

Inclusionary Housing and Mixed-Income Neighborhoods in Urban China

by

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Dedication

To my parents, my husband, and my daughter to be born

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Abstract

Over the past three decades, China has launched several affordable housing programs to combat the housing affordability crisis and help low- and moderate-income families own or rent a decent home in the city. In 2007, the State Council of China required that affordable rental housing units be primarily produced through inclusionary housing developments. The inclusionary housing policy, or inclusionary zoning, mandates or incentivizes developers to set aside a portion of units in their new market-rate projects as affordable housing, creating mixed-income neighborhoods and communities. Given that affordable housing is in close physical proximity to market-rate units in the same development, inclusionary housing holds the promise of providing more social benefits, particularly in promoting social equity and inclusion. Yet, whether the inclusionary housing approach can deliver these social improvements is still questionable.

This research responds to a lack of studies systematically investigating how inclusionary housing works in China and evaluating its success, issues, and challenges. Specifically, it aims to answer the question: **To what extent does inclusionary housing contribute to reducing housing inequality and fostering social inclusion in Chinese cities?** This research adopts a case study approach and employs mixed methods. It delves into policy design and implementation, with a critical focus on policy outcomes across different levels and perspectives.

This research selected the city of Zhengzhou as the case study. At the city level, it examines inclusionary housing policy design and the project development process by reviewing government documents and interviewing officials and developers. It also reflects on how

inclusionary housing transforms the spatial distribution patterns of affordable housing. At the neighborhood level, the study focuses on two inclusionary housing neighborhoods, utilizing surveys and interviews to investigate policy outcomes from the residents' perspectives. In the case study neighborhoods, the study examines and compares their physical and social characteristics, measures residents' perceived levels of social inclusion, and investigates how residents perceive and experience the physical proximity between different housing groups. At the individual level, the study examines residents' understanding of social inclusion, explores the impact of the COVID-19 pandemic on their perceived social inclusion, and summarizes their personal insights on the inclusionary housing policy and affordable housing programs.

This study reveals that the inclusionary housing scheme has contributed to reducing housing inequality and residential segregation at the city level by speeding up affordable housing production and integrating it into market-rate developments. This allows disadvantaged families to reside in areas with more economic opportunities and better public services. Nonetheless, the study highlighted that inclusionary housing falls short of fostering social inclusion. Residential segregation persists at the neighborhood level. Inequities embedded in neighborhood planning, architectural design, property management practices, and building construction have further deepened the issue of stereotyping and exacerbated social divides. This study concluded by discussing how stakeholders can collaborate to ensure that inclusionary housing meets its social goals, making mixed-income neighborhoods more livable, sustainable, and inclusive. In doing so, the study contributes to the global knowledge of inclusionary housing and mixed-income development practices.

Chapter 1 Introduction

Over the past three decades, China has launched several affordable housing programs to combat the housing affordability crisis and help low- and moderate-income families own or rent a decent home in the city. Given that the definition of affordable housing differs across various contexts, this dissertation defines it as all types of subsidized housing for sale or rent, which are planned and coordinated by the government and provided to eligible families to enhance housing affordability. It is also commonly labeled as “(social-) security housing” or “welfare-based housing” (*baozhangxing zhufang* 保障性住房) in Chinese literature.

Yet, the local implementation of affordable housing programs was contentious and unsatisfactory despite the strong push from the central government. The Chinese researchers pinpointed two major challenges: the inadequate availability of affordable housing and the tendency to concentrate affordable housing projects on the fringes of urban areas, where access to public facilities and commercial establishments is severely limited (M. Chen et al., 2015; Dang et al., 2014; Y. Huang, 2012; Zou, 2014). To boost affordable housing supply without overburdening local governments and to avoid concentrated poverty, the State Council of China introduced an inclusionary housing scheme in 2007, stipulating that the production of affordable rental housing should primarily be tied to (*peijian* 配建) new market-rate housing developments (State Council, 2007). Since then, many Chinese cities have adopted the inclusionary housing approach to fulfill their affordable housing construction quotas assigned by the central government (Y. Huang, 2015). Nevertheless, there is a lack of studies that systematically examine how the inclusionary housing scheme works in China—how it has been designed and

implemented, what the policy outcomes are, and how they impact the city and people's everyday lives.

Inclusionary housing (also known as “inclusionary zoning” in some countries) has become one of the most significant housing strategies worldwide. Inclusionary housing refers to

“... a program, regulation, or law that requires or provides incentives to private developers to incorporate affordable or social housing as a part of market-driven developments, either by incorporating the affordable housing¹ into the same development, building it elsewhere, or contributing money or land for the production of social or affordable housing in lieu of construction” (Calavita & Mallach, 2010, p. 1).

The idea of inclusionary housing emerged in the United States in the 1970s. It first appeared in affluent suburban counties and neighborhoods in the Washington metropolitan area and San Francisco Bay in response to the housing affordability crisis and residential segregation of the preceding decades (Calavita & Mallach, 2010). Inclusionary housing has been regarded as a local policy tool that captures economic gains and resources created from real estate markets to achieve two primary goals: (1) to increase the supply of affordable housing and (2) to reduce residential segregation and foster social inclusion through promoting mixed living (mixed-income and/or mixed-tenure) (Schuetz et al., 2009; H. L. Schwartz et al., 2012). Since the 1980s, inclusionary housing has not only entered the mainstream of housing policy in the United States but also spread to other countries, such as Canada, the United Kingdom, Spain, Australia, South Africa, and India, where it has taken different forms reflecting varied land use regulations and market conditions (Calavita & Mallach, 2010).

¹ In this context, affordable housing is a generic term that refers to any housing specifically developed to be affordable for and inhabited by households with incomes below an officially defined level.

Facing skyrocketing housing prices amid massive real estate development, the Chinese government has embraced inclusionary housing nationwide to create more affordable homes in urban areas. Before introducing the inclusionary housing scheme, affordable housing in China was mainly produced through large-scale, mass-produced, low-cost housing developments that were led and heavily subsidized by local governments. These projects often occupied undesirable locations, exacerbating residential segregation and spatial inequalities. However, implementing inclusionary housing produces affordable housing through a decentralized, incremental approach that integrates affordable units within market-rate developments. This approach not only addresses the pressing need for affordable housing options but also creates mixed-income communities and locates affordable housing in close physical proximity to market-rate housing, which has the potential to promote social integration and inclusion in urban China.

This transition in affordable housing development occurred as China moved away from prioritizing “economic growth at all costs” and instead focused on creating a “harmonious society (*hexie shehui* 和谐社会)” through “people-centered (*yi ren wei hexin* 以人为核心)” urban development, which aims to address the growing socio-spatial inequalities and various challenges that have emerged from rapid growth in recent decades (J. Chen et al., 2014; Y. Huang, 2020; Kahn, 2006; Y. P. Wang & Murie, 2011; J. Zhou & Ronald, 2017). The inclusionary housing scheme holds the potential to generate significant social benefits by strategically leveraging private gains. Not only does this approach aim to mitigate housing disparities, but it simultaneously aligns with broader socioeconomic objectives and resonates with China’s recent developmental policies and initiatives, particularly in the context of the country’s swift urbanization process.

1.1 Harmonious Society and People-Centered Urbanization

After China launched economic reforms in 1978, the Chinese government deliberately and successfully promoted rapid GDP growth and urbanization driven by massive investments, low-cost manufacturing, and exports. Although this development model significantly enhanced average living standards and yielded many other benefits, it also posed a series of challenges, including widening disparities and enduring social injustice (J. Hu, 2007). To ensure social and political stability, the Hu Jintao-Wen Jiabao administration (2002-2012) introduced a new development strategy in the mid-2000s that emphasized sustainable, harmonious growth, referred to as the “scientific development concept (*kexue fazhanguan* 科学发展观).” Rather than single-mindedly focusing on economic development, the Hu-Wen administration committed to social harmony and declared that social concerns should be on par with GDP growth (K. Chan, 2010; Kahn, 2006). Within this blueprint for development, President Hu Jintao promoted a “socialist harmonious society” as the critical feature, which he characterized as “democratic and ruled by law, fair and just, trustworthy and fraternal, full of vitality, stable and orderly, and [that] maintains harmony between man and nature” (K. Chan, 2010, p. 823; J. Hu, 2005).

Under the Hu-Wen leadership, various social policies were implemented to reduce socioeconomic inequalities both between and within urban and rural areas by enhancing the welfare of disadvantaged groups and underdeveloped regions. Key initiatives in urban areas included establishing a comprehensive social assistance system² and improving the working conditions and social insurance for migrant workers. In rural areas, the “Building a New Socialist Countryside” campaign increased investments in rural infrastructure, abolished rural taxes,

² The comprehensive social assistance system centers around the Minimum Livelihood Guarantee (*dibao* 低保), with supplementary assistance programs.

eliminated school fees, and provided various subsidies for farmers (Howell & Duckett, 2019). In the housing sector, the Chinese government significantly expanded affordable housing programs and committed to providing decent homes for all (Y. P. Wang & Murie, 2011). The inclusionary housing policy was launched in 2007 under the Hu-Wen administration. By requiring developers to deliver a certain amount of affordable housing in their new market-rate developments, the policy aimed to increase affordable rental housing production for low-income urban families, thereby reducing housing inequality while potentially addressing residential segregation and spatial inequality in Chinese cities (Y. Huang, 2015).

The Chinese government promised greater social inclusion and socioeconomic leveling to create a “harmonious society.” However, while studies have shown that the social policies initiated by the Hu-Wen administration indeed curtailed rising socioeconomic inequalities, China’s social welfare system remained fragmented and unbalanced without profound reforms and significant financial commitment. As a result, the overall landscape of inequality did not exhibit substantial improvement (Gao et al., 2019; Howell & Duckett, 2019).

The subsequent Xi Jinping-Li Keqiang leadership (2013-2023) took further steps by adopting a “people-centered” approach to growth and emphasizing “common prosperity (*gongtong fuyu* 共同富裕)” while pursuing a well-off society. During the Xi-Li administration, China’s economic growth slowed, with the GDP growth rate falling below 8% after 2012 (Z. Liu, 2015; The World Bank, 2022). In response to this “new normal,” the Xi-Li leadership introduced a “people-centered” approach to urbanization for the first time in December 2013. This initiative aimed to restructure China’s economy, which would be consumption-driven while addressing social, economic, and environmental imbalances and promoting the common people’s welfare (Y. Huang, 2020). In striving for “common prosperity,” President Xi pledged to

redistribute more of China's wealth to those in poverty, called for a "reasonable adjustment of excessive incomes," and encouraged high-income individuals and businesses to "give back more to society" (People's Daily, 2021).

In March 2014, the central government released the National New Urbanization Plan (2014-2020) to guide China's "people-centered" urbanization. The Plan included four major sections: promoting the orderly conversion of rural migrants into urban residents, optimizing urbanization patterns, enhancing urban sustainability, and fostering urban-rural integration (State Council, 2014b). In the housing sector, the Plan urged the inclusion of rural-urban migrants in affordable housing programs. It aimed to improve the living conditions of migrant workers by constructing dormitory-style Public Rental Housing (PRH) in development zones and industrial parks where migrant workers congregate. Furthermore, the Plan called for promoting and optimizing the inclusionary housing policy. By privatizing the delivery of affordable housing, the goal was to encourage greater private sector involvement in affordable housing development, thereby increasing the production of PRH in desirable locations.

1.2 Statement of Problem and Research Questions

In pursuing a harmonious society and achieving people-centered urbanization in China, two fundamental aspects of social development are at the core of this endeavor: reducing social inequality and promoting social inclusion. In the housing sector, the Chinese government has introduced the inclusionary housing scheme to address housing inequality by tapping into private resources and gains to build more affordable housing for individuals whose needs are unmet by the private market. In addition, the inclusionary housing policy holds the potential to foster social integration and inclusion by creating mixed-income housing to bridge social divides. This housing strategy appears to align with China's recent development approaches and objectives,

placing greater emphasis on social improvements rather than solely pursuing a booming housing market to drive economic growth. However, there is a lack of empirical studies that systematically investigate inclusionary housing in China and evaluate the extent to which the inclusionary housing scheme can effectively deliver these social benefits to the city.

My dissertation attempts to fill this gap by examining how the inclusionary housing scheme works in a typical Chinese city. The study evaluates how inclusionary housing can alleviate housing inequality by providing more decent and affordable homes for families that are disadvantaged in the housing market and can promote social inclusion by developing mixed-income and mixed-tenure communities. Essentially, the study aims to answer the primary research question: **To what extent does inclusionary housing contribute to reducing housing inequality and fostering social inclusion in Chinese cities?** A series of sub-questions have been developed to guide the empirical investigation, aligning with the theoretical framework of the study (outlined in Section 3.3).

1.3 Research Design and Methods

This dissertation adopts the case study as its primary research strategy, employing quantitative and qualitative research tactics in two stages to comprehensively investigate inclusionary housing in urban China. It focuses on Zhengzhou, the capital city of Henan Province, as the selected case for study. It delves into the design and implementation of the city's inclusionary housing policy, with a critical focus on policy outcomes from various levels and perspectives.

In stage one, this study examines inclusionary housing at the city level. Through document analysis and interviews with government officials and developers, it reveals the rationales underlying the design of the inclusionary housing policy, investigates the development

process of an inclusionary housing project and the actors involved, and explores how the policy transforms the spatial distribution patterns of affordable housing. At this stage, I also conducted preliminary fieldwork to familiarize myself with the site and establish necessary contacts.

In the second stage, this study examines two inclusionary housing developments in Zhengzhou to investigate inclusionary housing at the neighborhood and individual levels. It employs surveys and in-depth interviews with residents to analyze their perceptions of the inclusionary housing policy and their experiences within a mixed-living built environment. Additionally, it investigates how residents construct and interpret the concept of social inclusion in the context of their everyday lives. Furthermore, due to the rapid spread of the COVID-19 pandemic, the scope of this dissertation has been expanded to include a discussion of how the pandemic has altered residents' perceptions of their living environment, especially as they spend more time at home and when physical proximity and encounters may be less desirable.

1.4 Dissertation Overview

The main body of this dissertation consists of four chapters.

In Chapter 2, the research commences by examining the historical evolution of China's housing system. It delineates the transformation of affordable housing development in China as it progresses alongside the housing system and the real estate sector while adapting to its changing roles within the nation's economic growth and social development.

After reviewing the pertinent literature, Chapter 3 explores and establishes a theoretical framework for this study. The chapter then presents the research design, which includes research strategies, related data collection and analysis methods, and research procedures based on the proposed theoretical framework.

Chapter 4 discusses the inclusionary housing scheme at the city level. It begins by introducing Zhengzhou and outlining the city's affordable housing policies and programs. Next, it examines the citywide inclusionary housing policy, focusing on its design and implementation. The findings indicate that inclusionary housing has effectively increased the supply of affordable housing, eliminated discriminatory site selection practices for affordable housing projects, and mitigated residential segregation at the city level. However, it also highlights a few caveats in policy design and implementation that could lead to residential segregation at the neighborhood level.

Chapter 5 focuses on policy implementation and outcomes at the neighborhood level. It first examines and compares the physical and social characteristics of the two case study neighborhoods. Then, it reports on the perceived levels of social inclusion within these neighborhoods using a 22-item instrument and explores impacting factors through multivariate analysis. Finally, it discusses the appropriate physical proximity between affordable housing and market-rate housing from the perspectives of different stakeholders. It concludes that residential segregation persists at the neighborhood level under the inclusionary housing policy. Additionally, it discusses how stakeholders can work together to achieve finer-grained mixed living.

Chapter 6 discusses policy outcomes of inclusionary housing at the individual level. Drawing from the survey and interviews, it presents the meaning of social inclusion from residents' perspectives, along with its perceived dimensions, components, and impacting factors. The findings reveal that residents perceived social inclusion as a familiar yet elusive and difficult-to-reach construct. They described it as equal access to economic and social resources, involvement in community issues and decision-making, and a solution to social isolation and

marginalization. This chapter also analyzes the impact of the COVID-19 pandemic on residents' perceptions of their living conditions and social inclusion, providing an in-depth exploration of how such experiences have reshaped community dynamics and individual perspectives. Finally, it summarizes residents' personal insights regarding inclusionary housing policy and affordable housing programs.

The concluding chapter (Chapter 7) summarizes the research findings and presents the lessons learned from the study. It also includes a discussion on inclusionary housing in other countries and situates China's inclusionary housing practices within a global context. Finally, this chapter delineates the roadmap of the study, outlines limitations, and posits prospective avenues for future research endeavors.

1.5 Significance of the Study

The significance of this dissertation is both theoretical and applied. From a theoretical standpoint, it critically examines fundamental social concerns related to housing, including affordability, inequality, segregation, and discrimination, all of which are reflected and manifested in the design and implementation of inclusionary housing policies. This dissertation endeavors to illuminate the complex socio-spatial relationships among diverse elements, particularly examining the interplay between physical design, residents' perceptions, and socio-economic factors. Through the exploration of these dynamics, it seeks to advance our understanding of cultivating inclusive residential environments. Furthermore, this study is positioned to enrich the existing literature on social inclusion by systematically exploring its dimensions, measurement, and influencing factors through the lens of residents' perspectives.

From an applied perspective, this research generates a comprehensive narrative of inclusionary housing in China. The empirical findings presented herein will provide valuable

insights for researchers, designers, and policymakers regarding strategies aimed at ensuring that inclusionary housing fulfills its social objectives of alleviating housing inequality and promoting social inclusion. The findings articulated within this study significantly enhance the discourse surrounding mixed-income housing initiatives. By integrating both people-centered and place-centered perspectives, the research aims to elevate the livability, sustainability, and inclusivity of urban neighborhoods, thus promoting comprehensive community development and ultimately contributing to viability in urban environments.

Overall, this dissertation presents a substantial contribution to the ongoing discourse surrounding inclusionary housing policy and mixed-income practices, offering insights that hold relevance on a global scale.

Chapter 2 From Public Housing to Inclusionary Housing

“The next station is Tian Tong Yuan. Please get ready for your arrival...” Along with the announcement from Line 5 of the Beijing Subway in the background, row after row of monotonous high-rise apartment buildings come into view. This realistic shot opens the award-winning documentary *Tian Tong Yuan* (2011), directed by Kunni Han, a graduate student at Hong Kong Baptist University. Tian Tong Yuan (天通苑), located in the northern Changping district, was recognized as “the largest residential neighborhood in Asia” (X. Wen, 2019). It measures about 3 km from the east to the west and 2 km from the north to the south and houses approximately 700,000 people. Not far from Tian Tong Yuan, Hui Long Guan (回龙观) is another famous large-scale neighborhood, which is home to more than 370,000 people (J. Li, 2015). These two gigantic neighborhoods were products of China’s first affordable housing program—Economic and Comfortable Housing (ECH). Planned in 1998, Tian Tong Yuan and Hui Long Guan were two of the first 19 affordable housing projects in Beijing, which marked the starting point of China’s massive affordable housing development (Y. Hu, 2008). Despite experiencing some fluctuations, affordable housing provision has emerged as a key policy tool for the Chinese government to address housing affordability crises and maintain a healthy and stable housing market within Chinese cities.

Although many scholars have documented the evolution of China’s affordable housing framework and programs at length (J. Chen et al., 2014; L. Deng et al., 2011; Y. Huang, 2012;

Shi et al., 2016; Zou, 2014), few of them have noticed the recent shift in the mode of affordable housing production and its spatial and social implications (Z. Chen et al., 2019; Y. Huang, 2015).

In this chapter, I examine the history of China's housing system and tease out how affordable housing has been evolving alongside the housing system and real estate industry, as well as its changing roles in the country's economic growth and social development. I discuss China's affordable housing in four major phases: (1) building public housing under the socialist welfare housing system in the pre-reform era (1949-1978); (2) experimenting with new affordable housing programs while establishing the housing market in the reform era (1978-2007); (3) developing a multileveled housing security system and adopting the inclusionary housing scheme facing new urban challenges in the post-reform era (2007-2016); and (4) promoting a new inclusionary housing scheme to stabilize housing markets in an era of "housing is for living in, not for speculation" (2016-present). Finally, I point out that the changing economic and social context has shifted China's affordable housing development from the large-scale, aggressive, government-led mode towards a decentralized, incremental inclusionary housing scheme, relying more heavily on the private sector, which deserves further investigation on its implications for urban socio-spatial structure and urban lives.

