9-39 Dweller using mobile over ground

Interviewers also shared what they used the internet for, including house hunting (DG8), online course (DV2), online shopping (DGU3) and connection with community (DU10). Photo 9-40 also shows people paying for noodles by using the Wechat wallet (like Apple Pay):

> *I found this house on '58 tong cheng' or 'ganji' by searching 'danjian' (single room). The landlord added me on wechat then, send me house photos and take me do the house review. He said he doesn't want agency to take care of it. Too complicated and will charge me agency fee as well.* (DG8)

> *It's really convenient online now! there's no need to pay for the course (He's a cook now and plan to learn how to manage a restaurant). I just search online there will be loads of information to learn.* (DV2)

> *We often do online shopping. And deliver the order to our restaurant (workplace).* (DGU3)

> *We have a wechat group for this community, including residents living upstairs. They often inform us the organized activity in the group, like day trip around Beijing or traveling. Everyone is welcomed to sign up and join.* (DU10)

Photo 9-40 Making payment through Wechat wallet

9.5.4 Social discrimination and integration

While dwellers were working hard to establish networks for better integration in Beijing, they were also been faced with different forms of social discrimination. Most interviewees mentioned discrimination from local residents and people living in formal housing. One interviewee displayed strong negative feeling towards local neighbours, as she mentioned they were a group of NIMBYism (Not in My Backyard). DU13, DU7 and DU4 commented as follows:

> *No Beijingers would live in such a place like here. Almost all dwellers are outsiders.* (DU13)

> *How can Beijingers live here?! Under the ground? Even they don't say it, I can feel they look down upon us because we live under them.* (DU7)

> *Beijingers are definitely different from us. They are privileged because they can live on letting out their house. They feel secure as they can benefit from the social security system, which we are not guaranteed. They can hardly show their considerable thinking and sympathy on our hard working, therefore they just want to kick us out.* (DU4)

Several participants explained that they were also discriminated against by other informal settlement dwellers, who judged them by reference to the type of informal housing they inhabited. For example, people living in underground basements in the city centre will be

looked down upon by those who live upstairs in group rental (DG7) or in urban villages (DV1):

How I envy they have somewhere to live over the ground. (DU7)

If I can choose, I would prefer home! How sweet and comfortable our home is. Even our child wouldn't like where we live now. As she came here to spend the summer vacation with us. And the first day, she said in disgust that mummy, this place can't be stayed, the toilet is smelling and disgusting, I don't want to take the 'shower' (the shower is her parent holding a bucket of water and pouring over her head). (DU4)

Never ever live underground! They are terrible for your health. I tried to live there, but only several days, I couldn't stand the humidity, poorly ventilated cells underground. I felt difficult to breath. Trust me, 'Treasure your life, stay away from underground basement'! (DG7)

Of course, living here (in urban village) is far more better than underground! It smells there, no light, what's worse, it's too humid to live underground. (DV1)

Group rental dwellers were also discriminated against by dwellers in underground basements (DU15) and urban villages (DV4):

But I don't think they will like group renting, sharing with more people with no privacy? No! Besides, they are strictly prohibited! Because it will be out of control (administrated). (DU15)

All my houses are above the ground with sunshine and well ventilated. Dwellers also don't need to care too much about safety issue. This village is much safer than other villages under developed administration in there years. If you don't believe, you can go to other villages. Whew! All kinds of people mixed together, too messy. Besides, speaking of the underground basement in city centre. It's risky as well! It won't be like living here, I will manage everything they don't even need to worry a single bit. (DV4)

Faced with all the challenges of integrating into urban life, dwellers displayed a complex attachment to Beijing. There is clear evidence to suggest that some informal dwellers, even those living in poor quality of accommodation, were surprisingly satisfied with their living

conditions and enjoyed their Beijing life, despite the fact that they expected eventually to leave Beijing and return to their hometown:

> *However, if you ask me whether I like it here, it's hard to say as it also brings me lots of pain. When I struggled and strived to make a living here, I have been through a lot, bad person, getting hurt etc. As time passed by, I feel reluctant to leave or feel regret to give up. Lots of stories make this feeling. It's like the feeling between husband and wife, time turns it into kinship.* (DV2)

> *How can the capital city be not good? It's the place that loads of people dreaming of, all about goodness of big city. However, there are always gaps between dream and reality. If you are here, it's hard to feel, but if you are not here, you will miss it. I wouldn't go to another new place to start from zero. I get familiar with it and I will stick here.* (DU13)

9.6 Summary

To sum up, the main explanation as to why informal dwellers move into Beijing is economic motivation. There is a big income gap between what dwellers can earn in their hometown and what they can earn in Beijing. The main purpose of choosing one form or other of informal settlement is to save as much money as possible for their families and children. It is surprising to learn that most dwellers think that the informal settlements can meet their basic needs—essentially a place to sleep, which is sufficiently cheap to allow them to save money, but in the context of a functioning social network. Nevertheless, dwellers are also faced with social integration challenges such as discrimination amongst different types of informal settlement inhabitant.

The next chapter will consider the findings from Chapter 7, 8 and 9 in order to provide a thorough discussion about different understandings of Beijing informal settlements.

CHAPTER 10: DISCUSSION

10.1 Introduction

This research aimed to fill the gaps in the knowledge of this topic and rethink the understanding of informal settlements through exploratory mixed methods research in Beijing. The finding chapters were structured by the three phases of fieldwork and reported different participants' perceptions and understandings of informal settlements. To recap briefly, describing what functions informal settlements perform in Beijing is important, as it captures the life and needs of people living in them. This research has not only explored the physical living environment of informal settlement dwellers, it has also attempted to understand this from a policy stance, and has considered perceptions from the dwellers about where they live.

This chapter will extract key themes and arguments from the finding chapters in order to construct an understanding of the five sub research questions: firstly, it starts by exploring the spatial configuration of informal settlements in Beijing; secondly, it identifies the government's approaches to informal settlements from the perceptions of political and academic elites; thirdly and fourthly, it explores the housing and socio-economic needs of informal settlement dwellers; finally, this study considers how Beijing fits with the global conceptual understandings of informal settlements.

10.2 The spatial configuration of informal settlements in Beijing

Given the unique institutional environment in urban Beijing, the spatial distribution patterns of informal settlements differ from trends elsewhere. The following discussion will explain how this relates to the overall spatial development in metropolitan Beijing.

10.2.1 Mapping the location of informal settlements in Beijing

Figure 10-1 shows a map of Beijing on the left and the six main districts in close-up on the right. It can be seen from the right that the very central two districts of Xicheng and Dongcheng are in yellow and the four surrounding urban districts of Chaoyang, Haidian, Fengtai and Shijingshan are in red. The important traffic arteries are depicted by red lines, including the six expressways circling the city centre. People often use the city's six ring-roads as spatial references (Harris & Vorms, 2017). With the rapid development and

expansion of Beijing, the perceived boundaries of urban centre and periphery are also changing. It is widely acknowledged that the third ring-road running through the new central business district (CBD) re-marked the boundary which encircles the centre of Beijing. Lo (2014) also suggested that as Beijing has expanded, so has the fourth ring-road which defined the city centre at the turn of the last century. At the same time, the Beijing periphery has shifted outward from the third to the sixth ring-road (Harris & Vorms, 2017). The 600 sample sites of urban villages are shown as light-grey triangles, underground basements as medium-grey rectangles and group rentals as dark-grey circles.

Figure 10-1 Sampling site locations of informal settlements in Beijing
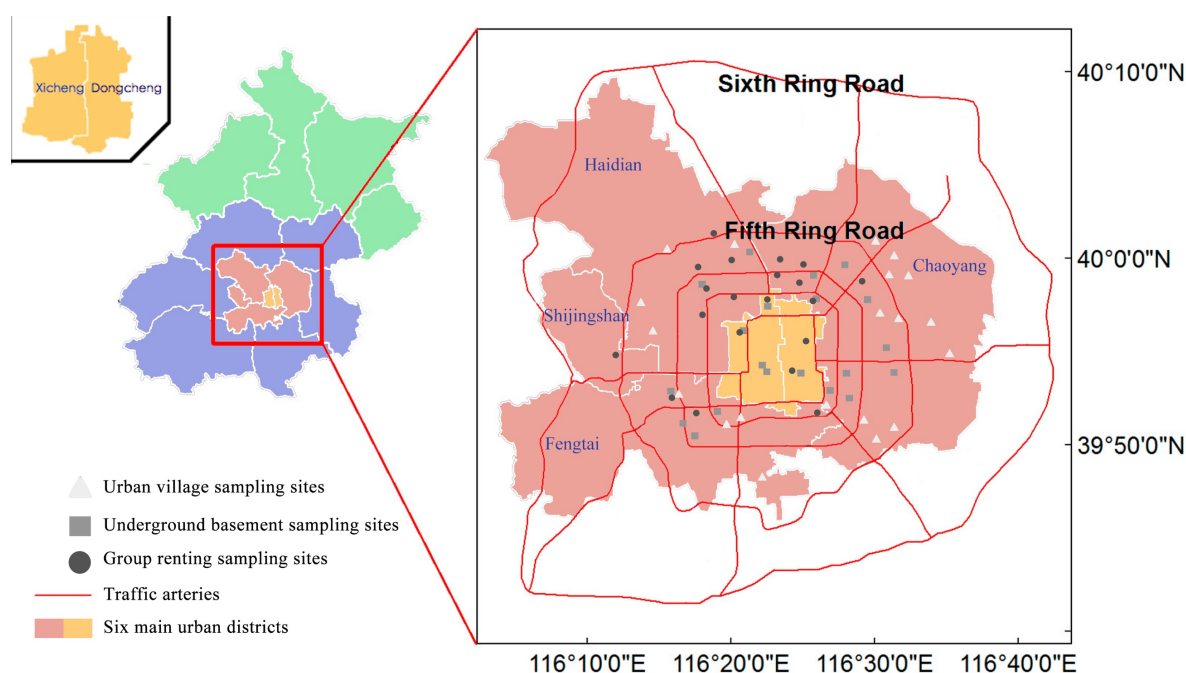
Source: created by the author

In general, informal settlements are well distributed throughout the city: they do not display a strong degree of centrality in a particular district or area of the city. However, the majority of them are found in the Chaoyang and Haidian districts. Each type of informal settlement site also shows its own specific spatial pattern. In the following paragraphs, they will be discussed from the central area to the city suburbs.

It can be seen from the map that central Beijing and the Xicheng and Dongcheng districts are occupied by informal underground basements and group rental sites. The existing literature, however, predominantly considers the peri-urban area as the major area where

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informal development happens (Zhao & Zhang, 2018). This is potentially because previous researchers took urban villages as the major form of informal settlement and ignored new forms which subsequently appeared within the inner city for those who had to stay in the central area for good access to jobs (*see* Chapters 2 and 5). Some dwellers commented that they could not move to an urban village far away from the city centre because of the limitations imposed by distance and employment opportunities. Some of them moved between communities within the same street. This is consistent with what Turner (1990) suggested, that most relocation is relatively near the last place of residence. The elite interviewees also suggested that different types of informal settlement emerged at different times but in a time order (*see* Chapter 7), with one type's decrease balanced by another emerging type, but the intrinsic relationships need to be further explored.

Outside central Beijing to the connecting urban periphery, most group rental sites are concentrated northwest of Beijing, particularly in the Haidian district. One explanation from an elite interviewee is that they are close to Zhongguancun Technical and Business Centre and surrounded by top educational institutions (*see* Chapter 7). The elites mentioned that beyond the fifth ring-road, there are the Changping Science and Technology Park and extensive suburban commercial residential developments (*see* Chapter 7). Hu and Kaplan (2001) suggested that the increasing economic activity on the city outskirts, in the form of high-tech development zones, science parks and offices, would encourage the urban affluent to move there and form wealthy housing areas. On the contrary, the elite interviewees stated that the city outskirts attract a larger number of migrants who form group-rental informal dwellings rather than a wealthy housing area. This links to the data reported in Chapter 8 that different types of informal settlement have a relationship with dwellers' socio-economic status. Another point is that underground basement sites are located further from the central area than group rental sites and are mostly in the Chaoyang district. This might result from the changing policies of underground basement eviction meaning that a number of sites closer to the central area have already been demolished, as the sampling site was changed to a nearby area once it was found that the one selected for sampling was demolished during the fieldwork (*see* Chapter 7).