2.1 Public Housing in the Pre-Reform Era (1949-1978)

After the founding of the People's Republic of China in 1949 and before the market-oriented reforms in 1978, China established a centrally planned economy, which relied on administrative control and central planning to determine prices and allocate resources instead of depending on market mechanisms. In the housing sector, China did not have a private housing market due to the prevailing in-kind socialist housing distribution scheme (J. Zhou & Ronald, 2017; Zou, 2014). Under this system, market competition was restricted, and private

homeownership was discouraged and criticized as a tendency of capitalism (Y. P. Wang & Murie, 1999). Urban housing was considered a welfare good provided and allocated either by the city to households with urban and local *hukou* (户口) or by work units to their employees. These two institutional forces—the *hukou* system and the work unit—must be highlighted to better understand China’s housing system in the transitional socialist era. They played a crucial role in shaping China’s socialist welfare housing system and persistently influenced today’s housing provision and access, contributing to inequality in Chinese cities.

2.1.1 Hukou System

China’s household registration (*hukou* 户口) system was first introduced in 1949 and formally established in 1958 as “a state institution that regulates and restricts population mobility” (Wing Chan & Buckingham, 2008, p. 587). The *hukou* system, in tandem with the grain rationing system, “helped the state extract rural surpluses to develop urban industry” by limiting rural-urban migration in the planned economy (Zhan, 2017, p. 26). Furthermore, it contributed to social control and reduced government costs by gathering detailed information on each citizen and limiting social welfare to a smaller urban population (Wing Chan & Buckingham, 2008; Zhan, 2017).

In China, the *hukou* system divided the population based on two classifications: socioeconomic eligibility (“agricultural” or “non-agricultural”) and residential location (“local” or “non-local”). In the pre-reform era, people with agricultural (or rural) *hukou* were expected to be self-sufficient; therefore, they received very limited, if any, state benefits. In comparison, the non-agricultural (or urban) population was entitled to state-subsidized food grain and other state-provided prerogatives, including employment, housing, education, and healthcare, as well as other social welfare benefits (Cui & Cohen, 2015; Wing Chan & Buckingham, 2008; Zhan,

2017). Additionally, each citizen must register their *hukou* in the place of their official or permanent residence. Therefore, one's *hukou* was also categorized as local or non-local with respect to an administrative unit. For example, if one moved from Shanghai to Beijing without a formal transfer of residency (*hukou* migration), they would have no formal right of residency in Beijing and thus belong to the non-local population or “floating population”³ in Beijing.

Under this system, a city's welfare benefits were reserved for people who held local urban *hukou*. Migrants who held non-local or rural *hukou* were outside state welfare obligations in their host city. As a result, only local urban residents could secure employment or access formal urban housing, education, healthcare, and other state-provided social services (W. Deng et al., 2015; Shi et al., 2016). Millions of migrants were treated as temporary or “floating” outsiders, excluded from many welfare benefits and economic opportunities in host cities (Wing Chan & Buckingham, 2008). In the housing sector, migrants faced segmented housing markets as they relocated. They were excluded from public housing and other housing benefits and concentrated in marginalized settlements, which drew great attention from researchers and policymakers.

The *hukou* system has been long criticized as a major source of inequality and injustice in China, and a *hukou* reform was put on the government's agenda around the turn of this century (Cui & Cohen, 2015; Wing Chan & Buckingham, 2008; Zhan, 2017). Since 2001, many cities have started to conditionally offer local urban *hukou* to some migrants based on education, years of employment, years of residency, and social security payment. However, these initiatives were mainly targeted at educated, professional, affluent migrants or the local farmers whose land had been expropriated, while they had very little effect on the great majority of low-skilled rural

³ The “floating population (*liudong renkou* 流动人口)” refers to domestic migrants, who are living in a municipal district that is different from their official *hukou* location for more than six months (Goodkind & West, 2002).

migrants (Wing Chan & Buckingham, 2008). The pace of progress in the *hukou* reform was very slow in the 2000s.

A more profound *hukou* reform was undertaken in China after the State Council released the National New Urbanization Plan (2014-2020) (State Council, 2014b). To promote the orderly conversion of rural migrants into urban residents, the Plan stipulated that the government would remove limits on *hukou* registration in townships and small cities (with populations less than one million), relax restrictions in medium-sized cities (with populations between one and three million), set qualifications for registration in big cities (with populations between three and five million), and restrict *hukou* registration in large megacities (with over five million residents). Additionally, the State Council noted that cities should improve essential public services and gradually safeguard the rights and benefits of residents who did not have local urban *hukou* in the city where they were living (State Council, 2014b).

In July 2014, the State Council issued *Instructions on Further Promoting Hukou Reform* (SC[2014]25), which restated the *hukou* migration policy, eliminated the distinction between agricultural and non-agricultural *hukou*, and established a residence permit system nationwide. According to the document, *hukou* is now only classified based on the location of permanent residency, and people who have lived in a city for more than six months can apply for a residence permit⁴, with which they can enjoy the same welfare benefits and public services as residents with local *hukou* (State Council, 2014a).

Despite undergoing some substantial changes, China's *hukou* system has remained in place. Local governments often limit *hukou* migration for low-skilled workers and deny them access to welfare benefits, including affordable housing programs. They do this by imposing

⁴ There are additional requirements and conditions for applying for a residence permit, which vary significantly among cities in China.

extra eligibility criteria, such as having stable employment and proof of social security insurance payments (Y. Huang & Ren, 2022; J. Zhang et al., 2019). Under the *hukou* system, rural-to-urban migrants still face institutionalized discrimination to some extent, especially in large megacities (Zhan, 2017).

2.1.2 Work Units

The work unit (*gongzuo danwei* 工作单位) is another socialist institution that shaped China's social stratification and urban economy in the pre-reform era. A work unit often refers to publicly owned organizations, including state-owned enterprises, institutes, and agencies. However, it has become a more general term under economic reforms, referring to all kinds of employers, including the private and collective sectors (W. Deng et al., 2015; J. Zhou & Ronald, 2017). Nonetheless, a work unit was more than just an organization for work or productive enterprise in pre-reform China. Instead, it “had multiple social, political, and economic functions and a permanent ‘membership’ of workers with lifetime employment” (Naughton, 1997, p. 169). Besides production and revenue earning, a work unit not only exercised personnel power and political control but was also responsible for distributing social services and welfare benefits, especially housing, education, healthcare, and retirement pensions (Lv & Perry, 1997).

In China's planned economy, work units functioned within a hierarchical administrative system, in which each work unit was designated with a specific administrative rank based on its importance to the national economy (W. Deng et al., 2015; Lv & Perry, 1997). The state allocated investments and other resources to work units according to their administrative rank. Work units with a higher administrative rank or those affiliated with higher-level government agencies often could acquire more investments from the state. They also had more bureaucratic

power to use these investments to provide their employees with better housing services or other welfare benefits without local governments' intervention (Bian et al., 1997; Y. Huang, 2003).

A work unit integrated working and living quarters in proximity, usually in the form of a master-planned, enclosed compound (Y. Huang, 2005). The living quarters combined housing, social services, and facilities provided to its employees and their dependents collectively and exclusively. To raise productivity and loyalty to the work unit, the employees could even pass on their jobs to their adult children if they retired or lost the ability to work, which formed a quasi-clan system (Zhao & Bourassa, 2003). In a sense, the work unit compound was a “microcosm of urban society, into which individuals are born, live, work, and die” (Naughton, 1997, p. 170).

Before market-oriented reforms, China's socialist planned economy had proved to be inefficient and stagnant, which resulted in severe supply shortages and put China on the brink of bankruptcy (S. M. Li & Huang, 2006; Zhao & Bourassa, 2003). In 1978, China's gross domestic product per capita was only 385 RMB (about 156 USD⁵), indicating that China was one of the poorest countries in the world (National Bureau of Statistics, 2021a). During this period, China's housing system was shaped by socialist ideology and a planned economy, wherein urban housing provision was largely dominated by public housing, leaving urban residents with very limited housing choices. By the end of 1981, about 82.2 percent of urban housing was publicly owned, which covered more than 90 percent of urban laborers and their dependents (Y. P. Wang et al., 2012; Y. P. Wang & Murie, 1999; J. Zhou & Ronald, 2017). Most urban residents lived in rental units developed and allocated either by their work units or municipal housing authorities. The rents were extremely low (the rent-to-income ratio was about 1 to 2 percent), and the rent income

⁵ The calculation was based on the currency exchange rate in 1978.

could not cover essential maintenance costs. These public housing units were highly subsidized, which placed a heavy burden on the work unit and municipal budgets (X. Chen & Gao, 1993; Logan et al., 2010; Lv & Perry, 1997; Y. P. Wang & Murie, 1999).

Public ownership of urban housing, although regarded as the victory of socialism, discouraged housing investment. Guided by the principle “production first, livelihood the second (*xian shengchan, hou shenghuo* 先生产, 后生活),” the socialist development strategy heavily prioritized production over consumption. Thus, the state’s housing investment was kept very low—less than 10 percent of the total capital investment in China’s first four Five-Year Plans (1953-1957, 1958-1962, 1966-1970, 1971-1975) (X. Chen & Gao, 1993).⁶

Along with the rapid growth of the urban population since the mid-1950s, China’s public housing provision fell far behind the urban housing need, which led to severe housing shortages and a rapid decline in housing quality (X. Chen & Gao, 1993; Zhao & Bourassa, 2003; J. Zhou & Ronald, 2017). Most urban residents lived in small, poorly equipped apartments (W. Deng et al., 2015; Logan et al., 2010; Mak et al., 2007). In 1978, urban residents had an average housing floor area of only 6.7 sq. m per capita (National Bureau of Statistics, 2010). According to China’s first urban household survey on housing conditions in 1985, most urban residents suffered from poor living conditions. About 46.5 percent of the urban households lived in less than 4 sq. m floor area per capita. About 69.8 percent of the urban households had to share toilets or use public restrooms, 38.7 percent did not have a private kitchen, and 37.6 percent did not have running water in their apartments (Mak et al., 2007; Y. P. Wang & Murie, 1999).

⁶ In the pre-reform era, the state was the only source of urban housing investment in China. As a comparison, housing investment to the total capital investment during 1958-1974 was 23 percent in the United States and 18 percent in the Soviet Union (X. Chen & Gao, 1993).

Additionally, the socialist welfare housing system resulted in high levels of stratification and led to housing inequality in urban China (J. Chen et al., 2014; Y. Fang et al., 2020; Y. Huang & Li, 2014; Logan et al., 1999; Lv & Perry, 1997; Yi & Huang, 2014b; J. Zhou & Ronald, 2017). First, people who did not hold a local urban *hukou* nor belong to any work unit had no access to formal urban housing. Second, this welfare housing system only privileged a minority of urban residents who worked at work units that were large, state-owned, and high-ranked (Bian et al., 1997). Work units were the major providers of urban housing in the socialist era.⁷ Work units provided housing services for their employees as part of the social welfare, compensating for their low wages (Y. P. Wang & Murie, 1999, 2000). Nevertheless, this welfare allocation did not guarantee housing equality. Housing quality varied based on the work unit's financial capacity and bureaucratic power, as indicated by its administrative rank and contribution to industrial development. Higher-ranking work units or those affiliated with higher-level government agencies typically could acquire more funds for housing development and secure land allocations from the state. They also had greater autonomy in utilizing these resources for their housing projects to produce more and better housing for their employees (Bian et al., 1997; Y. Huang, 2003).

Moreover, housing allocation within the same work unit led to further stratification. In principle, housing allocation was guided by employees' housing needs, mainly family status and seniority (J. Zhou & Ronald, 2017). In this case, people with larger households or those who had lived in dormitories for an extended period were expected to be prioritized in housing allocation. In practice, however, employees' formal administrative rank, party membership, political

⁷ Local governments (municipal housing bureau) only controlled about 10 percent of urban public housing before 1978, providing minimum housing assistance to local urban residents who did not have a work unit (Lv & Perry, 1997; J. Zhou & Ronald, 2017). The rest was controlled by work units.

connections, as well as occupational standing all played a crucial part in housing assignment (Bian et al., 1997; Y. Fang et al., 2020; Y. Huang, 2003; Logan et al., 2010; Y. P. Wang & Murie, 2000). For example, Bian et al. (1997) found that administrators in Tianjin had an average of 24.4 sq. m housing space per capita, nearly twice as much as low-level manual workers, who had an average of 14.8 sq. m. Besides, administrators were more likely to get apartments with a private kitchen and toilet. Similar, albeit smaller, discrepancies were also observed in Shanghai. As Bian et al. (1997, p. 231) put it, “The administrative allocation of housing reinforced a new privileged class.”

To sum up, public housing in the pre-reform era was considered a welfare good in China’s socialist redistribution system. It was owned and allocated by work units or municipal housing authorities. While it was highly affordable in financial terms, insufficient housing investments from the state and a low rent policy led to a shortage in housing provision, resulting in overcrowding and poor-quality housing. Moreover, two institutional forces—the work unit and the *hukou* system—produced housing inequality. Although the extent of housing inequality in urban China was relatively small by Western standards due to the overall low level of housing consumption, it was salient in the Chinese context and has contributed to today’s housing inequality in urban China (Bian et al., 1997; Y. Huang, 2005; Logan et al., 1999).

2.2 Affordable Housing in the Reform Era (1978-2007)

Beginning in 1978, China launched a series of market-oriented reforms that successfully transformed the country from a planned economy to a socialist market economy, which established private markets, allowing entrepreneurs and investors to reap profits while adhering to the state’s controls. This transition enabled China to be one of the fastest-growing economies in the world. In 1978, the CCP Central Committee approved the *Resolutions on Strengthening*

Urban Construction (SC[1978]No.13) issued by the State Council, which documented that all major cities in China were facing severe housing shortages and proposed concrete measures to address this issue, including increasing housing investment and initiating a large-scale housing program (State Council, 1978; Y. P. Wang & Murie, 1999). This document signaled reforms in the housing sector, which occurred gradually and in phases. China's housing reforms can be divided into two periods: (1) 1978 to 1998, the transitional period when China implemented a dual housing provision system, and (2) 1998 to 2007, the deepening reform period during which China had fully established the private housing market and developed an affordable housing system.

2.2.1 The Transitional Period (1978-1998)

By employing a trial-and-error approach, China carried out various housing reform experiments in selected cities from 1978 to 1987. This laid the groundwork for a nationwide housing reform that commenced in 1988 (L. Deng et al., 2011). In this period, a primitive urban housing market was emerging under housing reforms. Since socialist institutional forces continued dominating housing provision and consumption in Chinese cities, this period is referred to as the “double track” stage. During this time, China's housing reform had two primary goals: privatization and commercialization (S. M. Li & Huang, 2006; Logan et al., 2010; Yang & Chen, 2014).

Housing Privatization

The socialist welfare housing system still existed. In the early 1980s, the state and work units increased housing investment, which initiated a housing boom (Y. P. Wang & Murie, 1999). However, the shortcomings of relying on the public sector for housing provision were still evident, including insufficient investment and corrupt allocation. To overcome these issues, the

privatization of public housing proceeded, involving two key aspects: (1) sell public housing at discounted prices, and (2) for people who continued to rent public housing, raise rents to cover basic construction and maintenance costs, while offering rent subsidies to offset the rise in housing expenses (State Council, 1988, 1994; State Council General Office, 1988, 1991).

Housing privatization significantly increased the homeownership rate in Chinese cities. In 2000, over 40 percent of homeowners owned privatized public housing, known as “housing-reform housing (*fang gai fang* 房改房)” (Y. Huang & Li, 2014). Nevertheless, scholars have pointed out that housing privatization aggravated housing inequality in Chinese cities (X. Chen & Gao, 1993; Y. Huang, 2003, 2005; Y. Huang & Jiang, 2009; Lee, 2000; Logan et al., 1999, 2010; Mak et al., 2007; Zhao & Bourassa, 2003).

To alleviate the state’s budget, the housing reform encouraged local governments and work units to invest in housing while granting them greater autonomy in financing housing construction (Bian et al., 1997; Logan et al., 1999; State Council, 1994). In 1979, fewer than 10 percent of total urban housing investments were financed by work units. By 1990, this figure had increased to 60 percent. This shift in the housing investment system reinforced the role of work units in urban housing provision (X. Chen & Gao, 1993). With more fiscal and political freedom, large state-owned work units with high administrative rankings expanded their housing production and continued to deliver superior housing services to their employees (L. Deng et al., 2011).

Furthermore, the housing reform had yet to diminish the authority of work units in deciding who could get which housing and at what price (Bian et al., 1997). The rules of housing privatization—availability (the type, size, quantity, and quality of public housing available to sell), eligibility (who could buy or rent public housing), selling prices, restrictions (when, to

whom, and at what price the housing-reform housing could be resold), and housing subsidies—were largely determined by work units themselves. Thus, they continued to favor employees with high professional and political status and organizational authority.

Consequently, housing privatization followed the old welfare housing allocation scheme and continued to benefit those already in a better position on the social ladder (Lee, 2000; Logan et al., 1999, 2010). Moreover, those who were privileged could benefit even more from housing privatization by capitalizing on their housing assets in emerging housing markets. The inequality in public housing allocation evolved into greater disparities in homeownership and wealth accumulation (Y. Huang & Jiang, 2009).

Housing Commercialization and Marketization

The housing reform in China led to the establishment of a market-oriented housing system to fuel the country's economic growth. Housing was recognized as a commodity in nature rather than a social good. The Chinese government took several major actions to establish market mechanisms in housing provision and consumption:

- (1) encourage the development of “commodity housing (*shangpin fang* 商品房)”⁸ by encouraging private and foreign investments as well as establishing housing insurance, finance, and loan systems (State Council, 1988, 1994; State Council General Office, 1991);
- (2) privatize property development and management (State Council, 1994);
- (3) establish a compulsory saving scheme—Housing Provident Fund (HPF) (State Council, 1994; State Council General Office, 1991); and

⁸ There is no uniform definition of commodity housing. According to the *Modern Chinese Dictionary* (7th edition), “commodity housing” is defined as “housing that is sold as a commodity.” To be consistent, “commodity housing” in this study refers to privately owned (residential or commercial) housing developed by real estate developers and sold in the markets, which includes market-rate housing and housing sold at subsidized prices, such as Economic and Comfortable Housing (Yi & Huang, 2014b).

(4) establish a multileveled housing system that includes affordable housing for low- and middle-income households and market-rate housing for high-income families (State Council, 1994).

Under housing commercialization and marketization, commodity housing started to spring up in Chinese cities. The total floor area of commodity residential housing sold nationwide increased from 27.5 million sq. m in 1991 to 108.3 million sq. m in 1998, and the total income generated from selling commodity housing rose from 23.8 billion RMB in 1991 to 251.6 billion RMB in 1998 (National Bureau of Statistics, 1999). With the state's efforts to boost real estate development, housing conditions for urban residents significantly improved. The average floor area per capita in Chinese cities increased from 6.7 sq. m in 1978 to 18.7 sq. m in 1998 (National Bureau of Statistics, 1999).

Nonetheless, Chinese cities were still facing severe housing shortages despite the emergence of market-rate housing, as it was unaffordable for most urban residents, and there was a mismatch between housing supply and demand. Considering the low incomes in general, market-rate housing was quite expensive in the early 1990s. In 1993, the average price of commodity residential housing had reached 1,208 RMB per sq. m, whereas the average annual wage that year was only 3,371 RMB (National Bureau of Statistics, 1999). In addition, many early real estate developments were high-standard apartments with large floor areas and high-end amenities. Very few families could afford them, and thus, they were left unoccupied (Lee, 2000). Due to its high prices, most market-rate housing was sold to work units rather than individual households before 1993, with the housing then allocated to their employees. While those who were privileged and better off in the socialist system still had easy access to market-rate housing and could move to new homes with much higher standards and better facilities, people at the

lower end of the housing queue continued to live in overcrowded or shared dwellings, with little improvement in their living conditions (Y. P. Wang & Murie, 1999). On the other hand, since the early real estate development was concentrated in large and coastal cities such as Beijing, Shanghai, Guangdong, and Shenzhen, it did not take off in other parts of China, leaving issues of overcrowding and poor housing quality still acute in most Chinese cities. According to Wang and Murie (1999), about 4 million Chinese urban families accommodated less than 4 sq. m per person in 1994.

As a result, many cities in China experienced enduring housing shortages, and their residents suffered from substandard living conditions. Therefore, many localities began experimenting with affordable housing programs to address these issues. For example, Beijing initiated the *Kangju* (Healthy Living) Project in 1993 to build *Xiaokang* (well-off) Housing for low- and middle-income households with housing difficulties (less than 4 sq. m floor area per capita). The local government, work units, and individuals shared the cost of each *Kangju* project (Beijing People's Government, 1993).

In the 1994 housing reform, the Housing Reform Steering Group of the State Council officially launched the Economic and Comfortable Housing (ECH)⁹ program, the first national affordable housing program in China (State Council, 1994). According to *The Decision on Deepening the Urban Housing Reform* (SC[1994]No.43) and *The Implementation Plan for National Comfortable Housing Project* (SCGO[1995]No.6), the ECH program aimed to “speed up the process of urban housing commercialization and socialization¹⁰, and accelerate urban housing construction,” providing low-cost housing for low- and middle-income local urban

⁹ It was called Comfortable Housing from 1994 to 1998. It was renamed Economic and Comfortable Housing (ECH) in the 1998 housing reform.

¹⁰ In the Chinese context, housing socialization refers to transferring the control of housing development and management from governments and work units to professional property companies (Zhao & Bourassa, 2003).

households (State Council, 1994; State Council General Office, 1995). To reduce the construction costs of ECH projects, local governments administratively allocated land for free or at very low prices and provided policy support in planning and taxation. Local governments were also responsible for organizing construction, appointing developers, and arranging bank loans. The developers were required to include at least 20 percent of ECH in their annual housing construction, and they could only have less than 3 percent of profit margins in ECH projects.¹¹ The ECH units were sold at a cost price set by the government to eligible households, prioritizing people without homes and families facing housing difficulties, especially those who were retired employees and schoolteachers (State Council, 1994; State Council General Office, 1995; Y. P. Wang & Murie, 1999).

On the demand side, a compulsory saving scheme, known as the Housing Provident Fund (HPF) program, was established nationwide in the 1994 housing reform to improve individuals' financial capability in home purchases and facilitate housing development. Following the principle "private deposit, work units' subsidization, centralized management, and housing purpose only," the HPF program required both work units (excepted for small private firms and self-employed individuals) and employees to contribute a certain amount (initially set at 5 percent of the employee's salary) monthly to employees' individual HPF accounts administered by the China Construction Bank (State Council, 1994). The HPF savings could only be used for housing-related spending, including home purchases, self-construction, and major repairs. Besides, the HPF participants could get low-interest loans from the bank for approved housing purposes. When the employee retires, the money could be withdrawn to subsidize pensions. By

¹¹ The ECH was also referred to as "commodity housing with a small profit margin (*weili shangpin fang* 微利商品房)" (Y. Huang, 2012).

allowing work units to provide monetary instead of in-kind housing subsidies, the HPF was one of the significant steps in transforming the socialist welfare housing system into a market-oriented housing system (J. Chen & Deng, 2014; L. Deng et al., 2011, 2019).

2.2.2 The Market-Dominant Period (1998-2007)

In July 1998, the State Council of China issued *Resolutions on Further Deepening the Reform of the Urban Housing System and Accelerating Housing Construction* (SC[1998]No. 23), which became a major milestone in the history of China's housing reform. In this document, China's central government officially terminated the socialist welfare housing provision and established a multi-layered housing provision system (State Council, 1998). The significance of the 1998 housing reform should not be underestimated, as it finalized the establishment of market mechanisms in China's real estate industry, transforming real estate development into a critical driver of the nation's economic growth (L. Deng et al., 2011).

First, the 1998 housing reform terminated in-kind housing distribution and monetized housing allocation step by step. Housing privatization was completed by the end of 1998—old public housing units were sold to their sitting tenants. In addition, work units could no longer provide in-kind housing benefits to their employees. Instead, they should only offer monetary housing subsidies so that their employees can buy homes in private markets. In most common cases, an individual's sources of funds for home purchasing should mainly consist of personal savings, HPF, personal housing loans, and monetary housing subsidies provided by the local government or the work unit (State Council, 1998).

Second, the 1998 reform established a multileveled housing provision system in urban China, which consisted of three major components: Cheap Rental Housing (CRH) for urban residents with the lowest income, Economic and Comfortable Housing (ECH) for low- to

middle-income households, and market-rate housing for the rest of the higher-income families. In this system, the delivery of ECH was prioritized to address housing issues for urban residents with housing difficulties. Local governments were urged to develop large-scale, concentrated ECH projects like Tian Tong Yuan and Hui Long Guan to produce thousands of ECH units.

The CRH program was the first rental-oriented affordable housing program in China, which provides rent subsidies or heavily subsidized rental units for the poorest urban families (State Council, 1998). In principle, providing rent subsidies should be the primary strategy of the CRH program, supplemented by providing low-rent housing units or rent rebates (State Council, 2003). Local governments and work units could convert old public housing into CRH units or build new apartments designated as CRH. Nevertheless, since the housing reform focused on promoting homeownership and subsidized rental housing was regarded as a heavy fiscal burden to local governments, the CRH was kept in a marginal position within the housing provision system, and its coverage remained small (Y. P. Wang & Murie, 2011). According to Wang and Murie (2011), less than 5 percent of households could benefit from CRH in cities implementing this program.

Scholars have argued that the intention of developing affordable housing since 1998 was two-fold (Y. P. Wang et al., 2012; J. Zhou & Ronald, 2017; Zou, 2014). On the one hand, homeownership-oriented affordable housing programs (i.e., ECH and HPF) helped to promote homeownership and accelerated housing marketization. The Chinese government spared no effort to increase the homeownership rate in the housing reform to fuel economic growth with real estate development. The homeownership rate in urban China skyrocketed from 46.6% in 1996 to 71.9% in 2000 (Table 2-1). Although the figure appears quite high compared to other countries, self-owned market-rate housing accounts for only a minor share of it during this time.

The 5th National Population Census conducted in 2000 revealed that out of the 5.9 million self-owned urban housing units, only 12.8 percent were market-rate housing, 9.1 percent were ECH, 40.1 percent were housing-reform housing, and 37.2 percent were self-built housing. Through the government's efforts to establish market mechanisms in China's real estate industry during the 2000s, the homeownership rate in urban China peaked at 89.3 percent. According to the 6th National Population Census conducted in 2010, not only did the number of self-owned urban homes reach 8.7 million, but the share of market-rate housing also increased to 37.3 percent due to the massive real estate development, and the share of ECH took up 7.2 percent.¹²

Table 2-1. Homeownership rate in urban China.

Year	1980	1996	2000	2005	2010	2017
Homeownership rate	20%	46.6%	71.9%	75.7%	89.3%	87%

Data source: (a) 1980: Yi and Huang (2014b, p. 291) mentioned that the homeownership rate in Chinese cities in the 1980s was 20 percent, but the detailed data source is unclear; (b) 1996: a 1996 national survey of *Life Histories and Social Change in Contemporary China* (Y. Huang & Clark, 2002); (c) 2000: the 5th National Population Census in 2000; (d) 2005: the 2005 national One-percent Population Survey (G. Chen, 2011); (e) 2010: the official statistics data published by the National Bureau of Statistics Bureau (Yang & Chen, 2014); (f) 2017: the China Household Finance Survey (CHFS) in 2017 (Clark et al., 2021; Y. Huang et al., 2021).

On the other hand, massive affordable housing construction could stimulate domestic consumption and ease the negative effects of the 1997 Asian financial crisis. The Chinese government was convinced that real estate development was most effective in stimulating domestic demand and consumption and creating economic opportunities. According to Siwei Cheng (2011), one of China's most prominent economists, every 100 RMB of real estate investment could bring 170 to 220 RMB of related investment and result in 150 to 170 RMB of consumption; building every 10,000 sq. m housing could create 100 jobs (Meng et al., 2004). Therefore, real estate investment increased dramatically since 1998, and the investment in ECH took up more than 10 percent of real estate investment in 1999 and 2000 (Table 2-2).

¹² Besides, housing-reform housing and self-built housing accounted for 24.8 percent and 23.5 percent in China's self-owned urban housing, respectively.

Table 2-2. Investment in real estate development and ECH.

Year	Total Investment in Fixed Assets (billion RMB)	Real Estate Investment (billion RMB)	ECH Investment (billion RMB)	% of Real Estate in Total Investment	% of ECH in Real Estate Investment
1997	2,494.11	317.84	18.55	12.74%	5.84%
1998	2,840.62	361.42	27.09	12.72%	7.49%
1999	2,985.47	410.32	43.70	13.74%	10.65%
2000	3,291.77	498.41	54.24	15.14%	10.88%
2001	3,721.35	634.41	59.97	17.05%	9.45%
2002	4,349.99	779.09	58.90	17.91%	7.56%
2003	5,384.10	1,015.38	62.20	18.86%	6.13%
2004	6,623.50	1,315.83	60.64	19.87%	4.61%
2005	8,099.40	1,590.93	51.92	19.64%	3.26%
2006	9,758.30	1,942.29	69.68	19.90%	3.59%
2007	11,832.30	2,528.88	82.09	21.37%	3.25%
2008	14,458.70	3,120.32	97.09	21.58%	3.11%
2009	18,176.00	3,624.18	113.41	19.94%	3.13%
2010	21,883.40	4,825.94	106.92	22.05%	2.22%

Data Source: National Bureau of Statistics, China Statistical Yearbook 1999-2011.

Nonetheless, the interest in affordable housing rapidly waned after 2000. The national focus shifted towards market-rate housing, leading to a real estate boom. In 2003, the State Council (2003) called for adjusting the housing provision structure and made “ordinary commodity housing”¹³ the main housing form. This move officially downgraded the role of affordable housing in the whole housing system (J. Chen et al., 2014; Y. Huang, 2012; Shi et al., 2016). As a result, the annual amount of ECH units built and sold gradually declined after 2000. While real estate investment continued to rise every year, the share for ECH declined since 2000 (Table 2-2). In 2000, ECH accounted for approximately 22 percent of the total floor area in new residential housing projects, but this figure has significantly declined since then. In 2003, the proportion fell to only 12.16 percent, and it dropped below 7 percent after 2005 (Figure 2-1).

¹³ “Ordinary commodity housing” refers to market-rate residential housing that are not villas or high-end apartments.

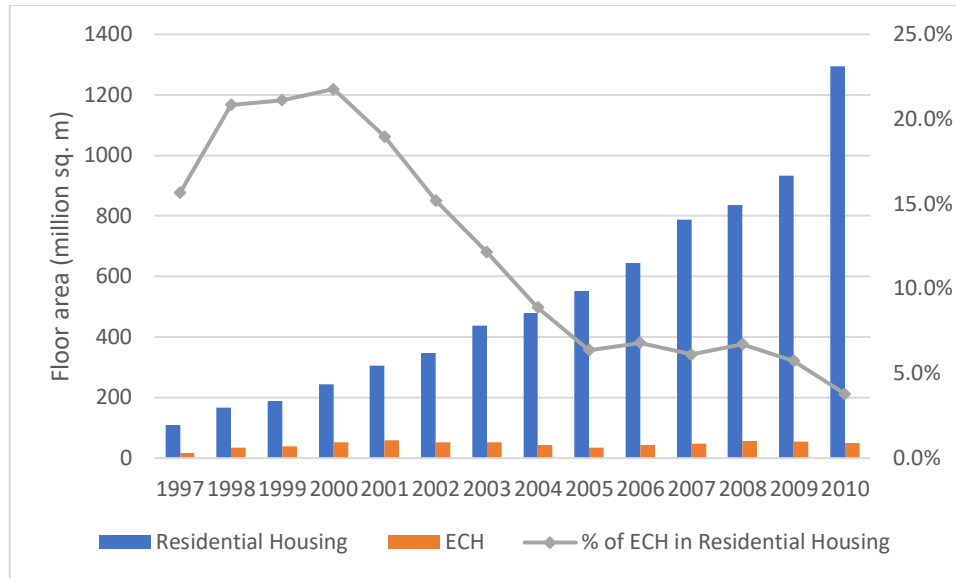


Figure 2-1. The floor area of residential housing and ECH commenced in 1997-2010.
Data source: National Bureau of Statistics, China Statistical Yearbook 1999-2011.

In the early 2000s, housing commodification and marketization in China fueled economic growth, leading to a highly volatile and overheated real estate market. During this period, the Chinese government reduced the size of affordable housing investment but also stepped aside and let the market take control of financing, constructing, and allocating homes (Y. P. Wang & Murie, 2011). The Chinese government applied “macro-regulation” measures to influence housing supply and demand by imposing restrictive policies on land supply and credit access and raising a series of home loan and tax regulations. Nonetheless, it was barely effective in cooling the housing market (Y. Huang, 2012; Yang & Chen, 2014). As a result, China experienced a spectacular real estate boom in the reform period that continued into the 2010s (Figure 2-2).

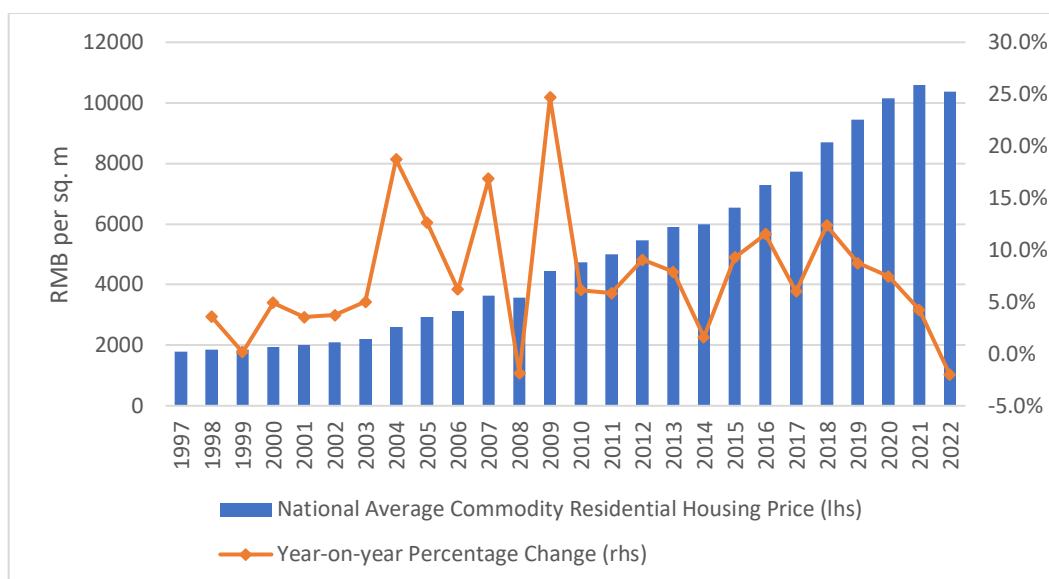


Figure 2-2. Commodity residential housing prices and annual growth rates, 1997-2022.
Data source: National Bureau of Statistics, China Statistical Yearbook 2023.

2.2.3 Fiscal and Land Reform and Land-Based Public Finance

During the reform period, as China carried out a series of housing reforms, other economic reforms—especially fiscal (taxation) and land reforms—profoundly affected the country’s housing system and real estate sector.

In the socialist era, China’s fiscal system was highly centralized. The central government collected all the revenues and allocated them to local governments and state-owned enterprises (SOEs) based on the national plan. From 1979 to 1993, the Chinese government gradually decentralized fiscal power and responsibilities to local government by enacting revenue-sharing arrangements. In principle, the central government divided revenues and expenditures with local governments, and each level of government was responsible for balancing its budget.

Fiscal decentralization contributed to China’s economic growth in the 1980s and 1990s by improving the efficiency of allocating public resources (Lin & Liu, 2000). Nonetheless, this move resulted in a sharp decline in the central government’s revenue, which jeopardized the central government’s political interests (Zou, 2014).

In 1994, the central government enacted a fiscal reform to strengthen its control over the economy (M. Zhang, 2006). By reclassifying the types of taxes and redefining ways to share tax revenues, the central government's revenue more than doubled in 1994 from the previous year (Rosen, 2014). Major taxes, including value-added tax, business tax, and enterprise tax, are remitted directly to the central government after the reform. While local governments still have the same or even greater spending responsibilities (e.g., social security, public services, government employee's payroll, etc.), their share of tax revenue shrinks. In 2008, local governments were responsible for 79 percent of total government expenditure, yet they only received 47 percent of total government revenues (Man, 2010). The imbalance in the central-local fiscal relationship forced local governments to find some extra-budgetary revenues—primarily land-leasing fees—to fund local expenditures (Rosen, 2014; Zou, 2014). Local governments collect fees by leasing land use rights to private developers, which constitute a quarter to half of the local revenue. This phenomenon, known as “land-based public finance (*tudi caizheng* 土地财政),” contributed to the rapid urbanization and real estate boom in China (Dang et al., 2014; F. Z. Y. Hu & Qian, 2017).

In terms of land, China still keeps the socialist legacy of the urban/rural dual-track land system, in which urban land is owned by the state and rural land is owned by the village collectives (Po, 2011). During the Maoist period, the central government made all urban land use decisions according to the national plans of production and urban planning, including land appropriation, acquisition, transfer, and development (Y. Zhou & Ma, 2000). In the 1980s, to accommodate nationwide market-oriented reforms, a series of urban land reforms were enacted to privatize urban land use rights (but not the land ownership, which still belongs to the state). The 1988 amendments (Article 10) to the Constitution officially stipulated that land users could

pay a lump sum, called land transfer fees (*tudi churang jin* 土地出让金), to obtain a lease of state-owned land for a specified type of use for a fixed period. Since then, the land transfer fee has become an important source of fiscal revenue. The invention of public land leasehold transformed urban land from “a means of production” to an economic asset and gave rise to different types of land and real estate markets in the cities (H. Han et al., 2015; Po, 2011; Y. Zhou & Ma, 2000; J. Zhu, 2017). This wave of land use rights privatization led to significant economic growth in the 1980s.

In the 1980s and 1990s, most urban land allocations were conducted in a non-transparent manner. Local land bureaus leased urban land to developers or users through a process referred to as “negotiation.” These negotiated land sales often led to corruption. Additionally, in many instances, the leaseholds were not granted to the most qualified and suitable users. This situation not only deprived local revenues but also created inefficiencies in the land market (Cai et al., 2013). In 2004, the Ministry of Land and Resources and the Ministry of Supervision issued Notification No. 71 to enhance transparency and reduce corruption within the land market. This directive prohibits negotiated sales of profit-oriented land, stipulating that all urban land sales for profit-oriented development must be standardized through bidding, auctions, or listings (Yang & Chen, 2014). Local governments should publicize the assignment plan for land use rights and related documents, make collective decisions, and post the assignment result to the public. The open land market system has significantly supported the expansion of the real estate sector while simultaneously causing land prices to soar, driven by a highly restricted land supply in China (L. Deng et al., 2022).

Due to China’s tax-sharing system and public land ownership system, this “land-based public finance” became an inevitable result. As all urban construction is operated and leased

through local governments, the premium on land leasing is a major source of local government revenue. In 2012, the total revenues related to land leasing were equivalent to about 7 percent of GDP and almost 30 percent of general government revenues (World Bank and the Development Research Center of the State Council P. R. China, 2014). The Chinese government has taken small steps to narrow the gap between local government spending and revenue, such as the economic reform plan enacted in 2013 and allocating more consumption tax revenue to local governments in 2019. Nevertheless, it has failed to change the overall picture without taking some bolder steps, e.g., mainstreaming the property tax on housing. In 2021, the national land-based revenues peaked at 8.5 trillion RMB, accounting for 7.4 percent of GDP and 42.0 percent of general government revenues (National Bureau of Statistics, 2022). Local governments continue to exploit land sales to increase revenue and skimp on crucial expenditures in public goods, including affordable housing (Tang, 2021).

China's "land-based public finance" and the intergovernmental system had a significant impact on the availability and spatial distribution of affordable housing (M. Chen et al., 2015; Dang et al., 2014; F. Z. Y. Hu & Qian, 2017; Zou, 2014; Zuo, 2019). China's affordable housing provision structure had a hierarchical and top-down framework (J. Chen et al., 2014). The central government formulated a general policy and strategy. It assigned annual and long-term construction targets for each province, leaving local governments responsible for planning and implementing affordable housing programs (Y. Huang, 2012). While the central government only bore a small part of the cost (8 percent in 2011), local governments had to shoulder most of the fiscal burdens associated with affordable housing development (Dang et al., 2014; Zou, 2014).