As can be seen from the map, only a few urban village sites are found in the southern area in the Fengtai and Chaoyang districts on the fourth ring-road. Most of them are located on the fifth ring-road or beyond, encircling the other two types of informal settlement.

Compared with the map of urban village distribution in the BMA in 2007 showing that some central districts within the third ring-road were still occupied by urban villages (*see* Chapter 5), this current research found that the urban villages are changing and are laid out in a more sprawling urban form. In Chapter 9, this is also indicated by dwellers' house-moving trait that they initially sought rental housing primarily in the city centre, but as the policy changed, they moved to peripheral urban villages for residential stability. Moreover, the sprawling direction to the inner suburbs is consistent with the existing literature (Wu *et al.*, 2013; Zhao & Zhang, 2018) describing how the geography of informal settlements, specifically urban villages, has shifted with city centre redevelopment, urban village reconstruction and de-concentration of the migrant population (*see* Chapter 5). In this current study, no urban villages were found in Xicheng, Dongcheng or Shijingshan districts, but one shanty-town was found in Xicheng district during the fieldwork, although its houses were extremely dilapidated and *dingzihu* ('nail' households) had been left out of recent redevelopment because of no concession and the high costs associated with resettlement.

10.2.2 Spatial pattern and implications of informal settlements in Beijing

The overall spatial distribution of informal settlements in Beijing therefore tends to be very dispersed. As the city grows, the structure and development of their spatial patterns have been evolving and expanding outward. Inspired by Wu's (2008) and Chen's (2010) model, this current study found that the spatial pattern of informal settlements in Beijing tended to form four concentric zones: central zone, intermediate zone, periphery zone and satellite town (*see* Figure 10-2). But this does not mean that the centre of the circle coincides exactly with the centre of Beijing and this needs more accurate spatial statistics to define it, which could enlighten future studies.

Figure 10-2 Spatial pattern of informal settlements in Beijing
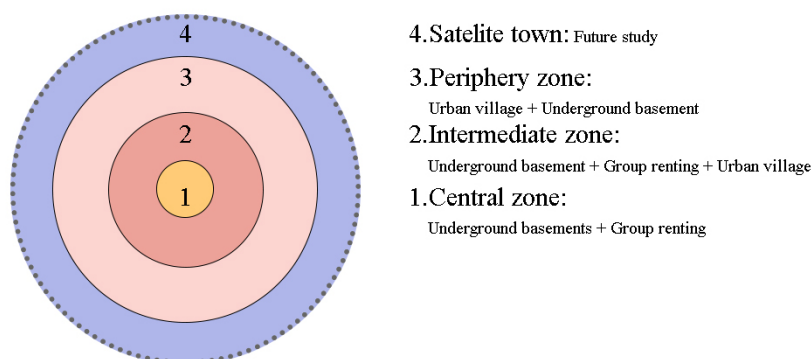
4.Satelite town: Future study

3.Periphery zone:
Urban village + Underground basement

2.Intermediate zone:
Underground basement + Group renting + Urban village

1.Central zone:
Underground basements + Group renting

Source: created by the author. Ideas adapted from Wu's (2008) and Chen's (2010) concentric model.

The central zone within the confines of the fourth ring-road was found to be the largest area of informal settlements containing various types. However, they are spread more around the rim of the zone rather than focused in the core area within the second ring-road. Two types, underground basement and group rental, have equal shares and overwhelmingly occupy this zone rather than urban villages with only a few sites. Then the intermediate zone between the fourth and fifth ring-road holds the remaining (one third) underground basement and group rental sites close to the fourth ring-road and nearly half of the urban village sites on the edge of fifth ring-road. This finding is different from those in the worldwide literature discussed in Chapter 2 that inner-city areas were no longer the major destination for migrants who were attracted to intermediate or peripheral zones and that recent arrivals tended to locate more on the outskirts (UNCHS, 1982; Conway 1985; Gilbert & Varley 1990; Van Lindert 1991; UNSTAT, 2006; Zebardast, 2006; Cabane, 2007). The periphery zone characterised as the *Chengxiang Jiehebu* (urban-rural fringe) is situated outside the fifth ring-road on the edge of Beijing. Informal settlements in this zone perform a complex hybrid of urban and rural functions. According to the elite interviewees, outside the six central districts, there has been substantial housing construction in satellite towns,[49] as well as the informal dwellings emerging in the Changping and Tongzhou districts (*see* Chapter 7). In summary, the case of Beijing illustrates how the shifting of informal settlement distribution has occurred as urban expansion proceeds over time. In the future, however, as the policies change, such as the BMPG moving to Tongzhou, the population control campaign[50] (BMPG, 2017) and new housing construction outside the city centre, the spatial pattern might change to an inverse concentric pattern with dispersed or multi-nuclei. There is evidence from

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[49] The satellite town programme for Beijing was launched primarily in the 1980s for the purpose of urban development and economic growth. In 1984, BMPG started to construct fourteen satellite towns, including Tongzhou and Changping districts. They were also selected as the key regions for development in 2001 so as to share the burden of the city centre and promote economic and social development

[50] This is one mission extracted from the *Beijing Overall Urban Planning (2016-2035)* (The State Council Information Office of the PRC, 2017), planned to cap the population at 23 million from 2020 onwards by demolishing illegal housing and evicting migrants (Benjamin, 2017).

dwellers' future plans (*see* Chapter 9) to suggest that they will move, but this needs more research to fully understand the trends.

According to Wu (2008), the spatial distribution of migrant settlements is often affected by their housing choice in terms of a common set of factors. In this current study, the findings show that this ranks high on the list of informal housing needs and preferences for three main reasons (*see* the survey findings in Chapter 8 and the elites' views in Chapter 7). First, economic viability was the primary factor underlying choices of site, not only in terms of an affordable rent, but also of reducing commuting costs (this also influences the following factors). Second and third, proximity to employment and transportation were high priorities because dwellers could lower commuting costs and obtain better economic opportunities. Besides, as they worked long hours at what were almost inevitably physically exhausting jobs, a residence within walking distance of jobs was essential for them (*see* dwellers' explanations in Chapter 9). Conway (1985) and Gilbert and Varley (1990) agreed on this point of view with respect to new arrivals' initial residence in the city. Even though the expansion and development of the commercial core has led to a rapid rise in land costs within the fifth ring-road, the findings of this current study do not show that they had to move to peripheral zones to avoid higher rents within the city. These locational advantages make the trade-off of living in informal, poor-quality dwellings with insecure tenure and fewer amenities worthwhile for informal settlement dwellers. This is consistent with Kim's (2016) findings on Beijing's subterranean housing market.

10.3 BMPG approaches to informal settlements: perceptions from political and academic elites

Political contexts between countries cause differences in understanding housing informality (Alsayyad, 1993). This study found that Beijing, as China's capital city, representing the nation's political centre, creates the specific political, policy and governance context for the evolution of informal settlements. It also has a great impact on how the elites understand informal settlement in Beijing.

10.3.1 Elites' understanding of informal settlements

It was found that the elite interviewees were not familiar with the term 'informal settlement' and that there is no commonly agreed definition or systematic understanding of informal settlements in China. The elites' own understanding of informal settlements was based on

and affected by what they had encountered either in work experience of government and academia, or in daily life from the media or the neighbourhood. It is well-documented in Chapter 7 that the elite interviewees in general had a negative attitude towards informal settlements, claiming that they violate regulations or laws. On the one hand, this indicates that their understanding is based on the prominence of the formal/informal dichotomy in the development discourse (this notion is influenced by the dualist school on informal sector studies from Lewis (1954), Harris and Todaro (1970) and Fields (1975), *see* Chapter 3). On the other hand, it shows that one way to judge an informal settlement in China is determined by national and local legal systems, which was also agreed by Feng (2007) (*see* Chapter 2).

Based on regulations or laws to prevent specific informal developments issued by the state government, the government has its own criteria for defining informality in terms of legitimacy, construction, infrastructure and dweller, which shows the homogeneity of these criteria which have been applied in worldwide studies (*see* Chapter2). But informal settlements in Beijing demonstrate heterogeneity across types capturing different criteria for informality. First, tenure insecurity does not happen for all types of informal settlement and within each its manifestation is different as well. For example, land ownership and tenure are collectively owned in urban villages, and property rights are confused and complicated for underground basements, but this is not a concern for group-rentals. Insecurity of tenure has led to people living in informal settlements facing harassment by authorities responsible for urban expansion and development (*see* Chapter 9). Second, the violation of construction standards for urban villages changed from spontaneous land occupation and house self-building to being under control because of redevelopment and reconstruction projects in Beijing (*see* Chapters 5 and 7); for underground basements, this is using subterranean spaces not allowed for residential purposes; for group-rental housing it is subdividing and restructuring houses. Third, unlike slums and informal settlements in other countries (UN-Habitat, 2004; *see* Chapter 2), informal settlements in Beijing have the basic infrastructure such as water, sanitation and roads, but rubbish removal is less developed in urban villages which affects both sanitation and the environment. Also, fire safety for underground basement dwellers is always a concern (*see* Chapters 7 and 9). Despite the worldwide criteria, it was found that informal renting is increasingly prevailing in housing informality in Beijing, and that it takes many forms, from a per capita living space of less than 5 m^2 to more than five people sharing a room, and even to tenants who live together but do not know each other (*see* Chapter 7). These forms of informal renting in Beijing are different from other places,

such as occupying backyard shacks in public housing in South Africa, subtenants in squatter housing in the *favelas* of Brazil, and pavement dwellers in India (UN-Habitat, 2004). As both private and public renting becomes the main alternative to home-ownership throughout Beijing (*see* Chapters 4 and 7), the prevalence of informal rental housing is likely to increase in Beijing.

10.3.2 Government attitudes towards informal settlements

Policy responses to informal settlements in Beijing largely focus on informal renting (*see* Chapter 7). Policy trends have shown that the attitude of the government generally changes from permission by allowing them to be let for residence, to restriction by setting specific leasing standards which they must attain, to prohibition by demolition and eviction.

These constant policy changes indicate the dramatically changing features of informal settlements as well as the enforcement of policy and regulations in Beijing. The changing enforcement is rooted in the fact that the Chinese government likes political campaigns (Van, 2006; Yuen, 2014) which have been periodically highly visibly undertaken against informal settlements. Furthermore, the intensity of enforcement is always decided by the central government because the policy-making has always been characterised by strong centralisation and uniformity in China (Walder, 1995). The central government decides on master policies and then charges municipal governments to carry out policy implementation with vigour, scale and persistence during campaigns in order to ensure local compliance with national policy (*see* Chapters 7 and 9). These efforts have succeeded in preventing informal settlements from overwhelming one type of informal rental during specific periods. The misuse of housing resources nevertheless remains pervasive in newly emerging forms. Following these campaigns, loose local government control has failed to carry out effective uniform implementation of the national policy. It is on this point that this current study suggests that defining informal settlements in Beijing is not only determined by norms and procedures, regulations or laws, but also by the extent to which they are enforced. The argument is consistent with the findings of Ashenfelter and Smith (1979), Hardoy and Satterthwaite (1989), Yaniv (2001) and Kanbur (2009) (*see* Chapter 2).

This current study takes the argument a step further, suggesting that the intensity of the enforcement of regulations depends on how officials interpret those policies. It is also the answer to why local governments are unwilling to implement central policies on informal

settlements. As discussed in Chapter 7, the local government has actually held ambiguous attitudes or sometimes conflicting attitudes to informal settlement development in Beijing because it benefits from the process, which has raised a variety of actors for the government's balance and consideration. For example, the 'Flower Villages' discussed in Chapter 7 are full of migrants who work for, live in and bring economic benefits to the village, villagers and local government, such as flower industry income to the village, direct rental income to villagers, new job opportunities, new businesses and tax revenues to the local government. Eager for economic development, the local government tends to relax controls on informal settlement development. This point of view is consistent with Zhao and Zhang's (2016) findings on informal land development. At the same time, some local authorities also consider informal settlement dwellers as contributing both to urban development as they provide elementary work for the city, and to the labour market as they help with labour-cost savings. This local deviance is also to do with 'street-level bureaucrats' who have a certain degree of autonomy – or discretion – in their implementation of policy (Lipsky, 1971; Tummers & Bekkers, 2014). To some extent, the local autonomy in Beijing weakens the rigid central control over local informal settlement activities. As a result, the informal political affiliation among dwellers, contractors/landlords and the local government/township government has sustained informal settlement development. Based on this discussion, this current study identifies how officials interpret policies and street-level bureaucracy as one major mechanisms which influences the enforcement of regulations which in turn foster informal settlements in Beijing. This is different from the findings of other studies which consider urban informality as a spontaneous response to the state's incapacity to satisfy people's basic needs (Roy, 2005; Zhao, 2016).

The central government, however, sees no direct benefits from informal settlements, and the revenue from the informal economy is also unclear. Furthermore, informal settlements generate safety problems and conflict (*see* Chapters 7 and 8), so the central government prefers demolition of and eviction from informal settlements. Forced eviction was once a regular policy in some cities in the past in other countries, but the practice was largely abandoned after political democratisation in the 1980s and 1990s (Fernandes, 2011). Turner (1990) suggested that the physical eradication of slums is not the solution, but rather the improvement of the living conditions there. So why does the Chinese government insist on the current decision for eviction? This current research has found that the ultimate aim of demolition is to achieve the central government's politics of *weiwen* (stability

maintenance),[51] Equally, the government does not want its political achievements and performance to be negatively affected by informal settlement issues because informal environments are generally considered as 'chaotic and that they clash with the aspiration for and the official vision of modern urban aesthetics' (Lin *et al.*, 2015: 391). Nevertheless, new conflicts have arisen from demolition, such as the conflict with *dingzihu* about compensation schemes, and with underground basement landlords about confusing contracts (*see* Chapters 5 and 7). In addition, dwellers clearly desire to maintain their habitats in order to keep remittance flowing to their families—and this form of 'resistance' (page 40) provides a form of opposition to official demolition project. Although this type of opposition is not overtly political, it nevertheless acts as an important factor in the general social and economic landscape of informal settlements. It was also suggested by the elite interviewees that another aim of demolition was as a political campaign to cut the population in Beijing by two million by 2020. This is part of the central government's masterplan *Jing-Jin-Ji Project* to integrate Beijing, Tianjin and Hebei provinces into a single megalopolis to act as the national capital region of China (*see* Chapter 7). To accomplish this project, BMPG has moved out of central Beijing to the satellite town of Tongzhou as the new municipal administrative centre. The government also drives people away from central Beijing by attracting them to satellite towns by creating job opportunities there, which will potentially lead to the restructuring of the labour force and to associated changes in their housing choices (*see* Chapter 7). This current study predicts that their informal settlement choices will probably happen in satellite towns. This is consistent with the spatial pattern change to an inverse concentric pattern with dispersed or multi-nuclei as discussed in section 10.2.2.

The discussion above shows that the state government has shown little interest in addressing the problem of informal settlements because it would restrain the central government's master plan. Indeed, the government's extreme policies of eviction, the designation of people who do low value-added manual jobs as the low-end population, and attacks on independent media which hold public officials to account, have pushed in the opposite directions.

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[51] The 12th Five-Year Plan announced in 2011 put further emphasis on stability by proposing tighter public security, the reduction of mass incidents and the implementation of what is now named 'social governance' (*shehui zhili*), a nationwide programme in which stability plays an underpinning role (Xinhua News Agency, 2011; Fewsmith, 2012).

10.3.3 Formal approaches of welfare expansion, but for whom?

In order to justify the government's decision to demolish informal settlements and/or evict their occupants, the elite interviewees tended to want to distract public attention to the achievements of housing welfare provision. Beijing has established a more innovative public housing system than other places in China. First, the newly established Beijing Public Housing Centre indicates the transformation of local governance to a 'government-oriented, market-based operation' (*zhengfuzhudao shichangyunzuo*) mode in public housing provision. Second, the current policies were designed to encourage a 'public housing to rent rather than to buy' system. The Beijing government now mainly focuses on enlarging the provision of *gongzufang* (public rental housing) and *penggaifang* (renovating old and dilapidated homes for relocation) to meet the housing needs of the low- and middle-income groups. In the future, it will also reinforce the provision of *zizhufang* (owner-occupied commercial housing) for high-income groups, integrated with the other two types so as to meet the multi-layered housing demands. Third, rather than providing direct support, BPHC is also trying a neo-liberal approach of choice and payments by distributing housing subsidies (*see* Chapter 4 for the previous social security housing system in China, and Chapter 7 for a summary of the current public housing provision system in Beijing).

These achievements influenced the elites to the extent that they thought that public housing would be the main solution for the informal settlement issues in the future (*see* Chapter 7). However, it is necessary to see who they are designed for. Although there is research indicating that the function of the *hukou* as a tool of household registration has been declining (Zhao & Howden-Chapman, 2010), this current study has demonstrated that informal settlement dwellers are also faced with *hukou* barriers to apply for public housing (*see* Chapter 9). Even there will be a special long-term mechanism for housing *Xin Beijingren* (new Beijingers), referring to those who have stable employment in Beijing without a Beijing *hukou* or a house in Beijing (BMCHUD, 2017). However, it can be found from all the current pilot housing programmes located in high-tech development zones that the government's intention is to attract and encourage the talent (BMCHUD official website). This indicates that government policy-making is not for those who are the neediest, such as informal settlement dwellers most of whom are migrants. This is also rooted in China's political system where local officials are appointed rather than elected by local citizens. What is clear from this research is an unequal policy outcome in which informal dwellers

are the most vulnerable group who face forced evictions, housing insecurity and uncertain circumstances (*see* Chapters 7 and 9).

10.4 The needs of informal settlement dwellers

10.4.1 Dwellers' housing needs

This research explores the housing needs of informal settlement dwellers by conducting a survey to capture the functions different types of informal settlements perform in Beijing. It found that the drastic changing feature of informal settlements embodies not only in its types (evolving types such as metal-container unit and roof-top dwelling), but also in the pattern within each type (see section 10.2 discussing the changing feature of informal settlements in spatial configuration). Moreover, the complication also manifests in the overlapping relations between different types of informal settlements.

Figure 10-3 compares the tree data of informal settlement types in Beijing, developing from previous three main types to currently one more 'shanty town' dwelling type and three subdivisions under group-rentals including 'multi-bed', 'subdivided' and 'dormitory'. This finding is different from literature considering urban village as the dominant types of informal settlements in China (Wang, Wang, & Wu, 2010, pp. 153–174; Wang et al., 2009; Wu, Zhang, & Webster, 2013; Wu et al., 2013; Zhao, 2013), or underground basements as the main informal development in Beijing (Kim, 2014).

Figure 10-3 Complications of current informal settlement types
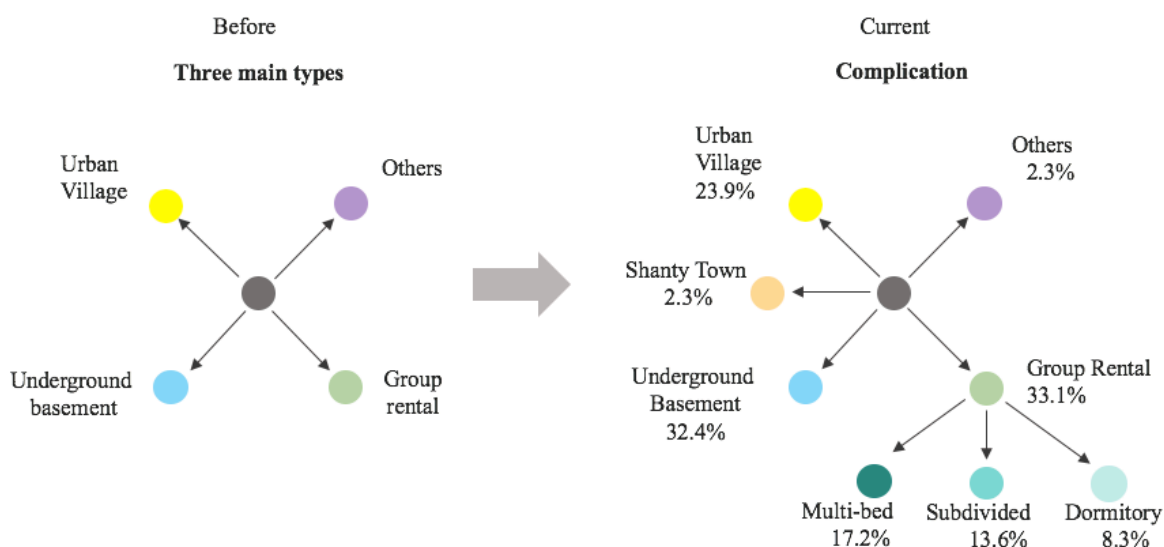
Source: created by the author

The growth pattern also interacted between each type and evolved into the overlapping relations between different types of informal settlement. Figure 10-4 uses the survey data and shows how the pattern grew across types. The shades demonstrate that multi-bed dwelling, subdivided housing and dormitory of group rentals also occurred in urban villages and underground basements, and shanty town also held underground basements. Furthermore, the dweller interview data shows the overlap between multi-bed and dormitory and that it has been found in underground basements. This shows the trend that informal renting is likely to continue increasing in the future, as the alternative to inaccessible home-ownership in urban areas.

Figure 10-4 Venn diagram consisting of overlapping relations of changing informal settlements types
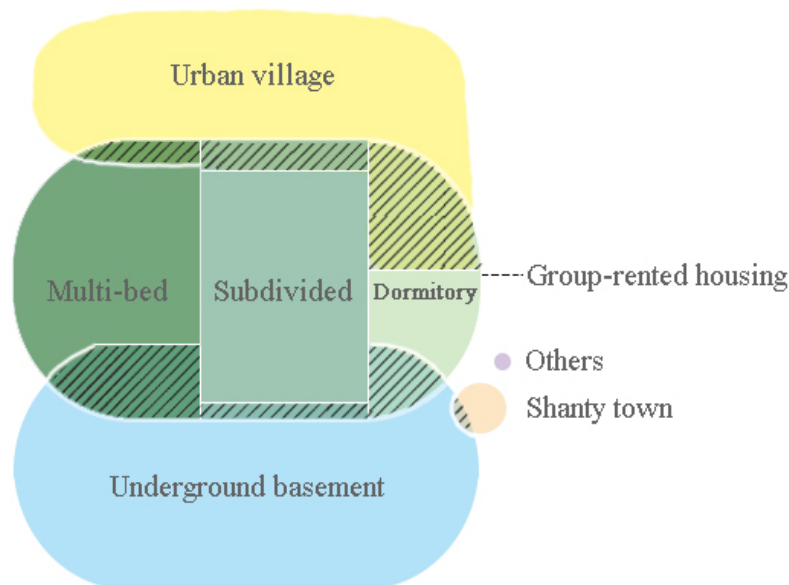
Note:

The shades of slash represent the overlapping between different types;

The size indicates a proximate proportion of each set.

Source: created by the author

The dynamic changing feature of informal settlement types in Beijing and its complicated patterns within each type suggest an endless and unstoppable demand from dwellers. This research then looked into their housing and living to find out what they were satisfied with and why they made the housing choices.

Evidence in Chapter 8 found that dwellers tend to favour smaller housing with an average size from 6 to 10 m^2. Scholars suggested the needed space is determined by the household in function of its size and its income (NBHBP Sweden and MRD Czech Republic, 2005; Clark et al., 2006). The previous result is consistent with Beijing, because the household type found in this research was mostly non-family shared and with size of one people. However, the latter result cannot be proved by Beijing case, as the *housengel coefficient* suggested that most dwellers were not under rent pressure. It turns out that they did not always try to increase available floor area so as to satisfy a fixed limit in terms of cost. There were also a small number of dwellers renting a spacious dwelling in urban village by sacrificing proximity to urban centre. This also indicates that the quality of urban facilities and infrastructure in central areas were the key factors for the success of underground basement and group-rental development, because it connected with kindergarten, schools, shops (see Chapter 8 and 9). So in general, evidence shows that informal settlements in Beijing have basic facilities, such as shops, as well as services such as gas supply, heating, electricity, waste collection and parking. This is far better than informal settlements in other studies characterised as a lack of infrastructural services, utilities and amenities (Llyod 1979:23), or worse in slums with shortage of fresh water, drainage system or reliable energy services (OSI, 2008:46-47).