Local governments usually provide free land and tax benefits for affordable housing projects, which impact local revenue, especially land-leasing fees. Therefore, local governments are less willing to place affordable housing projects in urban core areas where the land could contribute considerable land-leasing fees to local revenue than in less-developed urban fringes where the land is much cheaper, attempting to minimize their land-based revenue losses. In addition, local governments must bear other costs, including land requisition and infrastructure provision, maintenance, facility management, etc. If the site were in the urban core area, it would be more likely to have a higher density, which would cost more in demolition and relocation compensation. Thus, local governments also avoid allocating well-developed sites to affordable housing projects because of the concerns over land acquisition costs.

As a result, local governments lack both the fiscal capacity and motivation to build affordable housing more than the mandates and tend to concentrate affordable housing projects in inferior locations where land is much cheaper and easier to acquire to minimize their overall fiscal burdens and political risks (Dang et al., 2014; Y. Huang, 2012; Zou, 2014; Zuo, 2019). First, some empirical studies showed that affordable housing programs failed to achieve the goal of covering all eligible households in need of housing assistance (“*ying bao jin bao* 应保尽保”). For instance, Yi and Huang (2014a) evaluated the CRH program in Beijing. They found that less than 3 percent of low-income urban households and 37 percent of “*dibao* (低保)” households¹⁴ were covered by the CRH program in 2010.

Second, local governments tended to locate public housing projects in less-developed urban fringes to minimize fiscal burdens and political risks (Dang et al., 2014; F. Z. Y. Hu &

¹⁴ It refers to households that receive a Minimum Standard of Living Assistance, a monthly allowance from the government to ensure their basic standard of living.

Qian, 2017). Such locations usually lack adequate access to economic opportunities and public services. Literature has widely discussed that low-income housing projects with inferior locations produce poverty concentration and residential segregation between the rich and the poor (Massey & Fischer, 2000; Massey & Kanaiaupuni, 1993). Chinese scholars also warned about the potential for similar phenomena to emerge in Chinese cities (Dang et al., 2014). For instance, Chen et al. (2015) studied spatial patterns of affordable housing in Beijing from 1999 to 2012. They found that affordable housing development was spatially clustered and primarily located in the urban fringe, like Tian Tong Yuan and Hui Long Guan. This further increased the jobs-housing imbalance and produced spatial segregation in Chinese cities. Beyond the city level, Hu and Qian (2017) discovered a spatial mismatch between cities devoting a higher share of land for affordable housing and cities with severe housing affordability challenges. They found that cities with a higher degree of dependence on land-based revenue and a higher level of fiscal autonomy were less likely to devote land for affordable housing construction, which empirically demonstrated that the local government's reliance on urban land-based revenue was a significant determinant of affordable housing provision and spatial distribution in China. This discriminatory site selection practice in affordable housing development contributed to the social and spatial marginalization and residential segregation in cities across China (Dang et al., 2014; Shi et al., 2016; Zou, 2014).

2.2.4 Housing Inequality and Residential Segregation in Urban China

Since the economic reform launched in 1978, China has seen rapid and steady economic growth during the whole reform period. China's gross domestic product per capita increased from 385 RMB in 1978 to 20,494 RMB in 2007, with an average growth rate of 8.81 percent annually (National Bureau of Statistics, 2021a). Real estate played a significant role in China's

economy: housing construction and sales had been the biggest engine of China's economic growth, especially after 2003 when the central government officially recognized that the “real estate industry has become a pillar of the national economy” (State Council, 2003). In 2007, China's investment in real estate development accounted for 21.4 percent of total fixed asset investments. From 1998 to 2007, a total of 10.66 billion sq. m of residential housing was constructed in urban areas (Figure 2-3).

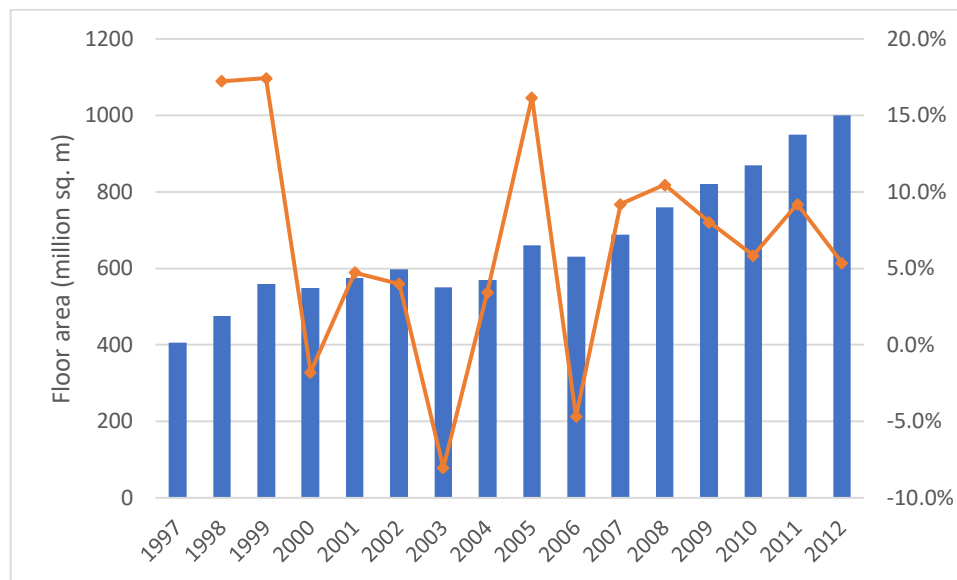


Figure 2-3. The floor area of newly built residential housing and annual growth rates, 1997-2012.
Data source: National Bureau of Statistics, China Statistical Yearbook 1999-2013.

With the growing number of urban housing units being constructed each year, China's housing consumption—commonly measured by living space per capita, housing quality, and housing source/tenure—has dramatically improved since 1978 (Yi & Huang, 2014b). In 2010, more than half of urban families lived in private market-rate housing (either owned or rented), and only 2.7 percent lived in public rental housing (including CRH) (Yi & Huang, 2014b). The floor space of residential buildings in urban areas had reached 31.6 sq. m per person, nearly five times the 6.7 sq. m per person recorded in 1978 (National Bureau of Statistics, 2013). Besides, housing quality has significantly improved over time. More urban residents are living in newer

homes in multi-story or high-rise buildings. About 90 percent of urban families had a private kitchen and bathroom, tap water, and gas/electricity for cooking in 2010, which was much better than many other developing countries (Yi & Huang, 2014b).

Although the national statistics indicate that housing reforms have significantly improved urban housing conditions, emerging research on Chinese housing revealed that housing privatization and marketization even deepened housing inequality and segregation issues in urban China (J. Chen et al., 2018, 2022; C. Fang & Iceland, 2018; Y. Fang et al., 2020; Huang, 2005; Huang & Li, 2014; Z. Li & Wu, 2008; Logan et al., 1999, 2010; Y. Wang et al., 2020; Y. P. Wang & Murie, 2000; Yi & Huang, 2014b; P. Zhu, 2015).

Housing Inequality

Under the housing reforms, housing inequality in the socialist era was transformed into more significant disparities in homeownership and wealth accumulation due to housing privatization (Y. Huang & Jiang, 2009). Public housing was privatized in the 1990s by allowing sitting tenants to purchase their units at discounted prices (i.e., housing-reform housing) and become homeowners. Then, they could trade for a better home by selling their housing-reform housing in the private market at a profit. Individuals in higher positions within the socialist work unit system were more likely to acquire housing-reform units of better quality, enabling them to reap greater benefits from homeownership in the market economy. Work units that are more powerful and resourceful could also offer their employees higher discounts and better terms in property rights arrangements. In contrast, people employed in lower-ranked work units or in work units that had not invested in housing substantially might have limited or no access to housing-reform units, often receiving only smaller and lower-quality units. Consequently, people who had better access to public housing under the previous socialist distribution system also

found themselves in a more advantageous position during the privatization process (Logan et al., 1999; Y. P. Wang & Murie, 2000).

In addition, housing commoditization and marketization added a new layer to China's urban housing landscape. Before the housing reform, work unit compounds dominated residential patterns in Chinese cities, characterized by gated neighborhoods (living quarters) built close to the work site, accommodating employees from high-ranking officials and professionals to low-ranking staff and workers. Therefore, although housing inequality and segregation were considerable between different compounds due to the industrial and administrative differences between work units, the degree of social mix and equality was relatively high within each compound (Y. Huang, 2005, 2006; Y. P. Wang & Murie, 2000).

Then, housing reforms significantly altered residential patterns, which profoundly impacted urban development and community structure in Chinese urban areas. While the housing reforms gave urban households more housing options, spatial and social sorting were in process under the market mechanisms. After the 1998 housing reform, massive master-planned market-rate housing construction unfolded in urban China for the emerging middle class and the new rich. Different qualities and costs of residence were built associated with locations, sorting urban residents based on their socioeconomic status, which contributed to residential segregation and further increased housing inequality on a city scale.

Furthermore, although the 1998 housing reform had officially terminated the socialist housing distribution system in China, those institutional forces from the socialist era—the work units and hukou system—continued to have an impact on the housing landscape and shape housing inequality and segregation in urban China (Y. Huang & Jiang, 2009). Although work units were no longer responsible for building living quarters for their employees, they were still

providing monetary housing subsidies (e.g., contributing to HPF), which allowed work units that were in the public sector and had high administrative and financial power to offer better housing benefits to their employees.

Besides, the *hukou* system remained in place, differentiating access to welfare and services, including housing, between local urban residents and migrants. (Y. Fang et al., 2020). From the 1980s onward, domestic migration has been China's most important ongoing demographic process because of its remarkably large scale and "broad impact on the Chinese economy and society and beyond" (Liang, 2016, p. 452). Nevertheless, migrants did not have access to subsidized housing during the reform era, neither housing-reform housing nor new affordable housing. Both the ECH and CRH programs excluded people without local urban registration. While some affluent and highly skilled urban migrants might be able to afford market-rate housing, most migrants who had low-paying jobs could not afford decent homes in the formal housing market. In general, the majority of migrants lived either in employer-provided dormitories or in informal housing settlements such as "urban villages"¹⁵ or dilapidated urban fringes and old housing neighborhoods in inner cities, forming "migrant enclaves" where housing was more affordable but living conditions were poor and unstable (Z. Liu et al., 2013).

Overall, while the housing reforms significantly increased China's urban housing consumption, this improvement was not shared by all social groups. The difference in housing consumption between different social groups is the leading indicator of housing inequality. Many studies documented that housing inequality in urban China reached an unprecedented level during the first decade of the 21st century (J. Chen et al., 2018; C. Fang & Iceland, 2018; Y. Fang

¹⁵ "Urban villages (*cheng zhong cun* 城中村)" refer to suburban rural villages that have been submerged by urban areas due to rapid urban sprawl, but their rural community identity and management system are maintained (Y. P. Wang & Shao, 2014).

et al., 2020; Y. Huang, 2005; Y. Huang & Li, 2014; Y. Wang et al., 2020; Yi & Huang, 2014b). Homeowners of housing-reform housing or commodity housing benefitted more from the booming housing market than the renters, enjoying better living conditions and accumulating wealth from housing price inflation (Yang & Chen, 2014). With the maturation of housing and labor markets, socioeconomic statuses such as income and education became more important in predicting a household's housing consumption; yet, the persistence of institutional forces, including work-unit-based housing subsidies and the *hukou* system, continued to shape housing inequality in Chinese cities. In general, China's urban housing in the reform era, especially after 2000, was characterized by improved housing consumption and a complex pattern of housing inequality (Yi & Huang, 2014b).

Residential Segregation

Residential segregation measures the extent to which various social groups are concentrated in different residential locations (Z. Li & Wu, 2008; Trounstein, 2018). The existing literature has extensively examined residential segregation in Western countries. In the United States, urban space is segregated by race and class. Due to the strong connections among place, race (class), and privilege, residential segregation is often empirically intertwined with racial segregation and class segregation (Squires & Kubrin, 2005). Some researchers studied segregation patterns in American cities and observed that while segregation within cities has declined over time, segregation between cities has remained stable and even increased in recent decades (Cutler et al., 1999; Trounstein, 2018).

Although residential segregation has a long history in China, empirical research on this issue is nascent in Chinese urban studies due to poor data availability and quality. Nonetheless, several new socio-spatial phenomena emerged within cities under the housing reforms, which

captured the attention of many researchers (Y. Huang, 2005; Z. Li & Wu, 2008; Y. Liu et al., 2015; Logan & Li, 2012; X. Ma & Zhou, 2019; D. Wang et al., 2012; Y. P. Wang & Murie, 2000; P. Zhu, 2015; P. Zhu et al., 2017):

- The rich lived in upscale neighborhoods of villas and townhouses, which formed “zones of affluence” in the suburbs.
- The emerging middle class lived in enclosed ordinary commodity housing developments with convenient transportation and attractive amenities.
- Large-scale affordable housing estates housed low-income families, often spatially clustered at the underdeveloped urban fringes, having little access to opportunities.
- Rural migrants were marginalized in “migrant enclaves” or concentrated in industrial areas.
- As better-off households moved out, old work-unit compounds and welfare public housing became dilapidated living areas for the urban poor in the inner city.

Scholars argued that Chinese cities had become “more socially stratified and spatially segregated” under the reforms (Logan & Li, 2012, p. 69). They pointed out the rise of residential segregation within Chinese cities, which called for alarm and further exploration.

Residential segregation in urban China has been studied mainly along three axes: (1) institutional dimensions, including hukou/migrant status and work units; (2) housing tenure; and (3) socioeconomic status. Besides, two other less dominant dimensions of residential segregation have been identified in the existing literature, including individual preference and ethnicity. All of them highlight that China has a unique experience of residential segregation, which is significantly different from many Western countries where race and class are the primary sources of residential segregation (Y. Fang et al., 2020).

Institutional dimensions. As mentioned above, despite a series of *hukou* and housing reforms in the reform era, studies have seen lingering effects of the *hukou* system and work units on housing consumption (J. Chen et al., 2018; C. Fang & Iceland, 2018; Y. Huang, 2005; L. Liu et al., 2018). Migrants in major cities still face segmented housing markets due to various population control measures in place and their lack of financial resources. In addition, some administrative or academic institutions continued acting as resource distributors, trying to attract talented employees (Y. P. Wang & Murie, 2000). For example, they could sponsor cooperative housing developments under the ECH program and sell to their employees at very low prices (this practice was banned in 2007), or they could apply funds through financial institutions such as the HPF so their employees can afford homes on the market (L. Deng et al., 2011). Therefore, the *hukou* system and work units still play a role in institutionalizing residential segregation even after housing reforms and continue exerting their influences on the fragmented socio-spatial structure of Chinese cities.

Housing tenure. Studies have found housing tenure to be the most significant indicator of residential segregation in contemporary Chinese cities. Empirical studies on cities like Beijing and Shanghai indicated that residential segregation in urban China was tenure-based (Z. Li & Wu, 2008; Logan & Li, 2012). Since the location of different housing tenures follows a spatial pattern, it is understandable that housing tenure, which directly reflects both the policy shift toward marketized housing and the persistence of socialist institutions, tends to be the most prominent dimension of residential segregation in Chinese cities. Therefore, urban China is characterized by tenure-based residential segregation, which will force social stratification in the long term.

Socioeconomic status. Although residential segregation by socioeconomic status appears less pronounced in Chinese cities compared to the West, as China has transformed into a market-oriented economy, socioeconomic status has become a rising source of urban residential segregation and housing inequalities (Z. Li & Wu, 2008). Under the market-based sorting mechanisms, housing locations and outcomes are driven by family life cycles (e.g., age, marital status, household size), affordability (e.g., income, wealth), and human capital (e.g., education, occupation) (Y. Fang et al., 2020). Higher socioeconomic status can be translated into better neighborhood qualities and locations. It is best illustrated by the emerging gated market-rate housing neighborhoods after the housing reforms, which reflect the rapid expansion of the new rich and the middle class in Chinese cities. These communities are created as an “enclave” of those with similar socioeconomic status to ensure a club-style of housing and service provision to people with comparable affordability, interests, and lifestyles (Lu, 2006; Y. Wang et al., 2018; Wu, 2005). Besides, the large-scale concentrated affordable housing developments also contribute to residential segregation based on socioeconomic status. These developments are mostly located in the less-developed urban fringes, which further disadvantage families with lower socioeconomic status and may produce poverty concentration (M. Chen et al., 2015; Dang et al., 2014).

Besides these three main dimensions discussed above, some studies also touched upon other aspects of residential segregation, including **individual preference** and **ethnicity**. Li and Huang (S. M. Li & Huang, 2006) argued that with the reduced influence of socialist institutions on residential decisions, residential preference now assumes a more prominent role in housing and neighborhood selection. The rise of gated market-rate housing communities, for example, is not only an expression of conspicuous consumption of the newly rich but also reflects their self-

awareness as well as their pursuit of prestige, anonymity, privacy, individualism, and identity (Gu et al., 2015; Wu, 2005; Y. Xu, 2015).

In the United States, residential segregation usually results in a concentration of various problems and privileges in different places and among different social groups. These “concentration effects” contribute to and perpetuate inequalities in social, economic, and educational opportunities (Squires & Kubrin, 2005). Residential segregation limits upward socioeconomic mobility opportunities for disadvantaged groups. Discrimination and limited choices in the housing market for minorities and the poor contribute to and perpetuate other social inequalities around wealth, education, health, crime, and employment (Molina, 2017). Specifically, this mismatch between where minorities and low-income people reside and where suitable jobs are located is known as “spatial mismatch,” a topic that has received considerable attention in the literature (Brueckner & Zenou, 2003).

In China, however, limited studies on the implications of residential segregation have presented mixed results. Ma and Zhou (2019) found that residential segregation had a negative impact on the education of children from migrant families. Children of migrant workers had a higher dropout rate and lower high school enrollment rate if they lived in a more segregated community. On the other hand, Zhu (2015) and Zhu et al. (2017) studied urban villages where migrant workers concentrated and argued that despite residential segregation, urban villages provided relatively better job accessibility and employment outcomes to migrant workers than other types of urban settlements. They suggested that individuals from the same social groups residing in proximity collaborate to establish more robust social networks, which may have a favorable impact on job seeking, a phenomenon known as the “spillover effect.” Their findings

contradict the spatial mismatch effect prevalent in the United States and indicate that the spillover effects override the spatial mismatch effects in Chinese cities.

Overall, China's experience of residential segregation differs significantly from that of many Western countries in terms of its causes, patterns, and implications. Therefore, further investigations are warranted to achieve a more comprehensive understanding of socio-spatial phenomena in urban China.

2.3 Inclusionary Housing in the Post-Reform Era (2007-2016)

In the early 2000s, China's housing provision emphasized the role of housing in economic growth while overlooking the housing needs of low- and moderate-income households. Housing prices skyrocketed after 2003 (Figure 2-2). Within a short period, housing affordability became a pressing issue that challenged social and political stability as well as the sustainability of the housing market (Shi et al., 2016; Yang & Chen, 2014). According to Man et al. (2011), the price-to-income ratio (PIR) in Chinese cities reached 5.54 on average in 2007, categorizing urban China as "severely unaffordable" according to the international standard. Under the strong social and political pressures, the Chinese central government took measures to curb the soaring housing prices and committed to reviving and expanding affordable housing programs to meet the basic housing needs of low-income house-poor families (J. Chen et al., 2014; State Council, 2007).

In 2007, the State Council of China announced *Opinions on Tackling Housing Difficulties of Low-income Families in Urban Areas* (SC[2007]No. 24), in which the CRH was established as the primary affordable housing scheme nationwide, limited the unit size to 50 sq. m, and expanded its coverage to include low-income families with housing difficulties. Meanwhile, the ECH program was modified to target low-income families with housing

difficulties only and to be more affordable by reducing the unit size to around 60 sq m and imposing more restrictions on resale (State Council, 2007). This document signaled a turning point that reversed the down-sliding trend of affordable housing provision.