10.4.2 Dwellers' socio-economic needs

In terms of the usage of 20 informal settlement facilities, this research found that dwellers showed a strong need of broadband or mobile signals despite the fact that they lived in houses with an outside toilet or no toilet. This has been explained in dweller interviews (*see* section 9.5) that they use internet/social media as a tool for communication, for social and professional networking as well as a means of information dissemination. This revolution in information and communication technology (ICT) is of particular significance for migrants and non-migrants who live geographically dispersed but often remain connected through transnational networks (agreed by Mahler, 2001). For example, some dwellers make phone calls every day with left behind children at their hometown; some other dwellers use Wechat group (like Facebook group chat) to organise and share travelling activities. This research found that housing equipped with internet/mobile signal facility is increasingly needed by informal settlement dwellers, not only because they are new communication channels supporting migration networks and integration to local society, but also they actively

transform the nature of these networks and thereby facilitate migration. This was agreed by Dekker and Engbersen (2014) that social networks become essential needs for daily life.

This finding also highlights the 'stickiness' of rural-urban migration. Rather than a one-way flow from the countryside to the city, rural-urban migration of these informal settlement dwellers was marked by long-term circulatory movements, in that they tended to maintain strong linkages with their original home places (see Chapter 8 and 9). This trend is also agreed by Chan (1996), Li and Siu (1997), Ma and Xiang (1998). Besides, the *hukou* barriers to permanent urban settlement, migrants' difficulties and reluctance to 'become urban' other than working for a wage in Beijing, all reinforce the notion that for migrant workers the city is merely a place to work but not to live, and the informal settlement is a place to sleep rather than being home. When the job opportunities are gone, migrants have few options other than to leave the city. This is also the explanation for dwellers' satisfaction over 20 informal settlement facilities, overall, they were satisfied with them. However, it does not mean that they live in a high standard/quality of life.

Chapter 8 also indicated that most dwellers were not in necessary need of a kitchen. And they revealed in Chapter 9 that in order to save money and time, they usually ate out and rarely used a kitchen. The cost of eating out was acceptable for them because they usually buy street food or fast food provided by other migrants. These informal sector activities were also found to meet partial needs of informal settlement dwellers, which influenced informal settlement development. On one hand, the primary goal of informal sector is to create employment and generate income (Xue, 2003; Leng & Ding, 2000), which could meet their economic and financial needs. On the other hand, the low-skilled and flexibility of informal sector created multiplying opportunities attracting the influx of millions of rural Chinese into Beijing, which in return greatly expanded Beijing's informal economy. At the same time, the urban development also needed them to do millions of low-skilled jobs which local Beijing people were unwilling to do, typified by pushcart vending, rubbish removal, babysitting or construction work. Moreover, the newly-rising sector also need large number of labour force, such as food or parcel delivery man and didi (Chinese Uber) driver. Most of these jobs were found to be undertaken by migrant workers (China Labour Bulletin). Several local people in this research said that Beijing needed migrants for these informal jobs to sustain their daily life and they welcome migrants to live in the same community (see Chapter 9). However, other research suggested that local households tend to prefer neighourhoods with an average

income closed to their own (Clark and Onaka, 1983; Clark et al., 2006). Elites also stated that there were complaints from local people on informal settlement dwellers. This suggests a further research on neighbours' perceptions might be necessary.

10.5 Rethinking the concept of informal settlements in Beijing

This research is not intended to come to a conclusive definition of the concept, consistently applied across the whole range of theoretical, empirical and policy analysis. Instead, this research suggests that to extend the understanding of informal settlements to include certain types of settlements characterised as 'not legally regulated'. Against the conventional dichotomy of formal and informal settlements, this research suggests that to define the informal in China is not only determined by norms and procedures, regulations or laws, but also by the extent to which they are enforced. In China, the enforcement of regulations is dynamic and depends on the changing political trends. Besides the intensity of the enforcement of regulations depends on how government officials interpret policies with their own understanding and how the street-level bureaucrats implement the policies within their discretion.

Considering the basic needs of people in urban cities and the enormous income gap between urban and rural China, the informal economy/sector/employment will not disappear and will continue to attract rural labour. This research predicts that there will be an unstoppable trend of informal settlement development in Beijing regardless of different forms. This research suggests that policy responses such as demolition and eviction are palliative. Considering that it is almost impossible for Chinese governments to provide high standards of public rental housing for the majority of rural migrants in Beijing in the short term, Lin et al. (2014b) suggest that the provision of public rental housing could be combined with the incremental upgrading of public facilities, housing, industrial estates, and open spaces in informal settlement communities. Policies that improve the job and social security of migrant workers would also help increase migrant workers' willingness to spend more on housing, which would in turn improve their living conditions. The widespread use of the Internet and social media on smartphones has the potential to promote the integration of rural migrants in Chinese cities, such as establishing skills training websites and digital libraries for migrant workers.

CHAPTER 11: CONCLUSION

11.1 Introduction

Following the discussion in the previous chapter, this chapter aims to draw a final conclusion with a summary of the contribution to knowledge theoretically, empirically and methodologically. The limitations of this research are discussed and, finally, broader implications of this study and possible future studies are provided.

11.2 Contributions to knowledge

11.2.1 Theoretical contributions

This research found no commonly agreed definition or systematic understanding of informal settlements in China. Elite interviewees in general had a negative attitude of informal settlements, claiming that they violated regulations or laws. Their understanding was based on the prominence of the formal/informal dichotomy in the development discourse (this notion is influenced by the dualist school on informal sector studies from Lewis (1954), Harris and Todaro (1970) and Fields (1975), *see* Chapter 3).

It was found that understandings about informal settlements in China are determined by national and local legal systems, but also by the extent to which these systems are enforced. The argument is consistent with the findings of Ashenfelter and Smith (1979), Hardoy and Satterthwaite (1989), Yaniv (2001) and Kanbur (2009). The intensity of the enforcement of regulations depends on how officials interpret those policies. This current study identifies how officials interpret policies alongside the actions of street-level bureaucrats as one major mechanism which influences the enforcement of regulations. This in turn drives informal settlements in Beijing. This is different from the findings of other studies which consider urban informality as a spontaneous response to the state's incapacity to satisfy people's basic needs (Roy, 2005; Zhao, 2016). Theoretically, informal settlement in Beijing is evolving with its changing political and social context and to a great extent it depends on how policy makers and street level bureaucrats interpret the regulations.

11.2.2 Empirical contributions

Despite the large amount of published work on informal settlements in other cities of China,

there is very limited empirical data on Beijing. The existing literature on informal settlements in Beijing has largely focused on segmented cases (types) of informal settlement, for example the urban village study – its evolvement, development and reconstruction (Zheng & Han, 2003; Zhang, 2005), and the underground basement study – its physical characteristics and changing policies towards it (Zhang & Pan, 2009; Li, 2011; Guo, Lv & Yang, 2015). Even so, there is lack of knowledge on what is happening in Beijing currently, how many informal settlements there are there, where they are located and whether there are changing types.

This research has mapped out the spatial configuration of informal settlements in Beijing, and analysed the overall spatial distribution of informal settlements in Beijing, finding a highly dispersed pattern. As the city grows, the structure and development of spatial patterns have been evolving and expanding outward. The spatial pattern of informal settlements in Beijing tends to form four concentric zones: central zone, intermediate zone, periphery zone and satellite town. In general, informal settlements are well distributed throughout the city: they do not display a strong degree of centrality in a particular district or area of the city. This finding is different from those in the worldwide literature discussed in Chapter 2 that inner-city areas were no longer the major destination for migrants who were attracted to intermediate or peripheral zones and that recent arrivals tended to locate more on the outskirts (UNCHS, 1982; Conway 1985; Gilbert & Varley 1990; Van Lindert 1991; UNSTAT, 2006; Zebardast, 2006; Cabane, 2007).

It found that the drastic changing feature of informal settlements embodies not only in its types (evolving types such as metal-container unit and roof-top dwelling), but also in the pattern within each type. They have developed from three previous main types to one more 'shanty town' dwelling type and three subdivisions under group-rentals including 'multi-bed', 'subdivided' and 'dormitory', furthermore there are overlapping relations between different types of informal settlement.

The criteria for defining informality in terms of legitimacy, construction, infrastructure and dweller, shows the homogeneity of these criteria which have been applied in worldwide studies (*see* Chapter2). But informal settlements in Beijing demonstrate heterogeneity across types capturing different criteria for informality. Despite the worldwide criteria, it was found that informal renting is increasingly prevailing in housing informality in Beijing. These forms of informal renting in Beijing are different from other places, such as occupying

backyard shacks in public housing in South Africa, subtenants in squatter housing in the *favelas* of Brazil, and pavement dwellers in India (UN-Habitat, 2004). As both private and public renting becomes the main alternative to home-ownership throughout Beijing (*see* Chapters 4 and 7), the prevalence of informal rental housing is likely to increase in Beijing.

It also found that the housing and socio-economic needs of dwellers indicates that informal settlements are merely a sleeping place rather than home to them and they care more about earning/saving money and social networks. This study also predicts that the unstoppable trend of informal settlements in Beijing due to the enormous income gap between urban and rural China as well as the existence of informal economy.

11.2.3 Methodological contributions

Quantitative methods (such as surveys) have been adopted by several studies (Beijing Academy of Social Science, 2005; Li, 2011) to investigate the physical conditions or socio-economic status of people living in informal settlements. This research further improved on them and included all types of settlement to enable a wider investigation.

Furthermore, no qualitative data have been collected from the perspectives of dwellers who actually live in informal settlements, of neighbours who live around informal settlement dwellers sharing public areas and services with them, or of those elites, both government authorities and academic experts, who understand why policy has developed in the way that it has. Indeed, most existing qualitative evidence has come from media reports which are unlikely to have been conducted in a rigorous manner with attention to reliability and validity. This research filled the gap and conducted 8 elite interviews and 32 dweller interviews, as well as walking interviews with an experience of how are they living there.

When analysing quantitative data, this research applied a conceptual framework, outlining residence attributes and dwellers' characteristics, then using their satisfaction with or views on housing as indicators of how informal settlements perform in meeting their needs and expectations. It is based on the premise that one way to set criteria for measuring the performance of informal settlements could be derived from how dwellers see their residence and the importance which they attach to it (Preiser, 1999; Parker & Mathews, 2001; Davara et al., 2006; Ueltschy et al., 2007; Hanif et al., 2010). Gupta and Chandiwala (2010) stated that evaluating how a residential environment performs was traditionally based on physical attributes as well as users' perspectives, and Vischer (2008) showed that they could provide

their views or feelings about property-in-use based on their experience of and interaction with their housing.

Moreover, it also innovated on previous studies of building performance and satisfaction (Fatoye *et al*., 2009; Gupta & Chandiwala, 2010; Ibem *et al*, 2013), use Relative Performance Index (RPIa) ($RPI_a = \frac{\sum ASSac}{\sum ASSmax}$) to identify dwellers' satisfaction with and evaluation of their housing performance.

11.3 Limitations of this research

Methodological limitations exist in this research in three respects: methodology in general; the chosen research design and the data-collection methods. Firstly, in terms of methodology in general, the quantitative and qualitative research strategies both have their own disadvantages. In quantitative research, like all measures in all sciences, social survey measurement is not error-free. The procedures used to conduct a survey have a major effect on whether the resulting data will describe accurately what they are intended to describe. Also, the limited sample size suggests that the data acquired should be considered with caution.