Before long, the global financial crisis reinforced the Chinese government's determination to push forward affordable housing development while cutting property transaction taxes and relaxing market regulations to stimulate the housing market (Yang & Chen, 2014). The central government committed to solving housing difficulties for 7.47 million urban low-income house-poor families by 2011; between 2009 and 2011, a total of 3.9 million ECH units and 5.18 million CRH units would be built, and 1.91 million households would receive rent subsidy (MOHURD, 2009; State Council General Office, 2008). This plan was a crucial part of China's 4 trillion RMB economic stimulus package in response to the global financial crisis, which signaled the resurgence of direct state intervention in housing provision (J. Chen et al., 2014; Shi et al., 2016).

Since then, China has accelerated affordable housing development and pledged to meet the basic housing needs of all people. In 2010, the central government doubled its target and strived to provide decent homes for 15.4 million urban low-income house-poor households by 2012 (State Council General Office, 2010). By the end of 2010, a total of 22 million households had received in-kind housing subsidies, which covered 9.4 percent of urban households (W. Jiang, 2011). In China's Twelfth Five-Year Plan (2011-2015), affordable housing was regarded as a critical component of the social welfare and public service system. The Plan revealed the resolution of the Chinese government to establish a national housing security system and protect citizens' right to adequate housing (State Council, 2012). In 2011, former Premier Wen Jiabao

announced the plan to construct 36 million affordable housing units between 2011 and 2015, aiming to accommodate a fifth of China's urban population (J. Wen, 2011).

Due to the heightened political will expressed by the central government, affordable housing development resurged after 2007 (**Error! Reference source not found.**). According to Premier Wen Jiabao (2011), China started the construction of 5.9 million affordable housing units and completed 3.7 million units within the year 2010. During the Twelfth Five-Year Plan period (2011-2015), China started the construction of 40.13 million affordable housing units, which exceeded the 36 million target, and completed 28.6 million units in total (MOHURD, 2016).

Nonetheless, China's socioeconomic transformations significantly impacted its affordable housing system after 2007. Consequently, it is reasonable to assert that this resurgence of affordable housing development since 2007 did not follow the same path as the reform era, specifically between 1998 and 2003. Instead, it transitioned from a large-scale, aggressive, government-led mode of production to a decentralized, incremental mode that relies heavily on the private sector for delivery.

China has been experiencing rapid urbanization, characterized by a huge influx of migrants from rural areas or less developed parts of the country to large cities in economically advanced regions. China's urbanization rate (urban population as a percentage of the total population) increased from 49.7 percent in 2010 to 63.9 percent in 2020 and hit 65.2 percent in 2022 (National Bureau of Statistics, 2023a). This domestic migration and associated demographic changes have fueled massive housing demand, which contributes to urban housing price inflation, at the same time, exacerbated housing inequality in Chinese cities (J. Chen et al., 2022; Y. Huang & Ren, 2022; Y. P. Wang & Shao, 2014). As discussed previously, migrants

were facing segmented housing markets. Most migrants have limited financial resources and social networks in host cities, which severely constrain their housing choices. In addition, the affordable housing programs established in the reform era had *hukou* restrictions and only targeted local urban residents. Therefore, a large segment of the population, including migrant workers and young educated professionals, who represent a large portion of the expanding urban population, are often excluded from the formal housing markets and marginalized in “urban villages” or dilapidated urban fringes living in inadequate housing (Y. Huang & Ren, 2022).

Due to the massive influx of migrant workers, new graduates, and young professionals in Chinese cities, who are the emerging forces of the city, the Communist Party has adjusted its representation and development strategies to maintain social and political stability (J. Chen et al., 2014). At its 17th National Congress in 2007, the Communist Party reaffirmed its target to achieve a “harmonious society,” which prioritizes promoting common people’s welfare and social harmony rather than single-mindedly pursuing economic growth (J. Chen et al., 2014; Y. P. Wang & Murie, 2011; J. Zhou & Ronald, 2017). In the housing sector, the Party promised to facilitate and protect the “basic housing rights” of the citizens. Similar to the UK’s “decent homes for all,” the fundamental housing right of people requires the government to provide decent homes for all, including migrants, and focus on a more equitable allocation of housing benefits (Y. P. Wang & Murie, 2011; J. Zhou & Ronald, 2017).

Furthermore, as the growth rate of China’s economy has been on a downward trend since 2010, the Chinese central government advocates a “people-centered” urbanization to restructure its economy and to fuel future economic growth, which requires focusing on social development and improving the welfare of the people especially the disadvantaged groups, such as migrants and low-income families. In the housing sector, the government implemented more stringent

measures to curb the rapid rise in housing prices, such as restrictions on home purchases, while premising on affordable housing development to meet the basic housing needs of all people. In 2013, President Xi Jinping, in his speech at the 10th collective learning meeting of CPC Politburo, described the affordable housing development in China as “the inevitable requirement to promote social justice and ensure the public sharing the achievements of the reform and economic development” (Xinhua Net, 2013). At the 19th CPC National Congress in 2017, President Xi Jinping, in his report, addressed that “We must not forget that housing is for living in, not for speculation. With this in mind, we will move faster to put in place a housing system that ensures supply through multiple sources, provides housing support through multiple channels, and encourages both housing purchase and renting. This will allow us to meet the housing needs of all people” (X. Liu, 2017).

Essentially, the Chinese government started to emphasize affordable housing development as more than just a pillar of economic growth but also a social development tool that can enhance social welfare, adjust inequalities, and improve social inclusion and stability in the post-reform era (Yang & Chen, 2014). China has taken two major steps to establish a housing system, as described in Xi’s report.

First, China’s affordable housing production has adopted an inclusionary housing approach. In an administrative regulation, *Opinions on Tackling Housing Difficulties of Low-income Families in Urban Areas (SC[2007]No. 24)*, issued by the State Council of China in 2007, it stipulated that **new CRH construction should be mainly “tied in (*peijian* 配建)” with commodity residential housing projects**, supplemented by concentrated CRH developments. This added another layer to the significance of the document. Besides reviving and expanding affordable housing programs, it was the first time the Chinese central government officially

introduced and emphasized the “tie-in” construction of affordable housing, which was similar to the inclusionary housing scheme in the United States conceptually. Therefore, this document ushered in the era of inclusionary housing development. Instead of relying on direct public subsidies to construct concentrated, large-scale affordable housing projects, the inclusionary housing scheme integrates affordable housing units in market-rate housing developments, harnessing economic gains from the burgeoning housing market (Calavita & Mallach, 2010; Y. Huang, 2015). From 2008 to 2010, the central government repeatedly addressed the tie-in construction of affordable housing as the main scheme to produce CRH (MOHURD, 2009, 2010b; State Council General Office, 2008).

The inclusionary housing policy was introduced with two primary purposes: to increase the supply of affordable housing units without overburdening the local budget and to deconcentrate low-income families while promoting social inclusion by creating mixed-income neighborhoods (Y. Huang, 2015). Before the emergence of the inclusionary housing scheme, affordable housing in China was mainly developed in large-scale, low-cost, heavily subsidized projects of units exclusively for low- to middle-income households. This scheme resulted in two major challenges for China’s affordable housing development—the supply shortage and the discriminatory site selection practice, as discussed in Section 2.2.3 (M. Chen et al., 2015; Dang et al., 2014; F. Z. Y. Hu & Qian, 2017; Y. Huang, 2012; Yi & Huang, 2014a; Zou, 2014). To produce more affordable housing units without exerting more financial and political pressure on local governments and to avoid social problems associated with large-scale concentrated affordable housing projects, implementing the inclusionary housing policy seems to be the most reasonable choice for the Chinese government. As mentioned by Qi Ji, who was the vice minister of the Ministry of Housing and Urban-Rural Development (MOHURD), this inclusionary

housing approach could increase the supply of affordable homes for low-income families, in the meantime, mixed-income communities help them integrate into society and provide them with better access to jobs and public services, which would prevent the concentration of poverty (L. Chang et al., 2009).

Under the strong directives of the central government, a growing number of cities have adopted the inclusionary housing scheme in the 2010s, including Beijing, Shanghai, Chongqing, Xi'an, Zhengzhou, etc., creating mixed-income developments in urban areas. Same with other housing policies, the inclusionary housing scheme that local governments adopt and refer to can vary significantly between localities, by the share of affordable housing units required, income levels of the targeted population, presence and nature of exemptions or triggers, as well as type and frequency of cost offsets and buyout options (Y. Huang, 2015). Local governments do not appear to have followed a single template; instead, they have adapted to their specific goals and market conditions. Therefore, the inclusionary housing scheme cannot be treated as a monolithic policy implementation, which deserves a finer-grained investigation at the local level.

In addition to adopting the inclusionary housing approach, the Chinese government implemented a new affordable rental housing program—the Public Rental Housing (PRH) program—to solve interim accommodation needs of migrant workers, new employees, and low-to-middle income house-poor families by providing rent subsidies or subsidized rental units. Unlike other affordable housing programs, the PRH program is accessible to migrants, which makes it a vital policy step and an indispensable part of the housing provision system. In 2011, the PRH program was officially incorporated into the national affordable housing policy framework and designated as the core pillar of China's affordable housing system (State Council General Office, 2011). In 2013, the CRH program was merged into the PRH program to improve

program capacity and administrative efficiency (MOHURD, 2013). As with CRH, new PRH production should be integrated with new market-rate residential housing development through an inclusionary housing scheme (MOHURD, 2010a; State Council General Office, 2011).

In 2011, China constructed a total of 2.27 million PRH units, significantly surpassing the 1.65 million CRH units and 1.1 million ECH units (W. Jiang, 2011). During the 12th Five-Year Plan period (2011-2015), China started to build a total of 13.59 million PRH (including CRH) units and completed 10.86 million units (MOHURD, 2016). According to the MOHURD, with the implementation of the PRH program, China had generally achieved the goal of providing housing assistance to all eligible households in need and completed establishing a multileveled housing security system, combining in-kind and monetary housing subsidy (MOHURD, 2016).

2.4 Towards a New Era of Inclusionary Housing (2016-Present)

China's housing reforms led to a decades-long boom in its real estate sector, which has been a critical driver of its economy. According to Rogoff and Yang (2021), the real estate sector¹⁶ accounted for 29 percent of China's GDP in 2016. Due to its outsized footprint on China's economy, the Chinese government had great incentives and thus played a crucial role in pushing real estate development and sustaining soaring housing prices in China (Glaeser et al., 2017). Nonetheless, with Japan's real estate crisis in the 1990s and the US housing market crash in 2008 as precedents, the Chinese authorities have long been wary of the risks associated with the overheating housing market and, at various times, have taken measures to clamp down on speculation.

¹⁶ The real estate and construction industries combined.

In December 2016, President Xi asserted that “housing is for living in, not for speculation” during the Central Economic Work Conference, which has been the guiding policy principle to contain the overheating housing market fueled by debt (Miao, 2023). At the 19th National Congress of the Communist Party of China, President Xi reiterated the principle and addressed building a housing system that “ensures supply through multiple sources, provides housing support through multiple channels, and encourages both housing purchase and renting” to “meet the housing needs of all of our people.” This ushered in a new development period for China’s real estate industry, which faces stricter tightening measures like tightened purchase limits and higher down payments to suppress demand, alongside more influential macro regulations imposed by the central government to curb a potential housing bubble.

To manage affordability and to improve the financial health of the real estate sector, in August 2020, the Central Bank and MOHURD introduced one of the most impactful policy measures—the “Three Red Lines” policy, which stipulated that real estate companies must maintain a liability-to-asset ratio (excluding advance receipts) of less than 70 percent, a net gearing ratio¹⁷ of less than 100 percent, and a cash-to-short-term debt ratio of more than one; failure to do so would entail limits on the extent to which they can grow debt depending on the number of “red lines” overstepped (Chu et al., 2023). Four months later, China’s Central Bank issued a regulation to cap property loans by banks to rein in real estate investment and further curb housing speculations. In February 2022, the Minister of Natural Resources overhauled the land auction system and trialed a so-called centralized land sales policy in 22 key cities, which limited those cities to hold only three discrete rounds of land auctions each year to curtail developers’ speculative bidding on unpredictable land supplies.

¹⁷ It equals debt-equity divided by shareholders’ equity.

These policy measures have created immediate havoc in China's real estate sector since developers were accustomed to high reliance on debt and expansion for growth. Furthermore, Chinese developers found themselves in deeper trouble as the COVID-19 Pandemic hit the real estate sector hard through production disruptions and a weakened economy, making cash flow issues even worse throughout the industry and pushing many firms to the verge of bankruptcy (L. Deng et al., 2024). The Evergrande Group (恒大集团), once listed as the world's most valuable real estate company in 2018, defaulted on its debt in 2021 and filed for bankruptcy in the U.S. in 2023. Another property giant, Country Garden (碧桂园), once China's biggest developer by sales, declared default on its debt in 2023 and is not fighting a liquidation petition in Hong Kong. Small- and medium-sized developers suffered even more due to their lack of liquidity and competitiveness, accelerating industry concentration (L. Deng et al., 2024).

After years of booming growth, China's once red-hot property market has cooled down since 2016. The growth of housing prices has slowed under various restrictive policies to curb housing speculation. The imposition of the "Three Red Lines" policy even led to a decrease in housing prices after 2021 for the first time since 2008 (Figure 2-2). The real estate sector has contracted severely as it adjusts to a collapse in demand. In 2022, new housing construction measured by floor area dropped by 39.8 percent, and housing sales fell by 28.3 percent across the country compared to the previous year (National Bureau of Statistics, 2023b). As a result, China's economy has taken a massive hit from the yearslong property market downturn, which has not only resulted in a decrease in business for real estate and construction-related firms that flourished during the property boom but also shaken the confidence of homeowners and increased debt pressure on local governments that have traditionally relied on land sales for revenue.

In a market economy, affordable housing development is likely to be impacted by the boom-and-bust cycles of the housing market, as it frequently involves some level of engagement from the private sector. This is particularly true for the inclusionary housing approach, which largely depends on the private sector and creates affordable housing by tapping into economic gains from real estate developments (Calavita & Mallach, 2010; A. F. Schwartz, 2015). A housing market downturn would reduce the production outcomes of inclusionary housing and even threaten its existence. In China, however, the inclusionary housing scheme does not disappear in a sluggish housing market; instead, it still has the potential to produce a respectable amount of affordable housing but in a very different form.

Due to China's debt-fueled growth in the 2000s, high vacancy rates¹⁸ stand out as one of the distinct features of Chinese housing markets, especially outside the first-tier cities of Beijing, Shanghai, Shenzhen, and Guangzhou (Glaeser et al., 2017; Rogoff & Yang, 2021). In 2015, the Central Economic Work Conference set “destocking” as one of the top five tasks for the 13th Five-Year Plan (2016-2020). One of the policy measures to reduce housing inventory and stabilize the housing market is providing incentives to convert unsold market-rate units to government-subsidized housing or convert the use of idle land from market-rate development to affordable housing development.

This idea was first brought up by Premier Li Keqiang in his delivery of the annual government work report during the 12th National People's Congress in March 2015. In his speech, Premier Li proposed to “phase in the policy of using both the provision of physical housing and the allocation of housing subsidies and **convert a portion of available (market-rate) housing into public rental housing or housing to be sold to those being relocated**” (K.

¹⁸ Vacancies include housing units that are newly built but not yet sold by developers, or unoccupied housing units held by owners (Glaeser et al., 2017).

Li, 2015). Unlike previous “tie-in” construction of affordable housing, which local governments explicitly specify to include a specific amount and type of affordable housing within each new market-rate development before the land transaction, this new scheme converts existing market-rate housing into affordable housing on a case-by-case basis. Therefore, while it also creates mixed-income neighborhoods, the composition of these neighborhoods can differ significantly in terms of the types and quantity of affordable housing and the physical proximity between different housing groups in one locality. Nevertheless, it still relies on the private sector to produce affordable housing in a scattered and incremental manner. Instead of tapping private gains from the housing market boom, it is a way of leveraging private investment and inputs to absorb excess housing supply in the market downturn. This affordable housing conversion could be seen as a “macro-level” voluntary inclusionary housing scheme in a broader sense.

Facing a sluggish housing market, China’s central government introduced the Affordable Rental Housing (ARH) program in July 2021 as a new housing initiative, partnering with private sectors to relieve housing affordability pressure for new urban residents¹⁹ and young adults²⁰ in major cities. The size of ARH units is usually kept under 70 sq. m, with rents set below the market rate. In the *Opinions on Accelerating the Development of Affordable Rental Housing* (SCGO[2021]No.22) issued by the General Office of the State Council, cities are encouraged to resort to converting idle commercial land and housing stock to increase the sources of affordable housing supply (State Council General Office, 2021). In August 2022, the MOHURD announced that China aims to provide 8.7 million units of ARH during the 14th Five-Year Plan period

¹⁹ The term “new urban residents (*xin shimin* 新市民)” broadly refers to individuals who are not originally from the area and relocate to the city for various reasons, such as work or school. They do not hold a local hukou or have held one for less than three years. This group mainly includes migrant workers, college graduates, newly recruited professional talents, new veterans, etc.

²⁰ In this context, young adults usually refer to people aged 18 to 35 years old.

(2021-2025), which will complete about 3,000 billion RMB investment and benefit more than 26 million people (L. Chen, 2022).

To further improve housing affordability and expand effective investment, the central government added affordable housing for sale into the national housing security system in August 2023, which would be sold to eligible households at controlled prices with meager profit margins, developing “a new model” for the real estate sector to support its stable and sustainable growth (State Council, 2023). In this new model, the central government called on cities with a large housing inventory to transform the unsold homes into affordable housing. To back up this plan, the central government took another step in December 2023 and announced a 350 billion RMB “Pledged Supplementary Lending (PSL)” to fund affordable housing as one of the “three major projects,”²¹ which will be used to buy unsold market-rate homes or provide incentives to transform them into affordable housing in a hope to bolster sales and cut inventory (E. Chan, 2024; L. Zhou, 2023).

To foster a stable and healthy real estate market while enhancing people’s quality of life, China has renewed its inclusionary housing scheme to encourage developers to convert their market-rate inventory into affordable housing for rent or sale. Under mounting pressure to revive the real estate sector, the Chinese government has placed much hope on this round of affordable housing development through the new version of the inclusionary housing scheme to restructure the real estate sector and assist in upkeeping investment activities for economic stability while simultaneously addressing the housing demand and enhancing affordability. The outcomes, however, have yet to be seen and examined. In addition, questions need to be asked about how

²¹ The other two are urban village redevelopment and public facilities.

affordable housing development responds to additional challenges in the coming years, such as demographic change and debt and fiscal revenue problems faced by local governments.

2.5 Conclusion

China's housing reforms transformed a socialist welfare housing system into a market-oriented housing system, which improved the living conditions of urban residents in China. Within four decades, the average residential space per capita in urban China increased from 6.7 sq. m in 1978 to 41.76 sq. m in 2020, and the homeownership rate in Chinese cities increased from 20 percent in 1980 to 87 percent in 2017. Nonetheless, the housing marketization led to a severe housing affordability crisis, which posed great challenges to China's social, economic, and political stability. Facing such challenges, the Chinese government launched and expanded homeownership-oriented and rental-oriented affordable housing programs to address the housing needs of lower-income house-poor households while stimulating domestic consumption and facilitating economic growth in response to financial crises (Table 2-3).

Table 2-3. National affordable housing programs in China.

Program	Period	Type	Target Groups	Description
Public Housing	1949 – 1998	Rental	Local urban residents	Provides housing with extremely low rents.
Economic and Comfortable Housing (ECH)	1994 – Present	Ownership	Lower-middle income local households with housing difficulty	Provides housing with controlled prices and capped profit margins.
Housing Provident Fund (HPF)	1994 – Present	Monetary subsidies	Residents with formal employment	Both employers and employee contribute to the HPF savings monthly, used for housing-related spending.
Cheap Rental Housing (CRH)	1998 – 2013	Rental or monetary subsidies	Disadvantage groups and lowest-income local households with housing difficulties	Provides rent subsidies or housing with very low rents.
Public Rental Housing (PRH)	2010 – Present	Rental or monetary subsidies	Low- and moderate-income households with housing difficulties, new employees, and migrant workers	Provides rent subsidies or housing with controlled rents.

Affordable Rental Housing (ARH)	2021 – Present	Rental or monetary subsidies	New urban residents and young adults in major cities	Provides housing with rents lower than the market rate in the area.
Affordable Housing for Sale	2023 – Present	Ownership	Lower-income working-class households with housing difficulties and in-demand talents ²²	Provides housing with controlled prices and meager profit margins, which cannot be rented out or resold in the market.