In qualitative research, the core limitation is that the findings cannot be generalised to wider populations with the same degree of certainty that quantitative analyses can (Atieno, 2009: 17). Furthermore it can generate data in considerable depth, the data collection and analysis process can be time-consuming. In addition, 'qualitative research usually involves relatively small numbers of participants', which means that it is difficult for policy-makers or academic researchers to fully appreciate the significance of the findings (Griffin, 2004: 10). Moreover, the results are more easily influenced by the researcher's personal biases and idiosyncrasies.

Secondly, with respect to the research design in this study, mixed methods are 'inherently neither more nor less valid than specific approaches to research' (Bazeley, 2002: 9). Criticisms of mixed-method research therefore always concern its clarity of purpose, basis and substantive focus. Furthermore, the individual limitations of the two traditional methodologies continue to exist when they are modified into a mixed-method environment.

Thirdly, from the aspect of the data collection methods applied in this study, using official statistics can be problematic. The main purposes of official statistics are to inform

government about its own performance and the development and performance of society. This means that the government may not wish to generate the truth but prefers to tell 'happy stories' (Gillham, 2000). Also, the government authorities might withhold some information from the researcher and the documents which they do provide might not lead in the right direction, which would cause a limitation for mapping out the 'real' big picture of informal settlements in Beijing.

Fourthly, the survey procedures did not yield a random sample because of the respondent-driven sampling technique used, that a small number of 'seed' respondents were selected by convenience sampling or snowball sampling. Given this, although the survey results do indicate the features and nature of overall Beijing's informal settlements overall to some extent, the generalisability from the quantity is in concern.

Fifthly, this research was in collaboration with the research team from Beijing University of Technology. Conducting two research projects with different purposes concurrently was hard to balance and meet both research objectives. However, working alongside the research team was regarded as a time-efficient mode of conducting empirical work.

11.4 Broader implications of this research and suggestions for further study

This thesis has discussed how to understand informal settlements in Beijing. This final section addresses the broader implication of this research, and also outlines that scope for future work in this subject area.

Theoretical implication

It can be seen from the discussion that the lack of systematic understanding/definition of informal settlements seems to lead to analytical and policy problems. Analytically, information is used inconsistently across different conceptualisations all of which are linked only by the use of the common term 'informal', and general terms such as 'urban village' to 'informal settlement'. Policy can also be affected, since disparate situations are all given the same label of 'informal' with a related tendency to apply the same policy instrument to very different situation. So a single label in this case will obscure more than it reveals. It is necessary for future studies to keep them separate unless a compelling case can be found out that aggregation is analytically revealing and provides better policy analysis.

Empirical implications

Typology

The elite interviewees suggested that different types of informal settlement emerged at different times albeit chronologically (*see* Chapter 7), with one type's decrease balanced by another emerging type, however, this needs further exploration. Furthermore, whether the total number of informal settlements in Beijing was increasing or decreasing was unclear; indeed, elite reported seeing other sites of underground basements being developed and at the time of writing people can still find on-line advertisements for spaces to let. This needs further investigation in the future. This changing phenomenon brings new challenges to urban growth management in China's cities. It also brings a good chance for researchers to explore the changes in informal land development in China.

Other districts

The elites mentioned that beyond the fifth ring-road, there are the Changping Science and Technology Park and extensive suburban commercial residential developments (*see* Chapter 7). They also reported seeing people with the accent of Henan Province, living on waste dumps or rag picking and selling. The community where they lived was just on the opposite side of a white-collar workers' apartment community. This might be one of the newly emerging areas for future informal settlements development. This suggests that future study could investigate other districts especially those with a connection to the Science and Technology Park.

Trends in the future

In the future, however, with the policy change, such as the BMPG moving to Tongzhou, the population control campaign (BMPG, 2017) and new housing construction outside the city centre, the spatial pattern might change to an inverse concentric pattern with dispersed or multi-nuclei. There is evidence from dwellers' future plans (*see* Chapter 9) to suggest that they will move. Hu and Kaplan (2001) also suggested that the increasing economic activity on the city outskirts, in the form of high-tech development zones, science parks and offices, would encourage the urban affluent to move there and form wealthy housing areas. This needs more research to fully understand the trends.

Informal economy

As discovered in Chapter 7, the central government does not see direct benefits from informal settlements, and the revenue from the informal economy is also unclear, because of the lack of research and statistics. Shedding light on this through further exploration into informal settlements from economic perspectives is necessary, so as to fully understanding urban informality in Beijing.

Methodological implication

This research has explored elites and dwellers' perceptions, it was also found from fieldwork that several local residents were living in informal settlement by leasing as landlords or managing the property as contractor or living as informal settlement dwellers themselves. Moreover, local residents have shown positive attitudes towards informal dwellers, which is different from political elite's statement that they complained about them. These changing attitudes indicate further research should explore further perspectives of the neighbours/local residents' perspectives.

11.5 Summary

This research has reviewed the interaction of industrialisation, urbanisation, migration and the informal economy alongside institutional factors that have encouraged the development of informal settlements in Beijing, China. This research aimed to answer the research question of 'How should 'informal settlement' be understood in Beijing, China?'

This research approaches the research question using both qualitative and quantitative research methods with rich interview and survey data. It firstly has explored government approaches to informal settlements in Beijing, and identified the spatial distribution of informal settlements in Beijing. Secondly, it has investigated the functions that different types of informal settlements perform in Beijing and profiles the current situation. Last, it has discussed the needs of informal settlement dwellers, and how Beijing fits with the global conceptual understandings of informal settlements.

Although there are some limitations of this research, it has made four key contributions to our understanding of informal settlements in Beijing. First, it maps out the spatial configuration of informal settlements in Beijing and documents diversity in physical

manifestation of informal settlements, therefore it provides an overall picture of informal settlements both geographically and typologically in Beijing. Second, it expands the understanding of informal settlements that to define the informal is not only determined by norms and procedures, regulations or laws, but also by the extent to which they are enforced, and the intensity of the enforcement of regulations depends on how government officials choose to interpret policies.   Third, the housing and socio-economic needs of dwellers that are presented suggest that informal settlements are merely a sleeping place rather than home to them and they care more about earning/saving money and social networks. Finally, based on the research, it is reasonable to predict the unstoppable trend of informal settlements in Beijing due to the enormous income gap between urban and rural China as well as the existence of informal economy.

APPENDIX 1A:

Research Study on Informal Settlements in Beijing

Information Sheet and Consent Form (Elites)

You are being invited to take part in a research study "*Inside the outsiders' informal settlements in Beijing, China*", being conducted by Ling Ge, a Doctoral Researcher in the Department of Social Policy and Social Work at the University of York (UK). The study is dedicated to exploring the overall perspectives of informal settlements in Beijing.

What is the research about?

With rapid urbanization and inner population migration, unprecedented substandard informal settlements arouse a major concern of Beijing government: On one hand, informal settlements make up for the inefficiencies of public land management and provide millions of migrants with affordable and buildable shelter; on the other hand, informal settlements are associated with problematic issues such as inappropriate infrastructure, insecure land tenure, spatial segregation, inequalities and social exclusion.

To inside the outsiders' settlements in Beijing, this study will explore the key research question: how should 'informal settlement' be understood in Beijing? In order to answer it, this study aims to explore the spatial distribution and typology of informal settlements in Beijing; it also intends to investigate different perspectives from elite and dweller level; based on these, it seeks to conclude a more systematic understanding of informal settlements in Beijing and offer policy recommendations by drawing lessons from other countries on how to accommodate informal settlements' dwellers in Beijing, China. The research involves interviews with policy experts, a survey with informal dwellers, and follow up interviews with survey respondents.

This PhD project is self-funded, although the survey is being conducted in collaboration with a with research team from the department of sociology in the Beijing University of Technology. The survey data will be shared by Ling Ge and the research team. No third parties will be allowed to get access to the data.

Why have I been approached?

You have been contacted because I understand that you have been involved to some extent in the relevant governmental departments (grouping them into categories of land, housing, urban planning, civil air defence, legislation and academic) dealing with informal settlement.

You have been identified through examining documentary materials. Your information and contact detail is drawn from publications, news reports and governmental websites.

One key objective of the project is to hear first-hand views of how informal settlements policy change. As such, your participation is completely invaluable and I would be incredibly grateful if you could take time to support the study. The potential benefits for your participation include having the opportunity to share their specialist knowledge, feeling that their views as an expert are valued, and perhaps helping to inform future policy development. However, your participation is entirely voluntary and you can withdraw at any time without giving a reason during fieldwork. (The final date for withdrawal will be June 30th, 2016)

What would taking part involve? (When, where, who, what)

I would like to conduct a face-to-face interview with you at a mutually agreeable time and place. It is anticipated that the interview will last approximately one hour. An interview question guideline will be utilised for the semi-structured interview.

Before the interview starts there will be further opportunity for you to ask questions and raise concerns. If you are still happy to go ahead I will ask you to complete a consent form – a copy of which will be given to you for your own records. With your permission, the interview will be digitally recorded and later transcribed so that I have an accurate record of our conversation.

During the interview you will be asked a number of questions on your direct or indirect involvement with the changing informal settlement policies, your opinions on them and why.

What will happen after the interview?

I will send you a copy of your interview transcript to enable you to check this for accuracy and edit any information that you provided.

All your information will be anonymised and a pseudonym will be applied. All personal information and other information that may link to any identification of you will be either eliminated or changed to unrecognisable letters at the stage of transcribing. You will also be allocated pseudonyms.

However, due to your distinct insights or snowball approach producing the relatively small sample size, the situation of "cascade of identification" could potentially occur. As such, it is important to be aware that absolute anonymity cannot be guaranteed in relation to this study even if you request a pseudonym.

How will my taking part be kept confidential?

The research has been approved by the Social Policy and Social Work Departmental Ethics Committee at the University of York. Privacy and confidentiality would be maintained: All information that is collected during the study will be kept confidential in line with the Data Protection Act (1998). They will not be revealed to people outside the research, unless they choose to be identified. The entire audio recordings, fieldwork notes, written transcripts, consent form and anonymised data will be stored securely at the University of York and will only be accessible to myself and my supervisor.

If you tell me that you or someone else is at risk of harm then I will take advice from my supervisor and may have to tell someone about it. This would be discussed with you first.

What will happen to the results of the study?

The data collected will be analysed and used in my PhD Thesis and associated research outputs such as articles, conference papers and web pages.

In the cases when I leave the University of York after the study, paper-based data and key will be kept in the department of social policy and social work and Electronic data will be kept in a password locked folder in my password locked personal computer. If these items cannot be transferred by secure means or I do not have access to a secure storage system after leaving the university, then I will make arrangements for my supervisor to take responsibility for them until they are due to be destroyed. Any published research outputs will be freely accessible by the participants as well as the public, through the appropriate authorities (the University of York, or other journal links).

Consent forms will be kept for 10 years following my graduation. Once 10 years has passed these items will be destroyed via confidential waste. While other data will be destroyed within one year after graduation.

What if I have further questions, or if something goes wrong? Please contact:

Ling Ge (PhD)	Sabrina Chai (Supervisor)	Carolyn Snell (Supervisor)
Research Centre for Social Sciences	Social Policy and Social Work	Social Policy and Social Work
University of York Heslington York YO10 5ZF	University of York Heslington York YO10 5DD	University of York Heslington York YO10 5DD
Email: lg760@york.ac.uk	Email: sabrina.chai@york.ac.uk	Email: carolyn.snell@york.ac.uk
Mobile: +8613512372847	Tel: +44 01904321204	Tel: +44 01904321249

Thank you for taking the time to read this information and considering for taking part in this research. Please fill out the *Consent Form* below:

Please tick the appropriate boxes	Yes	No
I agree to take part in the research.		
I have seen the information sheet and had time to consider it.		
I understand what the research is for and what taking part will involve.		
I have had a chance to ask questions and I am happy with the answers.		
I know I do not have to take part in this research if I do not want to and I can stop the interview at any time. However after the fieldwork finish, I can only withdraw from the study within one week.		
I am happy for the interview to be digitally recorded so that a written transcript can be produced.		
I understand that I can receive a copy of the interview transcript if needed and will be given the opportunity to edit any information that I provide.		
I understand that pseudonyms or unrecognisable letters will be applied in the researcher's PhD thesis and associated research outputs such as articles, conference papers and web pages.		
I understand that the researcher may need to speak to someone else if I say something that makes her think that I or someone else is at risk of harm, but this would be discussed with me first.		
I understand that the information I give to the researcher will be anonymised and treated in strict confidence according to the Data Protection Act.		
I understand that the research outputs will include my views along with the views of other people, and may quote some of my words, but I will not be identified by name.		
I understand that even if I am allocated a pseudonym my absolute anonymity cannot be guaranteed.		
Please provide your personal information		
Name:	Signature:	
Email:	Phone number:	
Date:		

APPENDIX 1B:

Research Study on Informal Settlements in Beijing

Information Sheet and Consent Form (Dweller interview)

You are being invited to take part in a research study "*Inside the outsiders' informal settlements in Beijing, China*", being conducted by Ling Ge, a Doctoral Researcher in the Department of Social Policy and Social Work at the University of York (UK).

What is the research about?

I am doing a research study to find out what is the overall situation of informal settlements in current Beijing, including where they are, what type of them exist, who live in them and different groups of people's opinions on informal settlements. This will help us to seek a more systematic understanding of informal settlements in Beijing and to offer better policy recommendation on solving informal settlement issues. The research involves interviews with policy experts, a survey with informal dwellers, and follows up interviews with survey respondents. This PhD project is self-funded, although the survey is being conducted in collaboration with a with research team from the department of sociology in the Beijing University of Technology. Only the survey data will be shared by Ling Ge and the research team. No third parties will be allowed to get access to the data.

Why have I been approached?

You have been contacted because you live in informal settlement. You express your willingness to be contacted for further in-depth interview. I would like to hear your views about your experience, feeling and attitude. By taking part in this research, you will receive five pound (or equivalent value) in return; you will also be helping to raise public awareness and make potential contribution to housing problems of informal settlement dwellers in the future.

What would taking part involve? (When, where, who, what)

I would like to conduct a face-to-face interview with you at a mutually agreeable time and place. The interview will last around one hour. An interview question guideline will be utilised for the semi-structured interview. Before the interview starts you are free to ask questions and raise concerns. If you are still happy to go ahead I will ask you to complete a consent form – a copy of which will be given to you upon request for your own records. With your permission, the interview will be digitally recorded and later transcribed so that I

have an accurate record of our conversation. With your permission, limited (no more than five photos of the following section-room, kitchen, bathroom, toilet, laundry space-will be taken) and representative photos of your living environment will be taken. Faces or letters of identity recognition will try to be excluded in photos. If included, image processing will be applied to mosaic it.

During the interview you will be asked a number of questions on your experience living in informal settlement, your opinions and why. You should also be aware that I may need to speak to someone else if you say something that makes me think that you or someone else is at risk of harm, but this would be discussed with you first. However, you are entirely voluntary to participate and you can quit at any time without giving a reason during fieldwork. (The final date for withdrawal will be June 30th, 2016)

What will happen to my information?

I will send you a copy of interview transcript so you can check this for accuracy and edit any information that you provided. Your personal details and everything you tell me will remain strictly confidential in line with the Data Protection Act (1998) and will not be shared with anyone outside the research.

What will happen to the results of the study?

The data will be analysed and used in my PhD Thesis and associated research outputs such as articles, conference papers and web pages. Any published research outputs will be accessible by the public, through the appropriate authorities (the University of York, or other journal links). If you want to know the research findings, please contact me. As you request, I could send you any published research outputs, any part of associated with your participation, or a summary of research findings, in either English or Chinese, to an address of your choice. The summary will not contain any participant's detail of your identity or be associated with your personal information.

What if I have further questions, or if something goes wrong? Please contact:

Ling Ge (PhD)	Sabrina Chai (Supervisor)	Carolyn Snell (Supervisor)
Research Centre for Social Sciences	Social Policy and Social Work	Social Policy and Social Work
University of York Heslington York YO10 5ZF	University of York Heslington York YO10 5DD	University of York Heslington York YO10 5DD

Email: lg760@york.ac.uk	Email: sabrina.chai@york.ac.uk	Email: carolyn.snell@york.ac.uk
Mobile: +8613512372847	Tel: +44 01904321204	Tel: +44 01904321249

Thank you for taking the time to read this information and considering for taking part in this research. Please fill out the *Consent Form* below:

Please tick the appropriate boxes	Yes	No
I agree to take part in the research.		
I have seen the information sheet and had time to consider it.		
I understand what the research is for and what taking part will involve.		
I have had a chance to ask questions and I am happy with the answers.		
I know I do not have to take part in this research if I do not want to and I can stop the interview at any time. However after the fieldwork finish, I can only withdraw from the study within one week.		
I am happy for the interview to be digitally recorded so that a written transcript can be produced.		
I understand that I can receive a copy of the interview transcript if needed and will be given the opportunity to edit any information that I provide.		
I understand that pseudonyms or unrecognisable letters will be applied in the researcher's PhD thesis and associated research outputs such as articles, conference papers and web pages.		
I understand that the information I give to the researcher will be anonymised and treated in strict confidence according to the Data Protection Act.		
I understand that the research outputs will include my views along with the views of other people, and may quote some of my words, but I will not be identified by name.		
I understand that even if I am allocated a pseudonym my absolute anonymity cannot be guaranteed.		
Please provide your personal information		
Name:	Signature:	
Email:	Phone number:	
Date:		

APPENDIX 2A:

Research Study on Informal Settlements in Beijing

Interview Question Guideline (Elites)

Administration (5 minutes)
Thank the interviewee for taking part in the research
Brief introduction of interviewer and explain the purpose of the research
Reassure anonymity and confidentiality.
Any questions or concerns?
Complete an informed consent form

Initiating interviews (5 minutes)
Q1. Would you mind giving a brief overview of your current role?
Q2. What is your role in relation to the development/implementation of any informal settlement policy (specify which policy)?

Conducting interviews (40 minutes)

Main questions	Additional questions	Clarifying questions
Q3. Can you tell me about the political situation regarding the policy (based on answer to Q2) at that time?	o Do you know what motivated the start of the policy? o What is the scope of the policy? o Which area are most affected by the policy, when does it actually occur and what groups of people are mainly involved? o How was the policy development/ implementation going? o Are there any changes in the situation over the past few years? o What do you think were the key problems of the policy at that time? o How do you explain the problem?	Can you expand a little on this? Can you tell me anything else? Can you give me some examples?
Q4. Can you tell me more about informal settlements in Beijing?	o How did you learn about the situation? o Is there any official definition of informal settlements in Beijing or in China? o What kind of informal settlements appear in Beijing? o Under what circumstances does the problem arise? o Why is it considered a problem/concern? o What is the current situation of informal settlements in Beijing right now?	
Q5. Can you tell me about your understanding of informal settlements?	o In your experience, how do you define informal settlements? Why? o Do you think informal settlements will be problematic for Beijing in the future? o If yes, what are the main problems that you have witnessed or heard about?	

		o If not, what solution/policy recommendation do you think will work for Beijing?	

Closing interviews (5 minutes)
Q6. In your opinion, how satisfied are informal settlement dwellers with the governmental solutions?
Q7. What lessons did you learn when developing/ implementing informal settlements policy?
Q8. Would you like to clarify or expand on anything that you have said?
Q9. Is there anything else that you would like to cove before the interview concludes?

Admission (5 minutes)
Ask the interviewee to nominate prospective interviewees and seek recommendations concerning approach/access. (name & organisation; contact details; advice)
Request documentary materials.
Appreciate interviewee's time and contribution.

APPENDIX 2B:

Research Study on Informal Settlements in Beijing

Interview Question Guideline (Dweller)

Administration (5 minutes)
Thank the interviewee for taking part in the research
Brief introduction of interviewer and explain the purpose of the research
Reassure anonymity and confidentiality.
Walking interview after semi-structured interview.
Any questions or concerns?
Complete an informed consent form

Initiating interviews (5 minutes)
Q1. Would you mind giving a brief introduction of yourself? (hometown, job, family member)
Q2. How long have you lived in this type of informal settlement?

Conducting interviews (30 minutes)

Main questions	Additional questions	Clarifying questions
Q3. Can you tell me about where you lived before?	o Where did you live and work? o How long have you lived in the previous place o How was the living condition of your previous settlement? o Can you talk about why did you migrate to Beijing?	
Q4. Can you tell me more about your current living?	o How do you find your life in Beijing? Any challenges? o How did you learn about informal settlement in Beijing? o Why did you choose to live in informal settlement? o Are you satisfied with the current housing? (living condition, service, facility) o What concerns do you have on living in informal settlements? Why is it considered a concern/problem? o Have you received any support from your company/government/third sector for your living? Can you describe in detail about it? o If yes, are you satisfied with the support? o If no, do you have any ideas/requirement for improving the informal settlement situation?	Can you expand a little on this? Can you tell me anything else? Can you give me some examples?
Q5. Can you tell me about your	o How long will you plan to live here? o Where/what are you going to/do after living here?	

future plan for living/housing?	o Why will you make this decision?	
	o In your experience, how do you define informal settlements? Why?	
	o Do you have any comments on the future of informal settlements in Beijing?	

Q6. In your opinion, will you recommend informal settlement to your friends? Why?

Q7. Would you like to clarify or expand on anything that you have said?

Q8. Is there anything else that you would like to cove before the interview concludes?

Walking interview and administration (15 minutes)

Ask the interviewee to show around where they live (room, kitchen, bathroom, toilet, laundry room).

Photography, voice-record, experience their daily living environment.

Pay for their participation

Appreciate interviewee's time and contribution.

Questionnaire: Migrants' access to housing and social inclusion in mega city

APPENDIX 3:

Questionnaire: Migrants' access to housing and social inclusion in mega city

Demographics of household composition

1. Type of household registration (Hukou):
☐Beijing agricultural ☐Beijing non-agricultural ☐Non-Beijing agricultural ☐Non-Beijing non-agricultural
☐Other__

2. Gender: ☐Male ☐ female **3. Age:** **4. Hukou registered place:** Province___ City___

5. City level: ☐municipality or provincial ☐prefecture-level ☐county-level ☐town let ☐village

6. Marital status: ☐Married ☐Unmarried (single) ☐Unmarried (couple) ☐ Divorced ☐widow ☐ remarried

7. Educational Level: ☐ Primary school or below ☐Junior high school ☐Senior high school ☐Technical secondary school ☐College ☐Undergraduate ☐postgraduate ☐Other_____

Employment and Working Conditions

8. What is the type of your work unit?
A. Government Institution B. State enterprise C. Collective enterprise D. Private enterprise E. Self-employed F. Sino-foreign joint venture G. Others____

9. What type of work do you do?
A. Government/party/institution staff B. Manager C. Normal civil servant D. Professional and technician E. Construction worker F. Manufacture worker G. Service worker (catering/ housekeeping/sanitation worker/security/ /real estate etc.) H. Self-employed I. Freelancer J. Unemployed K. Other_____

10. What type of labour contract did you sign with your work unit?
A. Open-ended B. Fixed term C. One-off D. probation period E. No contract F. Unknown G. Other_____

11. What is the welfare offered by your work unit (multiple choices)?
A. Pension B. Health care C. Unemployment insurance D. work-related injury insurance E. Maternity insurance F. Housing provident fund G. None H. Other_____

12. How long have you been working in Beijing? _____month

13. How many times have you changed your job when you are in Beijing? _____times

14. Are you having more than one job at the same time: A. Yes B. No

15. What are your average working hours per week? _____hours

16 What is your annual salary (RMB yuan)?
A. <12k B. 12-24k C. 24-36k D. 36-48k E. 48-60k F. 60-72k G. 72-84k H. 84-96k I. 96-108k J. 108-120k K. >120k

17. Are you paid in any other way than by money (For example: room and board, etc.)? A. Yes B. No

18. What is your personal annual income? _____yuan/year (including salary, bonus or other earning etc.)

19. What is your family annual income? _____ yuan/year (including salary, operating or property income)

20. What is your family monthly expenditure? _____yuan/month

Housing and living
General housing condition

21. What is your housing nature?
A. Workplace rented for residential B. Private house rented C. Low-rent housing provided by government D. Public housing provided by government E. Free accommodation provided by work unit or employer (excluding workplace) F. Policy-related housing bought G. Commercial housing bought H. Temporary place stayed in I. Workplace used for residential J. Self-built housing K. Other informal settlements