Source: Author’s summary.

Furthermore, after two decades of rapid growth in the reform era, China faces many new problems and challenges, including rising socio-spatial inequality and the integration of millions of migrants. To maintain economic, social, and political stability, the Chinese government pledged to pursue a “harmonious society” and advocate a “people-centered” urbanization, which requires addressing social, economic, and environmental imbalances and promoting the common people’s welfare (Y. Huang, 2020). In the housing sector, the Chinese government committed to providing adequate homes for all people and embraced inclusionary housing to foster socioeconomic inclusion while meeting the country’s massive need for affordable housing.

There have been some emerging discussions about the overarching ideology of China’s affordable housing system after 2007 from a welfare regime perspective (Y. P. Wang & Murie, 1999; J. Zhou & Ronald, 2017). Chiu-Shee and Zheng (2021) investigated the rationale of affordable housing provision in Chongqing and Shenzhen during China’s 12th Five-Year Plan period (2011-2015). They argued that even though the overall affordable housing provision showed an increase in human-centered concerns, it remained subordinate to local short-term economic-political goals, indicating a dominant productivist regime. Nonetheless, Chen, Yang, and Wang (2014) investigated China’s resurgent public housing sector after 2008, and they argued that China’s affordable housing provision has shifted towards a people-centered

²² Talents are individuals with specialized skills or advanced education who are brought in through various talent recruitment programs at the national, provincial, or municipal levels to fill technical or academic positions in critical sectors that foster innovation and economic development in China.

“developmental welfare” as a result of pursuing a “harmonious society.” However, Zhou and Ronald (2017) compared the PRH program in Beijing and Chongqing after 2008, and they concluded that the Chinese approach to affordable housing provision is distinctly hybrid, containing both social-democratic and productivist elements.

In general, there have been limited empirical studies on recent affordable housing development in China due to the lack of data, especially at the local level. The existing studies often come from a few first-tier Chinese cities (e.g., Beijing, Shanghai, Chongqing, Shenzhen, etc.). Although relatively less developed, other cities constitute the main body of China’s development and should be included in the picture. Besides, China’s affordable housing system adopts a decentralized approach with localized policy design and implementation (L. Deng et al., 2011). While the central government provides general policy and strategic guidance, provincial governments take on overall responsibility, and municipal/county governments take charge of the implementation. This decentralized structure leads to considerable variations in policy design and implementation. Thus, different cities may tell different stories about affordable housing.

Furthermore, existing discussions on China’s affordable housing mostly came from top-down perspectives that generally emphasized issues of policy design, finance, and regulation by analyzing government documents and statistical data and overlooking the whole country or a few first-tier cities as units of analysis. Nevertheless, it is essential to take a closer look at nuances on a neighborhood and individual scale from bottom-up perspectives using qualitative evidence. This will offer new angles for evaluating affordable housing policy performance and a deeper understanding of its underlying mechanism.

More importantly, discussions on the inclusionary housing scheme in the Chinese context are very limited, even though it has become the major mode of affordable housing production (Z.

Chen et al., 2019; Y. Huang, 2015). In the United States, the inclusionary housing policy has generated considerable attention because of its great potential to produce affordable homes for low- to moderate-income families and promote economic and social integration with little, if any, public expenditure. Nevertheless, critics have countered that inclusionary housing may reduce the supply of market-rate housing, increase housing prices, and ultimately impede the development of the real estate industry (Jacobus, 2015). Others argued that its ability to generate meaningful social interactions is limited, suggesting that inclusionary housing may not achieve as much social integration as policymakers hope (Levy et al., 2013; Thurber et al., 2018). However, such controversies have never been settled because of the complexity and multiplicity in the nature of the inclusionary housing policy, and the evidence has pointed to mixed effects on the real estate industry and community development (Schuetz et al., 2009; A. F. Schwartz, 2015; H. L. Schwartz et al., 2012).

In the Chinese context, Huang (2015) investigates inclusionary housing in China and finds that while the supply of subsidized housing has increased, the policy was set up and implemented mainly as a strategy to fulfill the government's affordable housing quota, which fundamentally makes the inclusionary housing far from achieving its goal of fostering social inclusions. Nevertheless, further research (both longitudinal and cross-sectional studies) with better data is needed to evaluate the performance of the inclusionary housing policy in the Chinese context—to what extent the inclusionary housing scheme can improve housing affordability, how it has an impact on the real estate industry, as well as whether the mixed-living patterns can promote social inclusions in urban China. Moreover, the recent development of the inclusionary housing scheme in the market downturn deserves future research on policy implementation and outcomes.

Nowadays, both Tian Tong Yuan and Hui Long Guan are known as “Sleeper Town” since most of the residents are migrants and new graduates who work and entertain in the inner city of Beijing and only go back there to rest. The film *Tian Tong Yuan* (2011) documented several recent graduates who, among thousands of others, scrambled to Beijing in the hope of a better life but only to find low-paying jobs and cohabiting in pod apartments within Tian Tong Yuan, and ended in what is called the “ant tribe.” With the implementation of an inclusionary housing policy, it is hoped that there will be fewer neighborhoods like Tian Tong Yuan and Hui Long Guan in Chinese cities, and the “ant tribe” will no longer exist. New graduates and migrants will be able to rent or buy adequate homes through affordable housing programs, and they will live among middle-class homeowners within a decent neighborhood at ideal locations, where they can easily access jobs and public facilities.

Chapter 3 From Segregation to Mixed Living: Theoretical Framework and Research Design

Residential segregation has a long history in China. It can be traced back to the Zhou Dynasty (1046 to 256 BCE), which organized the city into separate wards based on social class (Lu, 2006). In the socialist era, under the in-kind socialist housing distribution scheme, work units built residential quarters to house their employees collectively and exclusively. This helped foster social solidarity but generated social inequality (Y. Huang, 2006). After the 1998 housing reform, massive master-planned market-rate housing construction unfolded in urban China for the emerging middle class and the new rich. Different qualities of residence were built associated with location, which led to social polarization and segregation and further increased housing inequality and homogenization (Y. Huang, 2006; D. Wang et al., 2012; Y. P. Wang & Murie, 1999, 2000; Wu, 2005).

Before the emergence of inclusionary housing, government-led, large-scale affordable housing developments further contributed to homogenization and residential segregation in Chinese cities (see 2.2.3). These developments are largely situated in the urban fringes, resulting in insufficient access to both economic opportunities and essential public services. American literature has widely discussed how large-scale low-income housing projects in undesirable locations contributed to poverty concentration and residential segregation (Bristol, 1991; Goetz, 2011; Massey & Kanaiaupuni, 1993; Newman & Schnare, 1997; Woo & Kim, 2016). In China, scholars have also highlighted the likelihood of similar phenomena emerging in Chinese cities (Chai et al., 2011; Dang et al., 2014).

In 2007, inclusionary housing was introduced in China to increase affordable housing production. By creating mixed-income/mixed-tenure living patterns in Chinese cities, it has the potential to reduce residential segregation and avoid social problems associated with large-scale affordable housing projects. Research on inclusionary housing policies and mixed-income housing practices in China is quite limited, and the results regarding whether mixed living promotes social inclusion have been mixed. For example, Tian, Bi, and Li (2007) compared six mixed-income communities in Chongqing, and they concluded that mixed living patterns helped low-income households acquire social investment and reduced social distance between different social groups. Nevertheless, Huang (2015) argued that inclusionary housing in China was mainly designed and implemented as a strategy to fulfill the government's affordable housing construction quota, falling short of its objective to promote socioeconomic inclusion.

Beyond China, there have been plenty of discussions on the socioeconomic implications of inclusionary housing and mixed living patterns. This study will center around two essential aspects: housing inequality and social inclusion.

3.1 Housing Inequality

Housing inequality is one of the most significant and visible aspects of social inequality, and it has gained much attention from scholars and policymakers worldwide. It is often measured by the three dimensions of housing consumption—residential crowding (per capita floor space or rooms per person), housing quality/facility, and housing source/tenure (Yi & Huang, 2014b).

In the United States, housing inequality and segregation have been mainly explored along the lines of race/ethnicity and socioeconomic status, which includes income, wealth, education, and employment (Clark, 1986, 2007; Squires & Kubrin, 2005; Taylor, 2019; Trounstone, 2018). Inclusionary housing is thus hoped to potentially produce more affordable housing for

disadvantaged families in new developments so that they could enjoy better housing and live in “areas that are rich—or quickly becoming rich—in opportunity” (Thaden & Wang, 2017, p. 1).

In China, however, studies have documented that the persistence of institutional forces, including work-unit-based housing subsidies and the *hukou* system, continues shaping housing inequality and segregation in Chinese cities; yet, with the deepening of economic reforms and housing marketization, socioeconomic status (mainly income and education) is playing a significant, and probably increasing, role in shaping socio-spatial structures and housing inequality patterns of urban China (see Section 2.2.4). New market-rate housing remains inaccessible for low-income families who have yet to accumulate enough wealth to afford the 30 percent down payment for a home purchase loan²³. Besides, migrants also struggle to access new market-rate housing due to their lack of financial resources and various homebuying restrictions²⁴, which are in place to curb population growth and skyrocketing housing prices in large cities. Therefore, the focus of inclusionary housing in the Chinese context is to provide more quality and affordable housing to low-income families and migrants so they can move out of dilapidated urban villages and migrant enclaves and live in master-planned, well-developed neighborhoods as their market-rate housing counterparts.

In the United States, studies show that inclusionary housing has been a successful tool in increasing affordable housing supply and fostering mix-income communities, which provides decent homes for lower-income families (mostly 50-120 percent area median income) in low-

²³ In 2010, the State Council issued *Notifications to Firmly Curb the Rapid Rise of Housing Prices in Some Cities* (SC[2010]No. 10). The notification specified that the down payment for a home purchase loan must not be less than 30 percent.

²⁴ In the *Notifications to Firmly Curb the Rapid Rise of Housing Prices in Some Cities* (SC[2010]No. 10). The State Council also stipulated that cities should restrict home purchases if local housing markets were overheated. A total of 49 cities have implemented restrictions on homebuying, with certain clauses specifically targeting migrants. For instance, in 2011, Beijing mandated that nonlocal residents could own only one home in the city. To qualify for a home purchase, they must possess a temporary residence permit and pay at least five years of individual income tax or social insurance consecutively.

poverty neighborhoods and contributes to housing equality (H. L. Schwartz et al., 2012; Thaden & Wang, 2017; R. Wang & Balachandran, 2021; R. Wang & Fu, 2022). On average, about 9 percent of all permitted housing units created in one jurisdiction are affordable housing units produced through inclusionary housing programs; in more than half of the jurisdictions (especially in smaller cities), inclusionary housing programs produced as many or more affordable housing units than the LIHTC program²⁵ (R. Wang & Balachandran, 2021). Moreover, compared to federal affordable housing programs, inclusionary housing programs have proved to be more effective in preserving affordability over extended periods (Hickey et al., 2014; R. Wang & Fu, 2022).

Studies in China indicate that before the emergence of inclusionary housing, affordable housing programs had not helped reduce housing inequality in Chinese cities and even worsened it due to their low coverage and unequal access to housing subsidies (Yi & Huang, 2014a). Therefore, important questions to be answered in this dissertation are whether the inclusionary housing scheme in China has effectively increased affordable housing provision and made affordable housing more accessible for migrants and lower-income households. Moreover, it is pertinent to examine whether inclusionary housing allows affordable housing residents to reside in better locations and benefit from enhanced housing qualities and amenities.

3.2 Social Inclusion

Social inclusion is intrinsic to the Chinese notion of a “harmonious society” (The World Bank, 2013). While frequently utilized in urban studies, the term “social inclusion” is contested

²⁵ The Low-Income Housing Tax Credit (LIHTC) program, codified in the Tax Reform Act of 1986, provides tax credits to private and nonprofit developers who build rental housing units and keep them affordable for a period of time (usually 15 or 30 years). It enables developers to raise equity for affordable rental housing construction by selling tax credits to private corporations. The LIHTC program has become the main source of low-income rental housing in the United States (Landis & McClure, 2010; A. F. Schwartz, 2015).

and still lacks a clear definition (Huxley, 2015). One of the most popular definitions of “social inclusion” was given by the World Bank (2013, p. 50), which refers to “The process of improving the ability, opportunity, and dignity of people, disadvantage on the basis of their identity, to take part in society.”

There is no “gold standard” measure of social inclusion either, hampered by varying definitions, frameworks, and domains of social inclusion (Baumgartner & Burns, 2014; Wilson & Secker, 2015). Many instruments have been developed in the field of mental health and well-being research to measure social inclusion. For example, Secker et al. (2009) developed the Social Inclusion Scale (SIS) to assess the impact of art projects on people with mental health problems, and a study was conducted with university students to validate this measure (Wilson & Secker, 2015). In general, social inclusion is a multi-dimensional concept that commonly encompasses three aspects—economic and material well-being (access to adequate housing, public services and amenities, economic opportunities), social interaction (neighboring, social acceptance, social participation, social support), and community attachment (sense of belonging, community cohesion, sense of security, compatibility) (Baumgartner & Burns, 2014; Huxley, 2015; Secker et al., 2009; Wilson & Secker, 2015).

Nonetheless, the understanding of social inclusion can differ in different settings, as the excluded groups may vary, prompting researchers and policymakers to investigate what social inclusion means in a particular context before moving to the measurement (The World Bank, 2013). Baumgartner and Burns (2014) reviewed existing instruments that measure social inclusion within the mental health literature and found that all identified instruments were developed based on the context of advanced economies, which might not be adapted to developing countries.

In China, social inclusion has received significant attention since the early 2000s, when the central government committed to establishing a “socialist harmonious society.” Chinese scholars emphasized the urgent need for social integration and the inclusion of rural-to-urban migrants and the urban poor in urban areas. (J. Chen et al., 2018, 2022; Y. Fang et al., 2020; Z. Liu et al., 2013; Y. P. Wang, 2005; Zheng et al., 2020). Nonetheless, the definition and composition of social inclusion in the Chinese context remain unclear. Therefore, in this dissertation, it is critical to explore the meaning of social inclusion in the context of urban China, what dimensions matter to the residents, and then evaluate to what extent the inclusionary housing scheme helps enhance social inclusion in Chinese cities. The remaining part of this section delves into the three aspects of social inclusion as suggested by the literature concerning inclusionary housing and mixed-income neighborhoods. A discussion on inclusive built environments is also included in this section. Together, they complete the theoretical framework of this dissertation.

3.2.1 Economic and Material Well-Being

Economic and material well-being encompasses fundamental indicators of economic survival, such as access to adequate housing and other economic measures, such as access to education and healthcare, public transportation, job opportunities, etc. The hypothesized material benefits associated with place-based mixed living developments, or at least their lower-income residents, include better housing quality, improved neighborhood services and amenities, a safer living environment, and benefits related to education and health relative to what is available in most homogenously poor areas (Curley, 2010; Fraser & Nelson, 2008; M. L. Joseph, 2006; Levy et al., 2013; H. L. Schwartz et al., 2012). For example, Schwartz et al. (2012) examined inclusionary housing programs in eleven jurisdictions across the United States. They concluded

that inclusionary housing could provide access to low-poverty schools and neighborhoods, which is a goal that many other federal housing programs have frequently struggled to meet. Tach (2009) found higher employment rates and educational attainment among lower-income residents of mixed-income developments. The improved access to economic opportunities and resources from mixed living can affect residents' well-being (Curley, 2010; Miller, 2017).

Nonetheless, many researchers have argued that mixed living alone cannot lead to significant changes in the economic and material well-being of low-income households because it requires combining housing with changes in other factors, such as social services, job training, public transportation, and fundamental structural barriers that constrain access to opportunity for certain disadvantaged social groups (Brophy & Smith, 1997; M. L. Joseph, 2006; Levy et al., 2013). Moreover, some researchers have been concerned about the long-term effects of mixed living. Joseph (2006) argued that although mixed living could provide low-income families with an improved overall living environment, social order, and increased quality of goods and services, we should only expect short- to medium-term positive effects on their well-being. Low-income families might experience significant personal and familial challenges in the new environment, such as competition with more affluent residents for scarce local resources, which may negatively affect their well-being. In conclusion, there is much more to learn about the challenges of mixed-living patterns and the extent to which residents enjoy benefits beyond improved environmental conditions.

3.2.2 Social Interaction

Social interaction involves formal or casual, planned or spontaneous social encounters in which individuals nurture their relationships and strengthen their connections (Kim & Kaplan, 2004). The commonly anticipated result of mixed living is that the social mix of a neighborhood

can enhance social networks and social capital for low-income residents through interactions, which would influence socioeconomic outcomes and impact residents' well-being (Briggs, 1997, 2006; Galster, 2007; M. L. Joseph, 2006). Role-modeling theory also supports social mixing. It is suggested that exposure to the routines of working families as "role models" may create social influence through observation (Briggs, 2006; Chaskin & Joseph, 2010). These arguments contain two assumptions: first, urban neighborhoods can be seen as social units, offering contexts for the development and utilization of social norms, social networks, and social capital; and second, living in mixed-income, mixed-tenure communities may provide opportunities to interact with people who have more diverse social networks and obtain auxiliary benefits from such interactions (Briggs, 2006; Chaskin & Joseph, 2010).

Yet, studies in the United States and European countries have indicated that we need to lower the expectations regarding the social interaction benefits of mixed-income housing and communities. For example, Chaskin and Joseph (2011) studied two mixed-income developments in Chicago. They found that social interaction in mixed-income developments has been limited, extremely casual, and largely contingent on social (class) proximity. Jackson and Butler (2015, p. 2350) used "social tectonics" to describe this situation, where different social groups "moved past each other like tectonic plates below the Earth's crust, with little contact." If neighborhoods are collections of strangers and those with mostly casual contacts, which prohibit "collective efficacy," they do not qualify as social units. In addition, if social mixing does not lead to meaningful social interactions, residents of mixed-income neighborhoods would have less social capital than residents of more homogeneous neighborhoods.

According to the existing studies, the limited interaction among residents of different social groups has been attributed to two major factors: (1) design factor—spatial segregation

within a mixed-living development and the lack of common areas could reduce opportunities for informal interactions, which otherwise could serve as the basis for developing more significant ties. Besides, inconsistent and non-uniformed housing design increases observable differences among different housing tenures and income groups, which could accentuate social distances and social boundaries and thereby discourage social interactions (Kleit, 2005; Levin et al., 2014; Tersteeg & Pinkster, 2016) and (2) residents' perception—negative perceptions on social mix and stereotypes of different social groups worked against interactions across income and tenure (Bretherton & Pleace, 2011; Chaskin & Joseph, 2011; Musterd, 2008). Furthermore, how residents perceive and interpret their neighborhoods and surroundings could also influence the neighborhood's social interactions and social dynamics (Seo & Chiu, 2014; Tach, 2009).

Studies of social interactions in mixed-living developments have also considered other factors, such as differences in lifestyle and management practices. Differences in work schedules, language, marital status, and family composition could prevent social interactions among different social groups. Moreover, how mixed-living developments are managed and regulated could also affect residents' living experiences and contribute to social tensions within the community. (Brophy & Smith, 1997; Kleit, 2005; Tersteeg & Pinkster, 2016).

3.2.3 Community Attachment

Community attachment refers to residents' sentimental bonding or ties to their geographically bounded community (J. Chang et al., 2020; Kim & Kaplan, 2004). Community attachment conveys the feeling of being at home and belonging to the community, which represents psychological integration and, thereby, is another crucial aspect of social inclusion (Quilgars & Pleace, 2016). Community attachment contains or overlaps with many concepts, such as a sense of belonging or connectedness—describes the extent to which residents feel

themselves as part of the immediate housing community (Kim & Kaplan, 2004; L. H. Li, 2009; Ng et al., 2005); community cohesion—characterizes the degree to which residents feel a sense of community, engage with and attracted to live in the neighborhood (Buckner, 1988); sense of security—illustrates the feelings of being safe and secure within the environment which correlate to residents’ positive psychological bonds with the community (Brown et al., 2004; J. Chang et al., 2020); and activity-friendliness—portrays how the neighborhood environment can facilitate and promote residents’ physical activities, which contributes to their well-being and building a strong community bond (Sugiyama & Thompson, 2005).