22. What kind of community do you live now? A. Commercial housing community B. Policy-related social housing community C. Work unit family community D. Factory community E. Urban village F. Shanty town G. Rural community H. Others_____

23. What type of housing do you live in now?
A. Formal complete set of housing B. Dormitory C. Urban village D. Shanty town E. Underground basement F. Subdivided housing G. Multi-bed group renting H. Others_____

24. If you are not allowed to live in your current house, which type of housing you would choose to move in?
A. Formal complete set of housing B. Urban village C. Shanty town D. Underground basement E Subdivided housing F. Multi-bed group renting G. Others_____

25. What is your family housing area size per person in Beijing now? _____ m²;

26. What do you think of/expect the sufficient housing size for family use?
A.<10m² B. 10 m²-30m² C. 30 m²-50 m² D. 50-70 m² E. 70-90 m² F. 90-110 m² G. >110 m²

27. What is your family housing area size in your household registered place? _____m²	**28. Do you have rural homestead in your household registered place?** A. Yes B. No

29. What is your monthly rent? _____ yuan

30. What is the maxim monthly rent you could afford (RMB yuan)?
A. <500 B. 500-1000 C. 1000-1500 D. 1500-2000 E. 2000-2500 F. 2500-3000 G. >3000

31. How long have you been living in your current housing? _____month
32. How long will you plan to live in your current housing? _____month

33. How many times of housing moving have you done in Beijing? _____times

34. How did you find your current housing?
A. Real estate agency B. Local friend or colleague C. Local family/relative D. Roadside ad E. Hometown fellow F. Migrant friend G. Classmate H. Online ad I. Other media ad J. Self-finding K. Other_____

35. Who do you live with? (multiple choice)
A. Alone B. Spouse C. Children D. Parents E. Couple F. Workmate G. Friend H. Hometown fellow I. Stranger

36. How many persons of your family lived full time in the housing? (including yourself): _____persons

37. How do you go to work everyday? A. Walk B. By bike C. By bus D. By subway E. By taxi F. Drive G. Other _____
38. How long does it take you from home to workplace?
A. <15min B. 15-30min C. 30-45min D. 45-60min E. 60-75min F. 75-90min G. >90min

39. What are the primary reasons for you to choose the current housing? (limited to two choices, exceed two will be considered invalid)
A. Housing size B. Room numbers C. Rent D. Facility and decoration E. Close to workplace F. Convenience G. Surrounding facilities H. Safety I. Convenient for children and the old J. Neighbours are friends or familiar

40. What do you think is the most challenging or unsatisfied aspect of your current living?
A. High rent B. Crowed living space C. Poor living environment D. Incomplete housing facility E. Far from workplace F. Inconvenient transportation G. Frequent housing moving H. Lack of house renting ads I. Other

Housing facilities

Facility	Usage	Mark based on your satisfaction
41. Access security control	A. Yes B. No	1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied
42. Lift	A. Yes B. No	1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied
43. Window	A. Yes B. No	1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied
44. Corridor	1). CCTV: A. Yes B. No 2). Lighting: A. Yes B. No 3). Fire protection equipment: A. Yes B. No 4). Passage clear: A. Yes B. No	1). 1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied 2). 1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied 3). 1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied 4). 1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied
45. Toilet	A. independently use B. share C. No	1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied
46. Shower facility	A. independently use B. share C. No	1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied
47. Kitchen	A. independently use B. share C. No	1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied
48. Laundry	A. independently use B. share C. No	1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied
49. Water	A. independently use B. share C. No	1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied

50. Gas	A. independently use B. share C. No	1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied
51. Heating	A. independently use B. share C. No	1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied
52. TV	A. independently use B. share C. No	1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied
53. Broadband	A. independently use B. share C. No	1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied
54. Mobile signal	A. independently use B. share C. No	1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied
55. Table/chair	A. independently use B. share C. No	1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied
56. Wardrobe	A. independently use B. share C. No	1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied
57. Air conditioner	A. independently use B. share C. No	1. Very unsatisfied 2. Unsatisfied 3. So-so 4. Satisfied 5. Very satisfied
58. Other	List here:	N/A

59. How satisfied are you with the overall housing condition? A. Very unsatisfied B. Unsatisfied C. So-so D. Satisfied E. Very satisfied F. Indifferent

60. To meet basic residential needs, what other housing facility do you think should be offered? List here: _____

Housing service

61. Do you have a gatekeeper: A. Yes   B. No

62. If yes, what's his role? (multiple choice): A. Security guard B. Access keeper C. Maintenance checker D. Information register

63. How often is the garbage cleaning?
A. Daily B. Weekly C. Fortnightly D. Monthly E. Seasonally F. No service

64. Is there any public entertaining area? A. Yes B. No | **65. Is there any greening/planting?** A. Yes B. No

66. Do you have regular maintenance check? A. Yes   B. No
67. Please list what kind of maintenance check service: _____

68. Who is providing these housing service?
A. Property management company B. Real estate agency C. Landlord D. Government E. Work unit F. Community self-governance committee G. *Zhunwuye* H. Nobody I. Unclear

69. Have you applied for any housing subsidy? A. Yes B. No   **70. If yes, please list**:_____

71. What kind of housing support would you expect the government provide?
A. Policy-related commodity housing B. Public rental housing C. Housing subsidy D. Governance the rental market E. Control housing rents F. Did not expect (as policy-related housing has limitation) G. Never thought about it

72. How satisfied are you with the current housing service? A. Very unsatisfied B. Unsatisfied C. So-so D. Satisfied E. Very satisfied F. Indifferent
73. To meet basic residential needs, what other housing service do you think should be offered? List here: _____

Urban life

74. How long will you plan to stay in Beijing? _____ month

75. Why did you choose to move to Beijing?
A. More opportunity to earn more money B. Skill learning and eye opening   C. Lots of relatives and friends could look after each other D. Family is here E. Better education for children F. Friendly local Beijingers G. Follow friends/family's suggestions H. Close to hometown and convenient I. Other

76. Have you participated in the following activities? (multiple choices)
A. Election (village/neighbourhood committee/trade union) B. Appraising activity   C. Community neighbourbood committee activity D. Community entertainment   E. Social charitable activity   F. Work unit/colleague activity   G. Classmates gathering   H. Hometown fellowship activity   I. Party/league activity   J. Off-line activity   K. Friends gathering L. Never M. Other_____

77. Which one of the above activities would you suggest your community to host? ___。 **Or you could write your own suggestion rather than the choices:** _____

78. Which language do you usually speak in your daily life? A. Mandarin B. Hometown dialect C. Depends D. Other_

79. Who do you often be acquainted with when you are off work? (Multiple choices)
A. Local relative B. Migrant worker (relative) C. Migrant worker (hometown fellow) D. Local colleague E. Non-local colleague F. local classmate/friend (excluding colleague) G. Rarely be acquainted H. Neighbourhood committee/landlord I. Neighbours J. Online friend K. Other_____

80. Have you deal with your neighbours?   A. Often B. Sometimes C. Rarely D. Never
81. Who are your neighbours?
A. Local resident B. Non-local C. half-half D. Unclear (mobility) E. Unclear (no acquaintance with them)

82. How many local (Beijing) friends do you have? A. 0 B. 1-2 C. 3-4 D. 5-6 E. 7-8 F. 9-10 G. >10
83. How often do you deal with local resident? A. Never B. Rarely C. Sometimes D. Often

84. Do you think you are different from local resident in the following aspects? (multiple choice)
A. Eating habit B. Dress/clothes C. Hygienic habit D. Festive customs E. Human communication F. Concept and ideas G. Other_____

85. How do you usually take action to the difference between local resident and you?
A. Try hard to bridge the gap B. Want to bridge the gap but doesn't know how to do C. Want to bridge the gap but doesn't have time and effort D. Don't care

86. Do you agree with the following saying?
1). I'd like to be neighbour with local resident:	A Totally disagree B Disagree C Agree D Totally agree
2). I'd like to make friend with local resident:	A Totally disagree B Disagree C Agree D Totally agree
3). I'd like to be part of the community/work unit:	A Totally disagree B Disagree C Agree D Totally agree
4). I have sense of belonging in Beijing:	A Totally disagree B Disagree C Agree D Totally agree
5). I don't mind marry with local resident:	A Totally disagree B Disagree C Agree D Totally agree
6). I feel local resident is willing to accept us:	A Totally disagree B Disagree C Agree D Totally agree
7). I feel local resident not wiling to be neighbour:	A Totally disagree B Disagree C Agree D Totally agree
8). I feel local resident look down upon us:	A Totally disagree B Disagree C Agree D Totally agree

87. Do you think you/your family get along well with local resident?
A. Very well B. Well C. So-so D. Not well E. Rarely be acquainting

88. Where do you think you belong now? A. Local B. New-local C. Hometown 人 D. Unsure/have no idea

89. Would you like to transfer your hukou to Beijing if there is no restrictions A. Yes B. No

90. Do you plan to bring your family member (spouse/children/parents) to Beijing?
A. Already in Beijing B. Yes, all of them C. Yes, some of them D. No E. Depends (list situation)_____

91. Which of the following   aspect will be your main expenditure in the future three years?   (multiple choice, limited to three choices)
A. Buy housing B. Buy car C. Self-education/hobby D. Basic living (food/clothes etc.) E. Entertainment (travel/gathering/exercise etc.) F. Parents G. Children education H. Other_____

92. Where do you plan to buy housing/ construct housing?
A. Construct housing in hukou place B. Buy housing in hukou place C. Buy housing in prefecture-level city of hometown D. Buy housing in provincial city of hometown E. Buy housing in Beijing F. Already buy housing in Beijing G. Haven't planed H. Other_____

If you are willing to participate in the following in-depth face-to-face semi-structured interview, please provide your name and contact detail so that we could approach you. New information sheet and consent form will be discussed with you before we start the interview.

Name: _____Contact detail: _____

APPENDIX 4:

Agreement for the Beijing Informal Settlement Survey Project

This agreement is made on the Jan 1st, 2016 between the research team from the Beijing University of Technology of one party and Ling Ge, the PhD student in SPSW in the University of York of the other party.

WHEREAS:

Professor Junfu Li, the leader of the research team from the Beijing University of Technology has agreed to fund Ling Ge £3000 for her survey project on Beijing Informal Settlement. The funding will be applied as the remuneration payment of 5 pound (or equivalent) for 600 questionnaire participants.

NOW IT IS AGREED AS FOLLOWS:

In return, Ling Ge will be responsible for the entire survey process of conducting 600 questionnaires. The research team (including master student Ms Yanyuan Sun and master student Mr Duo Xu) will collaborate in the following steps: First, questionnaire design will be carried out by Ling Ge based on the need for research aims. Second, Ling Ge will get access to gatekeepers for targeted location. Once they permitted, Ling Ge will arrange meetings and allocate team members' distributing task. They will have to go through the ethical approval as Beijing University of Technology requires. Before survey can start, the research team are also required to go through my ethical approval with me so as to make sure everyone conforms to the Data Protection Act and understand how they will use the survey data. Third, the team will be responsible for sending out and retrieving questionnaires; as well as transcribing the questionnaire data into SPSS for data analysis. This part of data will be shared by Ling Ge and the research team. No third parties will be allowed to get access to the data. Ling Ge will apply the data to her PhD project. And the research team will apply the data to their research project on *how migrants' access to housing influence their social inclusion in mega city*.

SIGNED

On behalf of: Ling Ge   On behalf of: Junfu Li

Name: Ling Ge   Name: Junfu Li

Contact email: lg760@york.ac.uk   Contact email: libarry2005@163.com

Date: March 23rd, 2016   Date: March 23rd, 2016

APPENDIX 5:

Dweller interview codes **(Source: created by the author)**

Interview guideline codes		Theory-generated/literature codes		In vivo codes	
previous living	living place	urbanisation	work opportunity	housing property	toilet/shower area
	living length		earning more money		cooking area
	living condition: size, room, facility		service work increase		wifi/mobile signal
migration reason/motivation	financial/money	migration	push factor		heating/air conditioning
	opportunity		pull factor		window
	capiital city		chain migration	housing service	effective delivery
	for children: education/marriage/house		rural to urban migrant flows		cleaning
	dream career		distance-decay/friction of migration distandce		maintainance check
	relatioinship breakdown		migrant selectivity/diffrernetiation		employer provide
	university failure		personal aspects: age, gender, socioenomic status		landlord provide
	family/hometown fellowship/friends recommodation	informal sector	free accomodation or meals offerred by employers		self-resolve
current living	BJ life/challenges		working hours/length of working	mixed-use/housing mixes?	economic competitiveness
	length spent at current living		job/occupation		office & housing
	satisfaction		self-run business/private enterprise		retail & housing
	unsatisfaction/concerns/problems on facilities		houosing informality		commercial & houing
	unsatisfaction/concerns/problems on surroundings		financial resource in hometown	affordability	rent presure
	unsatisfaction/concerns/problems on services	social housing	HPF (housing providnet fund)		income
	feelings/attitudes on residence: postive; negative; helpless		housing stress		expenditure
IS choice motivation/reasons	cost		work-unit: welfare	livability	dweller perspectives-actual words/behaviour/modal particle
	location		housing benefit provision	QOL indicator	cost of housing
	transport	governance	inspection/examination		quality/standards of housing
	work-related		different governmental sector	environmental context	commutable distance to workplace
	children: education;		property management agent		welfare-based
	family/hometown fellowship/friends recommodation		landlord/house contractor	housing needs	needed space=size & income
	kicked out from previous living		clearance/demolishment		preference on small (for practical issues like reduced rent/maintennace cost)
future plan	length in current living in the future		redevelopment		marital status
	future moving	Beijing character	cappital city		children/parents (age)
	future career plan		hitstory and tourist		lifecycle/life stage/career stage
	future family plan		opportunity	satisfaction	
future living plan motivation/reasons	no reasons/no further plan			social inclusion	city life/activity
	all depends				lcoal residents aquaintance
	dislike BJ; hometown finally			inequality of access	hukou, gender, household type, job, regional discrimination
	children marriage/grandchildren raising needs			concept of home	household composition
	work-orientated				family structure
	marriage-orientated				chilren & grandchildren
	lowest cost				
understanding of IS	no housing support				
	stigamatised, different from formal housing residents				
	above-ground living				
	spatial segregation/agglomeration				
	neigbourhood compare				

APPENDIX 6:

Comparison of ratings on 20 factors in different housing type

Satisfaction	Underground basement	Urban village	Multi-bed group renting	Subdivided housing	Dormitory	Shanty town	Complete set	Others
Access security								
Very good	6.2	5.8	4.6	2.8	4	0	0	0
Fairly good	31	20.3	19.5	35.2	39	0	75	0
Neither good nor poor	45.7	60.9	43.7	38	46.3	0	0	66.7
Fairly poor	12.4	10.1	25.3	14.1	7.3	75	0	0
Very poor	4.7	2.9	6.9	9.9	2.4	25	25	33.3
Lift								
Very good	4.2	3.1	3.5	4.3	2.5	0	0	0
Fairly good	28	18.8	22.1	24.6	25	50	33.3	0
Neither good nor poor	51.7	64.1	46.5	40.6	50	0	0	66.7
Fairly poor	11	9.4	19.8	23.2	10	0	0	0
Very poor	5.1	4.7	8.1	7.2	12.5	50	66.7	33.3
Corridor CCTV								
Very good	3.8	2.5	4.5	4.1	7.5	0	0	0
Fairly good	45.6	34.2	15.9	31.5	35	0	75	0
Neither good nor poor	39.2	40.5	51.1	41.1	32.5	50	0	66.7
Fairly poor	9.5	19	23.9	16.4	15	37.5	0	0
Very poor	1.9	3.8	4.5	6.8	10	12.5	25	33.3
Corridor lighting								
Very good	3.7	1.9	5.2	2.6	5	0	0	0
Fairly good	53.7	40.4	24.7	42.3	42.5	0	75	0
Neither good nor poor	31.1	41.3	50.5	44.9	37.5	63.6	0	100
Fairly poor	7.9	14.4	14.4	6.4	12.5	27.3	0	0
Very poor	3.7	1.9	5.2	3.8	2.5	9.1	25	0
Fire protection								
Very good	3.7	3.3	4.4	2.7	5	0	0	0
Fairly good	46.6	28.6	18.7	29.7	40	0	75	0
Neither good nor poor	38	52.7	40.7	45.9	42.5	50	0	100
Fairly poor	10.4	13.2	27.5	13.5	10	40	0	0
Very poor	1.2	2.2	8.8	8.1	2.5	10	25	0
Passage clear								
Very good	3.7	4.5	4.3	2.6	7.5	0	0	0
Fairly good	46	28.1	15.2	42.9	40	0	50	0
Neither good nor poor	35.4	41.6	59.8	41.6	42.5	50	0	66.7
Fairly poor	11.8	22.5	14.1	7.8	5	40	25	0
Very poor	3.1	3.4	6.5	5.2	5	10	25	33.3
Window								
Very good	3.8	2.8	7.4	9.6	2.5	0	0	0
Fairly good	23.3	31.2	29.5	34.2	37.5	20	75	0
Neither good nor poor	45.9	50.5	44.2	35.6	52.5	40	0	100
Fairly poor	21.1	13.8	15.8	13.7	5	20	0	0
Very poor	6	1.8	3.2	6.8	2.5	20	25	0
Toilet								
Very good	3	1.9	1	2.5	7.5	0	0	0
Fairly good	21.8	11.4	7.1	27.8	27.5	0	50	33.3
Neither good nor poor	40	42.9	52	49.4	52.5	50	25	66.7
Fairly poor	29.7	34.3	33.7	11.4	10	40	0	0
Very poor	5.5	9.5	6.1	8.9	2.5	10	25	0
Shower room								
Very good	3.1	2	1	2.6	7.5	0	0	0
Fairly good	21.9	14	8.2	27.3	35	0	50	33.3
Neither good nor poor	37.5	49	57.1	50.6	45	63.6	25	66.7
Fairly poor	31.9	27	27.6	11.7	10	27.3	0	0
Very poor	5.6	8	6.1	7.8	2.5	9.1	25	0
Kitchen								
Very good	1.6	1.9	1.1	2.6	10.5	0	0	0
Fairly good	22	17.8	11.8	28.6	26.3	0	75	33.3
Neither good nor poor	44.1	54.2	51.6	46.8	47.4	63.6	0	66.7

Fairly poor	25.2	20.6	26.9	14.3	13.2	27.3	0	0
Very poor	7.1	5.6	8.6	7.8	2.6	9.1	25	0
Laundry								
Very good	2.7	2.3	1	2.7	5.1	0	0	0
Fairly good	20.7	12.5	13.5	24.7	38.5	0	50	33.3
Neither good nor poor	51.3	61.4	57.3	54.8	43.6	37.5	25	66.7
Fairly poor	21.3	20.5	21.9	8.2	10.3	50	0	0
Very poor	4	3.4	6.3	9.6	2.6	12.5	25	0
Water								
Very good	3.1	4.5	1	2.6	5.1	0	0	0
Fairly good	26.1	28.8	17.7	30.3	41	18.2	50	0
Neither good nor poor	49.7	48.6	62.5	47.4	41	45.5	25	66.7
Fairly poor	16.1	14.4	15.6	10.5	10.3	27.3	0	0
Very poor	5	3.6	3.1	9.2	2.6	9.1	25	33.3
Gas								
Very good	1.7	4	1.1	2.8	2.6	0	0	0
Fairly good	20	26.7	17.2	29.2	34.2	9.1	75	33.3
Neither good nor poor	55.7	50.5	61.3	47.2	44.7	54.5	0	66.7
Fairly poor	17.4	13.9	16.1	12.5	13.2	27.3	0	0
Very poor	5.2	5	4.3	8.3	5.3	9.1	25	0
Heating								
Very good	2.3	3.4	2.1	2.7	7.7	0	0	0
Fairly good	26.5	22.5	17.9	34.7	30.8	20	75	0
Neither good nor poor	47.7	48.3	57.9	46.7	43.6	40	0	66.7
Fairly poor	17.4	22.5	18.9	8	15.4	30	0	0
Very poor	6.1	3.4	3.2	8	2.6	10	25	33.3
Air conditioner								
Very good	2.4	3.3	1.1	2.7	10.5	0	0	0
Fairly good	23.4	35.6	14	49.3	26.3	40	75	33.3
Neither good nor poor	50.8	43.3	64.5	29.3	44.7	20	0	66.7
Fairly poor	18.5	16.7	16.1	8	13.2	30	0	0
Very poor	4.8	1.1	4.3	10.7	5.3	10	25	0
TV								
Very good	3.1	2	1.1	1.3	5.3	0	0	0
Fairly good	22.1	30	12.5	35.1	26.3	20	50	33.3
Neither good nor poor	55.7	48	52.3	41.6	44.7	30	25	66.7
Fairly poor	14.5	17	29.5	11.7	10.5	30	0	0
Very poor	4.6	3	4.5	10.4	13.2	20	25	0
Broadband								
Very good	2.8	3.2	2.1	6.7	15.4	12.5	0	0
Fairly good	30.1	26.9	13.8	36	28.2	12.5	75	33.3
Neither good nor poor	46.9	39.8	45.7	38.7	38.5	12.5	0	66.7
Fairly poor	14.7	24.7	30.9	12	12.8	37.5	0	0
Very poor	5.6	5.4	7.4	6.7	5.1	25	25	0
Mobile signal								
Very good	3.3	4.6	6.1	6.5	7.5	9.1	0	0
Fairly good	23	31.2	18.44	41.6	25	18.2	50	0
Neither good nor poor	44.1	37.6	55.1	35.1	50	27.3	0	66.7
Fairly poor	21.7	18.3	14.3	6.5	12.5	27.3	25	0
Very poor	7.9	8.3	10.4	10.4	5	18.2	25	33.3
Table/chair								
Very good	3.8	2.8	1.1	6.3	5	0	0	0
Fairly good	38.2	38.5	11.7	36.7	30	27.3	75	33.3
Neither good nor poor	44.6	40.4	68	41.8	52.5	36.4	0	66.7
Fairly poor	9.6	15.6	16	8.9	10	27.3	0	0
Very poor	3.8	2.8	3.2	6.3	2.5	9.1	25	0
Wardrobe								
Very good	4.4	3.8	1.1	6.6	10.3	0	0	0
Fairly good	36.5	32.7	10.9	36.8	17.9	45.5	75	33.3
Neither good nor poor	43.1	43.3	65.2	36.8	51.3	18.2	0	66.7
Fairly poor	12.4	18.3	16.3	13.2	10.3	27.3	0	0
Very poor	3.6	1.9	6.5	6.6	10.3	9.1	25	0

ABBREVIATIONS

BASS   Beijing Academy of Social Sciences

BMCHUD   Beijing Municipal Commission of Housing and Urban-rural Development

BMCUP   Beijing Municipal Commission of Urban Planning

BMPG   Beijing Municipal People's Government

BPHC   Beijing Public Housing Centre

BUoT   Beijing University of Technology

CCP   Chinese Communist Party

CCDI   Central Commission for Discipline Inspection

HKHA   Hong Kong Housing Authority

ICT   Information and Communication Technology

MLR   Ministry of Land and Resources

SASAC   State-owned Assets Supervision and Admission Commission

UN   United Nations

UNCHS   The United Nations Centre for Human Settlements

UNDP   United Nations Development Programme

UN-Habitat   United Nations Human Settlements Programme

UNHSP   United Nations Human Settlements Programme

UNSTAT   The United Nations Statistical Commission

UNWUP   United Nations World Urbanisation Prospects

UN DESA   United Nations Department of Economic and Social Affairs

WHO   World Health Organisation

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