Studies on community attachment in the context of low-income housing (or social housing in European countries) often focused on the poor physical environments, social problems, stigma, and displacement experienced by the residents, which could weaken their community attachment (J. Chang et al., 2020; Manzo, 2013; Manzo et al., 2008). On the other hand, some studies indicated that low-income residents living in resource-poor neighborhoods often cultivated a sense of community by building rich and meaningful relationships and mutual support among neighbors (Manzo et al., 2008; Tester et al., 2011; Vale, 2002).

In mixed-income communities, the level of community attachment was found to be unequal among different income and tenure groups. For example, Tach (2009) studied a HOPE VI mixed-income housing development in Boston and noted that former public housing residents were more willing to build social ties with their neighbors, provide and receive social support, intervene in neighborhood affairs to improve the neighborhood, maintain social control, and involve in community events, which all indicated a stronger community attachment, comparing to higher-income newcomers. She also pointed out that their different perceptions of the

neighborhood could explain this variation—former public housing residents were more optimistic about the neighborhood and framed it in terms of improvements.

In the Chinese context, Chang et al. (2020) explored community attachment in affordable and market-rate housing neighborhoods in Guangzhou, China. Their study indicated that living in affordable housing did not impact residents' community attachment. In fact, affordable housing residents even showed a relatively high level of subjective well-being and satisfaction as they had already established their own strategies to cope with their social and physical environments in everyday life. Instead of the label of “affordable housing,” the perceived lower quality of housing conditions and lower sense of security weaken residents' community attachment in both affordable housing and market-rate housing neighborhoods.

3.2.4 Inclusive Built Environment

The architecture and planning communities believe the built environment can contribute to a more equal, inclusive, and cohesive society. Until recently, discussions about the inclusive built environment have focused on physical access for the aging population and people with disabilities. As physical access has improved, the discourse has broadened to include social and economic access, recognizing that design plays a vital role in the inclusion, and often exclusion, of certain social groups.

Architects and planners seek physical models and design principles that enhance inclusiveness and placemaking, a people-centered process of creating quality places, to promote social mixing and social interactions. Roberts (2007) studied three mixed-income developments and illustrated the importance of implementing urban design principles in building new mixed-income communities. Regarding physical integration, public spaces, and density, Roberts pointed out that urban design could facilitate social interaction and mutual recognition. Levin et al.

(2014) highlighted three aspects of the design for social mixing: the model and scale of the mix, the physical layout of buildings, access to shared spaces, and the appearance and maintenance of buildings.

New urbanism was frequently mentioned in the discussion of inclusive design. The core of new urbanism is creating human-scaled urban spaces oriented toward the public, embracing socioeconomic diversity and a sense of inclusiveness (Kim & Kaplan, 2004). New urbanist design strives to encourage residents to use public spaces and invest in their physical surroundings and communities, thereby leading them to develop close relationships with their neighbors and communities, promote community stability, and reinforce community identity and attachment (Kim, 2001; Kim & Kaplan, 2004). In general, design-oriented studies advocate for the power of design, which possesses the potential to yield substantial economic and social benefits for individuals and the community.

Nonetheless, questions have been raised about the extent to which the design can facilitate social mixing. For example, Kleit (2005) argued that although physical proximity between different social groups in New Urbanist neighborhoods suggested less isolation and more mixing, it might not be successful in creating social contacts among people of different tenures and incomes. Joseph and Chaskin (2010) pointed out that other factors could be more important than design when residents seek to avoid others. Their study indicated that most low-income residents believed they were under greater scrutiny and monitoring in the mixed-income neighborhood, which could hinder interactions across income groups.

To sum up, design-oriented studies assume that an inclusive built environment is achievable and can contribute to social and economic inclusion through placemaking. On the other hand, social-oriented studies argue that physical design alone cannot achieve the goal of

fostering inclusion. Therefore, a multifaceted and integrative approach that focuses on both people and place is needed in this study.

3.3 Theoretical Framework

This study evaluates the performance of the inclusionary housing scheme in a typical Chinese city by scrutinizing its policy design, implementation, and outcomes (Figure 1). Against the backdrop of China’s pursuit of a “harmonious society” and “people-centered” urbanization, the study aims to answer the question: To what extent does inclusionary housing help to reduce housing inequality and foster social inclusion in Chinese cities? The contribution to reducing housing inequality can be measured by the increase in affordable housing provision, beneficiaries and coverage, and the improvement of housing quality and facilities. Based upon a review of the existing literature, although the meaning and measurement of social inclusion can vary across different contexts, the investigation can be initiated by looking at the material well-being of the residents, social interaction, community attachment, as well as physical features in the play of constructing an inclusive residential built environment.

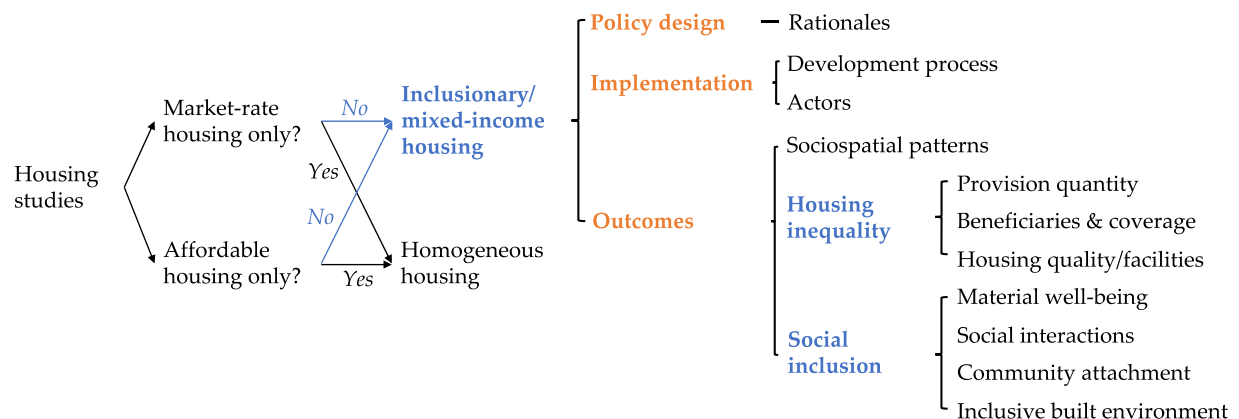


Figure 3-1. Conceptualizing inclusionary housing research in housing studies.

Source: Author.

Based on the framework above, the following set of sub-questions are developed, which guide my empirical investigation:

- (1) What are the rationales behind the inclusionary housing strategy? What is the development process of an inclusionary housing project? What are the interrelationships among different actors?
- (2) Who are the beneficiaries? To what extent does the inclusionary housing scheme increase affordable housing provision and coverage?
- (3) How does the inclusionary housing scheme transform the socio-spatial patterns of the city? What are the characteristics of an inclusionary housing project? How is it operated and managed?
- (4) To what extent do affordable housing residents enjoy improved housing quality/facilities in inclusionary housing developments?
- (5) What do residents understand by “social inclusion”? What dimensions matter to them?
- (6) To what extent does inclusionary housing improve social inclusion from residents’ perspectives? What physical features of the neighborhood impact residents’ perceptions of social inclusion? How has the COVID-19 pandemic altered their perceptions of their housing situation and social inclusion?

3.4 Research Design

This study aims to achieve a holistic investigation of inclusionary housing in urban China, discussing policy rationales and implementation, socioeconomic implications, and significance to urban life. This requires the research to adopt a naturalist interdisciplinary approach that can offer a comprehensive framework to explore the dynamics and

interrelationship among human experience, sociocultural factors, and physical features in constructing an inclusive residential built environment. For this purpose, my research uses the case study as the primary research strategy, combining quantitative and qualitative data collection and analysis in two stages. This section illustrates my research design and the rationale for choosing the specific research methods and tactics.

3.4.1 Case Study as the Primary Research Strategy

In architectural research, a case study is “an empirical inquiry that investigates a phenomenon or setting” (Groat & Wang, 2013, p. 418). Groat and Wang (2013) identified five essential characteristics of the case study: (1) studying either single or multiple cases in their real-life contexts; (2) the ability to explain causal links; (3) emphasizing theory development in the stage of research design; (4) relying on multiple sources of evidence for triangulation; and (5) generalizability to theory.

Given the nature and characteristics of the case study, this dissertation has opted for it as the primary strategy for the following reasons: First, this research focuses on inclusionary housing policy unfolding in a specific context—Chinese urban areas. Second, the study is both exploratory and explanatory in nature, investigating physical and social outcomes of inclusionary housing and the meaning of being “inclusionary” from residents’ perspectives. Third, the case study allows my research to employ different tactics for data collection and integrates both qualitative and quantitative evidence from multiple sources in the analysis. Fourth, the study aims to expand the theoretical research of mixed-income housing and contribute to its practice knowledge, with the hope for potential generalization of the findings.

3.4.2 Case Selection

This study examines inclusionary housing development in Zhengzhou, China. Zhengzhou is the capital city of Henan Province and has been one of the second-tier cities in central China²⁶. Unlike first-tier cities such as Beijing and Shanghai, Zhengzhou exhibits a more moderate speed of economic development, population growth, and urbanization that mirrors the national trends. Nonetheless, its strategic position and provincial capital status led to the rise of Zhengzhou from a small town to a megacity within the past century.

The real estate sector has played a critical role in supporting Zhengzhou's economy. Housing developments have sprawled from the inner city to the suburbs, commodifying urban spaces and fueling economic growth (Angel et al., 2011; X. Wang & Tomaney, 2019). Although housing prices in Zhengzhou have not escalated to the same degree as those in first-tier cities, which has alleviated some financial strain on the middle class, housing affordability remains one of the pressing concerns of the city. A substantial portion of the population is engaged in low-wage manufacturing and service industries, rendering it difficult for them to obtain adequate housing within the city. In response to the housing affordability crisis, the Zhengzhou municipal government has implemented a series of affordable housing programs, adhering to national initiatives since the 1990s. Such measures reflect a commitment to addressing the pressing need for affordable housing within the city, aligning local strategies with broader national objectives aimed at mitigating housing inequalities.

To accelerate affordable housing production, Zhengzhou started inclusionary housing practice in 2006 and expanded it to a citywide policy in 2011. The citywide inclusionary housing policy stipulated that every new commodity residential housing project should designate at least

²⁶ According to the Ranking of Cities' Business Attractiveness in China 2023 released by the Rising Lab, Zhengzhou has been recognized as one of the fifteen "new first-tier" cities in China (Yicai Global, 2023). Other new first-tier cities include Chengdu, Chongqing, Hangzhou, Wuhan, Suzhou, Xi'an, Nanjing, Changsha, Tianjin, Dongguan, Qingdao, Kunming, Ningbo, and Hefei.

10 percent of the square footage as affordable housing, which creates mixed-income and mixed-tenure living patterns in the urban area.

The various circumstances outlined above render Zhengzhou an exemplary location for studying inclusionary housing practices at the city level. Although Zhengzhou does not serve as a singular representation of China, it reflects and combines different characteristics of urbanization and real estate development observed in various cities across the country. A thorough introduction to Zhengzhou can be found in Chapter 4, Section 4.1, which situates Zhengzhou within the broader context of China.

In the summer of 2019, I visited Zhengzhou and conducted fieldwork on its affordable housing development. I found that inclusionary housing neighborhoods can be classified into two types depending on the physical proximity between affordable and market-rate housing. In the first scenario, affordable housing and market-rate housing units are separated into different neighborhood sections, and it is a common practice to establish physical barriers between the two sections, including fences and walls, gates, public roads, green belts, etc. (see Figure 3-2 (a) and c). In the second scenario, affordable and market-rate housing units are in the same neighborhood section without any physical barriers (see Figure 3-2 (b) and (d)). Based on this preliminary investigation and site visiting, I selected one neighborhood in Zhengzhou to represent each type, respectively, to study inclusionary housing on both a neighborhood and individual scale—*Hanlin* International City (hereafter referred to as Hanlin) and *Shenglong Youyicheng* (hereafter referred to as Shenglong).

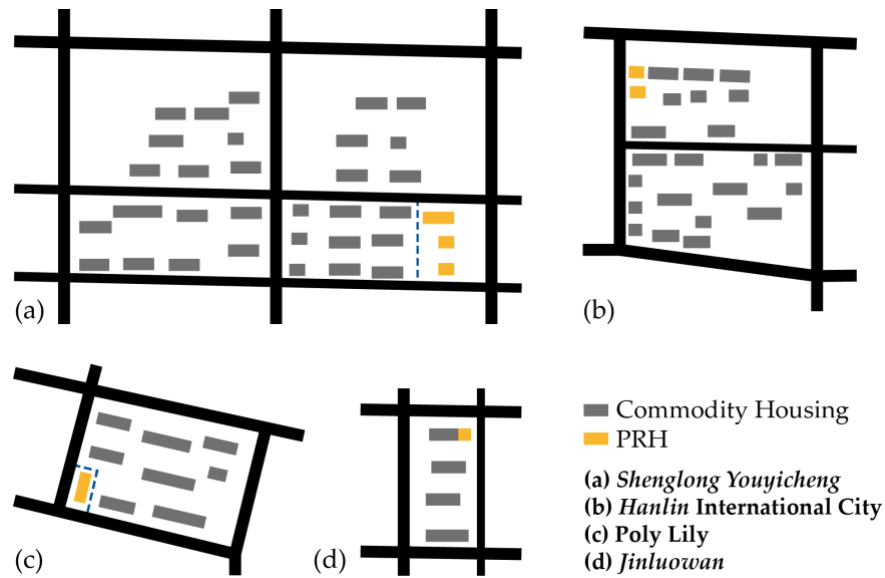


Figure 3-2. Some examples of inclusionary housing neighborhood layout.
Source: Author.

Specifically, the following criteria were considered in the case selection: First, the two cases are geographically close to each other to control the potential influence of residential location (Figure 3-3). Both cases are in Zhengzhou Hi-tech Industrial Development Zone, Zhongyuan District, between the 3rd and 4th Ring Road. They are in the vicinity of Zhengzhou University, with Line 1 metro stations nearby. Second, the two neighborhoods have a similar composition. Both contain market-rate housing, Public Rental Housing (PRH), and resettlement housing. Third, both neighborhoods were constructed and completed around the same time, so residents had a comparable length of residency. Fourth, each neighborhood can represent its type regarding inclusionary housing development, ensuring research findings can be generalized to theories pertinent to similar cases. Fifth, I was able to build connections with their property managers and gained access to the neighborhood for fieldwork even during the COVID-19 pandemic.

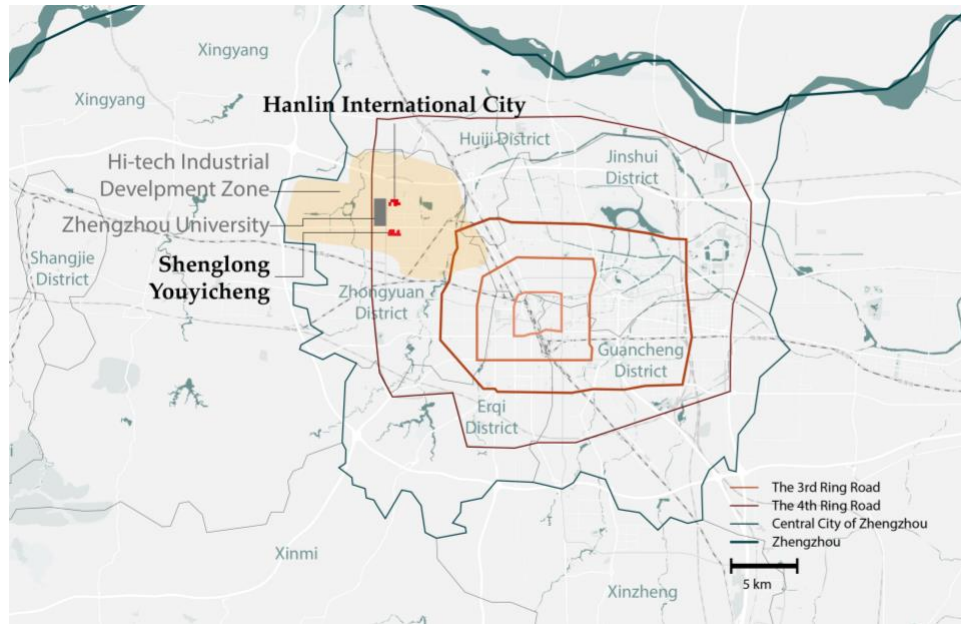


Figure 3-3. Locations of the case study neighborhoods in Zhengzhou.
Source: Author.

Hanlin

Hanlin is adjacent to Zhengzhou University and Henan University of Technology (see Figure 3-4). The project was developed by Henan Sande Real Estate Co., Ltd., a small-sized local developer founded in 2007. The project was developed in three phases. The construction of Phase One (Kong Yuan) started in 2013 and was completed in mid-2016. The presale began in 2014, and the first batch of residents moved in at the beginning of 2017. The project was completed in 2019, and all properties sold out by April 2021.

The neighborhood covers an area of approximately 380,000 sq. m. The development has a plot area of 242,000 sq. m and a gross floor area of 852,000 sq. m. The neighborhood is divided into four sections, each forming a gated community—entrances are highly controlled, and non-residents of the neighborhood are not allowed to enter without permission. Each section contains essential neighborhood amenities serving residents, such as parking, playgrounds, and a kindergarten. Moreover, each section is bordered by city streets filled with a variety of offices,

shops, restaurants, schools, and cultural and recreational venues catering to the daily living needs of the residents (Figure 3-4).

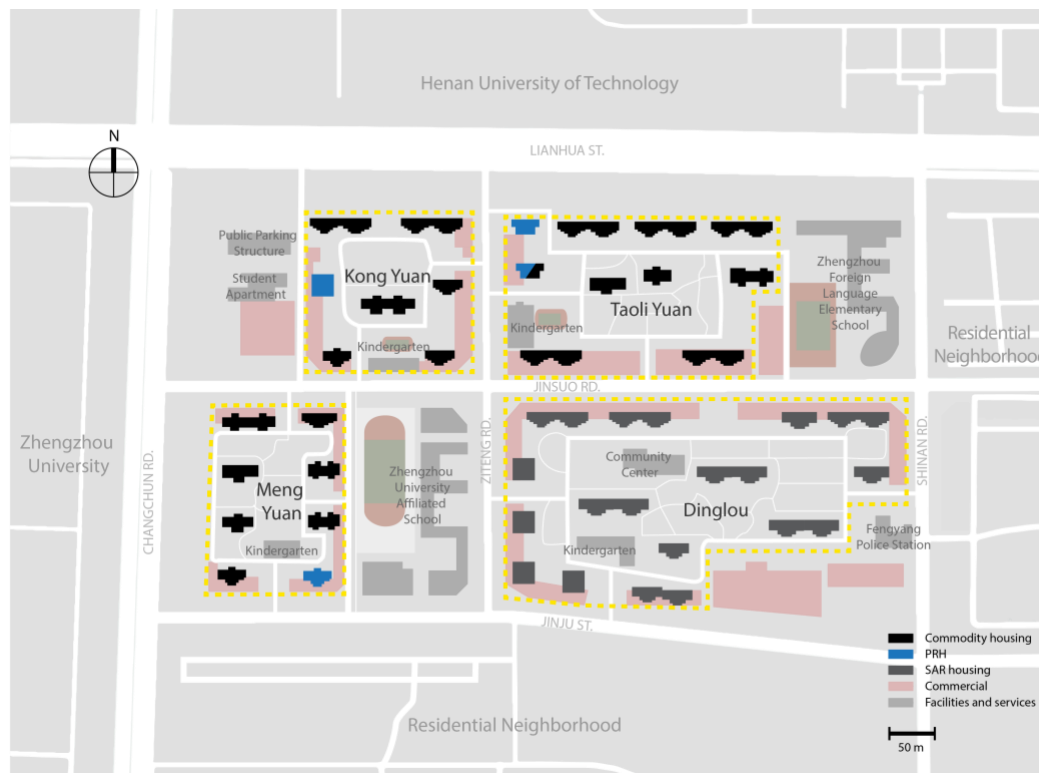


Figure 3-4. Hanlin site plan.
Source: Author.

High-rise apartments are the only housing option available at Hanlin. The Dinglou section is designated for resettlement housing, which is in-kind compensation to residents whose homes were demolished in the city's Shanty-Area Renovation (SAR) projects. The other three sections are for market-rate housing, and each contains a small share of PRH, as required by the inclusionary housing policy. In total, the Hanlin neighborhood provides 7,466 housing units, including 3,737 units of market-rate housing, 2,976 units of resettlement housing, and 753 units of PRH.

The market-rate housing units in Hanlin are one- to four-bedroom apartments for sale, ranging from 54 to 160 sq. m. Due to a heated housing market in the mid-2010s, average housing prices in Hanlin nearly doubled from 7,800 RMB per sq. m in the 2014 presale to 14,600 RMB

per sq. m in the 2019 final sale. The target homebuyers are faculty members and staff who work in nearby universities and professionals who work in the high-tech hub and surrounding areas.



Figure 3-5. Aerial view of Kong Yuan (left) and Taoli Yuan (right).
Source: Administration Committee of Zhengzhou Hi-tech Industrial Development Zone.

Shenglong

Shenglong is situated near Zhengzhou University and Henan E-commerce Industrial Park (see Figure 3-6). The project was developed by Zhengzhou Zelong Real Estate Co., Ltd., a large developer owned by Shenglong Group. Shenglong Group is a Shanghai-based company founded in 1999 that offers real estate development, asset management, commercial operation, and financial investment services. It entered Zhengzhou in 2005 and has developed many residential and commercial real estates in the city since then. In 2016, Shenglong Group ranked 37th in China's Top 500 real estate development firms, as the China Real Estate Association reported.

The Shenglong project was also developed in phases. Construction started in 2012 and was completed in 2015. The presale started in 2012, and all the properties in Shenglong were sold by mid-2016. Shenglong has a total land area of 409,900 sq. m and a gross floor area of about 1,395,100 sq. m.

Shenglong consists of six independent sections. Each section is gated and bordered by city streets or fences: Waliu Yard A and Waliu Yard B are resettlement housing sections that accommodate relocated residents from the city's Shanty-Area Renovation (SAR) projects; Yard 1, Yard 2, and Yard 3 are market-rate housing sections; and the PRH section, which only accommodates PRH residents. Although the PRH section is part of Yard 3, according to the planning documents, the developer added iron fences between PRH and market-rate housing and made them into separate sections with separate entrances. In total, the Shenglong neighborhood provides 10,442 housing units, including 6,127 market-rate housing units, 3,228 resettlement housing units, and 1,087 PRH units (Figure 3-6).



Figure 3-6. Shenglong site plan.
Source: Author.

Like Hanlin, Shenglong offers high-rise apartments as the only housing option. The market-rate housing sections consist of studio and one- to four-bedroom apartments for sale, varying in size from 42 to 169 sq. m. The average housing price in Shenglong was 6,000 RMB

per sq. m in the 2012 presale, and it increased to 8,000 RMB per sq. m in the 2016 final sale. According to Fang (fang.com), China's leading online real estate portal, Shenglong's average housing price reached about 13,200 RMB per sq. m in September 2022. Similar to Hanlin, the intended homebuyers are university staff and professionals from the high-tech hub and its surrounding areas.



Figure 3-7. Aerial view of Shenglong.
Source: Administration Committee of Zhengzhou Hi-tech Industrial Development Zone.

As a summary, the following table compares several key attributes of the two case study neighborhoods (Table 3-1). Shenglong is slightly larger and denser and provides more housing units than Hanlin. They both contain residential, office, and retail properties. Regarding residential housing, both neighborhoods provide market-rate housing, PRH, and resettlement housing in the form of high-rise apartments. The major difference between these two neighborhoods is how market-rate housing and PRH are positioned in terms of physical proximity. In Shenglong, PRH units are separated from market-rate housing units and are

divided into different neighborhood sections. Meanwhile, in Hanlin, PRH and market-rate housing units are in the same neighborhood sections, and no physical barrier separates them.

Table 3-1. Comparison of key attributes of Hanlin and Shenglong.

Neighborhood		Hanlin	Shenglong
Developer		Small local developer	Large non-local developer
Construction started and completed		2013-2016	2012-2015
Land area (sq. m)		380,000	409,900
Gross floor area (sq. m)		852,000	1,395,100
Floor area ratio (FAR)		3.5	3.85
Greening rate		30%	32%
Number of sections		4	6
Property type		Residential, office, retail	Residential, office, retail
Housing type		High-rise apartments	High-rise apartments
Community Amenities/Services		Community center, underground parking, recreation facilities, public greens, playground, kindergarten, elementary school, middle school	Community center, underground parking, recreation facilities, public greens, playground, kindergarten, elementary school
Number of housing units (% of total units)	Market-rate housing	3,737 (50.1%)	6,127 (58.7%)
	Resettlement housing	2,976 (39.9%)	3,228 (30.9%)
	Public Rental Housing (PRH)	753 (10.1%)	1,087 (10.4%)
Total number of units		7,466	10,442
Physical proximity between market-rate housing and PRH		Market-rate housing and PRH are in the same neighborhood sections. They are either separated into different buildings or on different floors in the same building.	Market-rate housing and PRH are in different neighborhood sections. They are separated from each other with different entrances.

Source: Author's summary.

3.4.3 Data Collection and Analysis

This study employed multiple research tactics in two stages within the case study approach, emphasizing both quantitative and qualitative tools to address specific research questions. The following matrix summarizes the two-stage research design regarding areas of inquiry and research focus based on the theoretical framework, along with corresponding data collection and analysis tactics (Table 3-2).

Table 3-2. Research design matrix.

Stage	Areas of Inquiry	Research Focus		Research Technique	
1	Policy design Implementation Outcomes	Rationales Development process Actors Sociospatial patterns Operation and management Housing inequality	Provision quantity Beneficiaries and coverage	Data Collection: Review government documents and open-sourced data. Data analysis: Document analysis & non-parametric statistical analysis	Data Collection: Interview government officials and developers Data analysis: Thematic analysis
2	Outcomes	Housing inequality Social inclusion	Housing quality and facilities Material well-being Social interaction Community attachment Inclusive built environment	Data Collection: Survey questionnaire distributed in case study neighborhoods Data analysis: Statistical analysis	Data Collection: Interview residents and property managers in case study neighborhoods Data analysis: Themetic analysis

Source: Author's summary.

Stage One

In the first stage of the research, I examined inclusionary housing policy design, implementation, and outcomes on a city scale. First, I collected and reviewed all published government documents and open-sourced data related to the city's affordable housing program and inclusionary housing scheme. Through document analysis—an iterative process involving skimming, reading, and interpretation (Bowen, 2009)—I gained a clear understanding of how the inclusionary housing policy has evolved over time in the city of Zhengzhou. Specifically, I aimed to answer the following questions: How is the inclusionary housing scheme designed and implemented in Zhengzhou? How does it transform the spatial distribution of affordable housing? What are the benefits and challenges of this scheme?

Then, I conducted semi-structured interviews with three government officials from the Zhengzhou Housing Security and Real Estate Management Bureau and two real estate professionals who work for developers in Zhengzhou. Interview questions were generated based on the results of the document analysis. Interviews with government officials were conducted in their offices, whereas interviews with real estate professionals were conducted via phone calls. The central questions include, “Why did Zhengzhou implement the inclusionary housing scheme?” “How was an inclusionary housing project developed?” and “What are the pros and cons of the inclusionary housing scheme from your point of view?” I also asked other probing questions as needed. The interviews aimed to get supplementary information from government officials and real estate professionals with personal insights regarding the rationale behind the inclusionary housing scheme and the development process of inclusionary housing projects. In addition, this combination of data collection techniques can create triangulation to establish the truth value and credibility of the research (Groat & Wang, 2013).

At this stage, I also conducted preliminary fieldwork. I visited case study neighborhoods and made connections with residents and property managers. From this site visit, I outlined the physical attributes of the case study neighborhoods, such as neighborhood layout, building volumes, building types, and neighborhood amenities. In addition, I obtained neighborhood demography and other background information from the property management company.

Overall, the first stage aimed (1) to discover how things work on the ground and help to formulate proper research questions and hypotheses; (2) to inform survey design and interview protocol in the second phase; and (3) to gain familiarity with the site and develop the required contacts.

Stage Two

The second stage of the study focused on investigating the inclusionary housing policy outcomes at the neighborhood and individual levels.²⁷ First, I surveyed residents within each case study neighborhood. Then, I conducted qualitative interviews with residents and property managers to triangulate survey results and gain a more in-depth understanding of their experiences and perceptions.

The main questions answered at this stage include: How do residents perceive their mixed-income neighborhoods in their daily lives? How do residents interpret the term “social inclusion,” and in what way does inclusionary housing impact social inclusion as experienced by residents? Moreover, how did the COVID-19 pandemic alter their perceptions of their living environments and the level of social inclusion? The following sections provide a detailed explanation of the survey instrument and the interviews.

Survey

The questionnaire employed in this study consists of five components. The first part inquires about respondents’ previous housing experiences, motivation to move, and current residential status and housing situations. The second part evaluates respondents’ level of satisfaction with their neighborhoods and living conditions. The third part measures the level of social inclusion perceived by respondents and investigates their understanding of the concept. The fourth part questions how the COVID-19 pandemic impacted respondents’ living situations and perceptions of social inclusion. The last part acquires information on the socio-demographic

²⁷ For the purpose of the study, I only considered market-rate housing and affordable housing within the case study neighborhoods. I did not include resettlement housing sections in the study because they were independent from other neighborhood sections and the residents did not explicitly belong to any income group or tenure group.

backgrounds of the respondents. This socio-demographic data will be used as a basis for selecting interviewees.

The measure of social inclusion was adapted from and built upon several related studies: the Social Inclusion Scale (SIS) developed in a study of arts and mental health (Secker et al., 2009; Wilson & Secker, 2015); a sense of community survey instrument in Kim's (2001) dissertation; and the survey instrument used in Xu's (2015) dissertation on gated neighborhoods in China. As a result, the measure has 22 items fitted into three subscales (see Table 3-3)—material well-being (5 items), social interaction (9 items), and community attachment (8 items). Each question required a response on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). In addition, the survey also included a question that directly inquired about the level of social inclusion perceived by the respondent and a question asked about the level of agreement with the statement "I have perceived a high level of social inclusion in my neighborhood" using a 5-point Likert scale (see Appendix A).

Table 3-3. Items and subscales in the measure of social inclusion.

Subscale	Concept derivation	Item
Material Well-being	Stability of housing tenure	13(1) My housing burden has been reduced since moving here.
		13(2) My living environment and situations have improved after moving here.
		13(16) I have felt my living situation is insecure and unstable.*
	Economic and social resources	13(3) I have had more job opportunities after moving here.
		13(4) I have had better education resources after moving here.
Social Interaction	Neighboring	13(5) I have neighbors who are my friends.
		13(6) I have neighbors whom I see or talk to every week.
		13(20) I have had conflicts with my neighbors.*
	Social support	13(7) If I had an emergency, my neighbors would be willing to help.
		13(8) I have felt accepted by my neighbors.
	Social acceptance	13(9) My thoughts and opinions are valued in the neighborhood discussions and decision-making process.

	Social participation	13(11) I have been involved in a group, club, or organization for people in this neighborhood. 13(12) I always attend social events or organizational activities within the neighborhood. 13(22) I have done some voluntary work in this neighborhood.
Community Attachment	Community cohesion	13(10) I have learned something about my neighbors with different social backgrounds. 13(13) People who live in this neighborhood get along well. 13(21) If there is a problem in this neighborhood, people here could get together to solve it.
	Sense of security	13(14) I have felt safe in this neighborhood. 13(15) I have felt free to express my beliefs (e.g., political or religious beliefs).
	Compatibility	13(17) I regularly do a sport, game, or physical exercise within the neighborhood.
	Sense of belonging	13(18) I have a strong feeling that I belong to a community. 13(19) I have felt relaxed and comfortable in the neighborhood.

* Items are reverse-scored.

Source: Author.

The questionnaire was designed using an online survey platform, SoJump (known as *Wenjuanxing* in Chinese, see <https://www.wjx.cn/>), which is one of the most popular Chinese online survey tools for business and research purposes and has been frequently used by researchers in China (Del Ponte et al., 2024). The questionnaire can be accessed on mobile devices by scanning a quick response (QR) code on the digital flyer (Figure 3-8). Due to the COVID-19 pandemic, the questionnaires were distributed online because of social distancing measures in place at the time of my data collection. The property management teams executed survey distribution in both case study neighborhoods. Property managers first reviewed the content of the questionnaire. Then, they sent the digital flyer containing the QR code to the WeChat²⁸ groups dedicated to residents of each neighborhood section. These WeChat groups were set up by the property management team for notification purposes, and at least one member

²⁸ WeChat (or *Weixin* in Chinese) is the biggest Chinese instant messaging and social media app developed by Tencent.

of every household was included in the group. By scanning the QR code, participants were directed to the online survey questionnaire hosted by SoJump.



Figure 3-8. Digital flyer for the survey questionnaire.
Source: Author.

The survey was carried out in June 2022. To reduce selection bias, I aimed to collect 100 responses from each neighborhood and made sure every building section had at least one respondent. To attract more respondents, everyone who completed the survey received a WeChat or Alipay red packet of 5 RMB as a token of appreciation. Within one month of the collection period, 101 residents in Hanlin and 128 in Shenglong participated and completed the survey, which had reached the target. After examining the responses, six were found invalid, resulting in 96 valid responses from Hanlin and 127 valid responses from Shenglong for later analysis (see Chapter 5, Section 5.2 for the demographic characteristics of the survey respondents). This

quantitative data was used to test hypotheses and qualitative findings and justified the generalizability of the study.

Interviews

After the survey, I conducted qualitative interviews with residents and property managers²⁹ to triangulate survey results and to gain a more in-depth understanding of their experiences and perceptions. At the end of the survey questionnaire, respondents were invited to complete a form and leave their contact information if they were willing to be interviewed on the topics related to the survey. The initial interviews were conducted with residents who completed the survey and consented to be interviewed. Subsequently, I began to snowball the sample by recruiting new participants by referral from previous interviewees. Each neighborhood section had at least one interviewee to ensure a broader diversity of perspectives. In addition, since the affordable housing residents only made up a small share of the neighborhood population, I intentionally recruited as many affordable housing residents as possible in the interview to let their voices be heard. Ultimately, I interviewed 18 residents (including five affordable housing residents) in Hanlin and 25 (including nine affordable housing residents) in Shenglong.

The interviews were semi-structured and lasted about 30 minutes on average. The interviews aimed to reveal individuals' everyday life experiences within and around inclusionary housing and mixed-income neighborhoods, their perceptions of social inclusion, and how they are influenced by the built environment and the COVID-19 pandemic. Initially, I had a set of topics and open-ended questions generated from survey results that helped elicit narratives or stories that spoke to my research questions. As I snowballed the sample, I revisited my questions

²⁹ I found property managers to interview through personal connections. One property manager in each neighborhood section was interviewed. Therefore, I interviewed 4 property managers in Hanlin and 6 property managers in Shenglong.

and areas of focus after each round of interviews as new themes or issues emerged. The interview protocols are included in Appendix B.

The interviews were conducted either via phone call or voice call on WeChat, depending on the interviewees' preferences. After the interview, each interviewee received a WeChat or Alipay red pocket of 20 RMB as an expression of appreciation for their time. Every interview was audio recorded with the interviewees' permission and later transcribed for thematic analysis. The interview transcripts were analyzed using a phenomenological approach to distill essential elements and understand common experiences of living within a mixed-income neighborhood. Through an iterative process of coding and writing memos, themes emerged from the qualitative data that point to certain analytic categories related to the research questions. I used NVivo—a qualitative data analysis software—to store and manage general coding, code categorization, and theme development of the textual data. This constant, iterative thematic analysis also guided the formation of questions for subsequent interviews.

Chapter 4 Building Inclusionary Housing: A Case Study of Zhengzhou

Since the economic reform launched in 1978, China has unleashed urbanization as an engine of modernization and economic growth (Guan et al., 2018). In 1978, China's urban population was 172 million, took up only 17.9 percent of the country's total population; after 2010, the share of the urban population in China reached 50 percent; and two years later, 65.2 percent of Chinese people resided in urban areas, and China's urban population is reaching 1 billion (920.7 million in 2022) (National Bureau of Statistics, 2023a). This rapid growth in the urban population is accompanied by the expansion of urban built-up areas at an astonishing rate (Ong, 2014). In 2020, the total urban built-up area reached 60,721 sq. km, about five times the 12,856 sq. km in 1990 (National Bureau of Statistics, 2021a). Nonetheless, this phenomenal achievement has resulted in many problems and challenges faced by Chinese cities, including the housing affordability crisis, rising social-spatial inequality and segregation, the integration and inclusion of more than 300 million "floating population,"³⁰ as well as environmental degradation and pollutions (Y. Huang, 2020). All these urban challenges call for innovative measures to transform China into a more inclusive and sustainable society.

Inclusionary housing policy is one of the measures that China is experimenting with in pursuit of a "harmonious society" and "people-centered" urbanization. In this research, the city of Zhengzhou was chosen as a case study to examine how the inclusionary housing policy was designed and implemented in the Chinese context, as well as how it transforms the socio-spatial

³⁰ According to the 7th National Population Census, China's floating population reached 375.8 million in 2020 (National Bureau of Statistics, 2021b).

patterns of a city. Zhengzhou serves as a good site for examining the inclusionary housing scheme, given its successful engagement with all national housing initiatives and programs and the active implementation of inclusionary housing policy since 2011.

In this Chapter, I first introduce the city of Zhengzhou and situate Zhengzhou within China. Next, I illustrate the development of affordable housing policies and various affordable housing programs in Zhengzhou by reviewing government documents. Then, I give a closer look at Zhengzhou's inclusionary housing scheme at the city level by analyzing government documents and conducting interviews with municipal government officials and real estate professionals. I investigate the rationales behind the policy design, the development process of an inclusionary housing project, and its buyout options and cost offsets. I also analyze how the inclusionary housing scheme alters the spatial distribution of affordable housing in the city and its recent development amid the market slowdown. Finally, I conclude with a discussion that the inclusionary housing policy effectively increased the supply of affordable housing, eliminated discriminatory site selection practices for affordable housing projects, and contributed to lower residential segregation at the city level. Nonetheless, I also point out some caveats for the inclusionary housing scheme in Zhengzhou, including the ignorance of promoting social inclusion in policy design and implementation, insufficient incentives offered to developers as cost offsets, and the concentration of affordable housing units within the project that may lead to residential segregation at the neighborhood level.

4.1 The City of Zhengzhou

Most research focuses on cities in the Jing-Jin-Ji, Yangtze River Delta, and Pearl River Delta to study China's urbanization and recent socioeconomic developments. However, the patterns and phenomena emerging in these areas can be extreme in various ways and do not

represent the complete story of China (Kipnis, 2016). For starters, these regions are more economically advanced. The local governments have more autonomy and bargaining power in the inter-governmental relationship due to their high economic ranking (Z. Liu et al., 2021). Their urbanization is characterized by a massive influx of migrant workers from distant rural locales, and many cities are known as “the city of migrants,” such as Shenzhen and Dongguan (Feng, 2021). Constrained by the fiscal budget and to control their population size and density, local governments set strict *hukou* regulations and deny welfare benefits to migrant workers from elsewhere (Kipnis, 2016). Moreover, although cities in these areas are facing severe housing affordability challenges, they are more reluctant to invest in affordable housing due to their higher degree of land finance dependence (the dependence of local finance on land transfer fees) and more reliance on the private sector for housing provision (F. Z. Y. Hu & Qian, 2017; Z. Liu et al., 2021; Y. P. Wang & Murie, 2011).

In this research, I chose the city of Zhengzhou as the case study. Zhengzhou has been the capital city of Henan province since 1954. It is geographically situated in the central region of China, just south of the middle reach of the Yellow River, sitting at the intersection of two major railways (Figure 4-1). As of 2022, Zhengzhou’s administrative area was given jurisdiction over six districts, five county-level cities, and one county, covering a total area of 7,567 sq. km (1,384.51 sq. km of urban built-up area). The central urban area of Zhengzhou consists of five districts spanning 1,017 sq. km (Figure 4-2). Although Zhengzhou is not part of the economically advanced areas, it has been a place of great strategic importance because of its geographical location since the Shang dynasty (1600 BCE–1046 BCE). Since then, the rise and fall of Zhengzhou have been directly related to its position as a national transportation hub and cultural center (Angel et al., 2011; X. Wang & Tomaney, 2019).

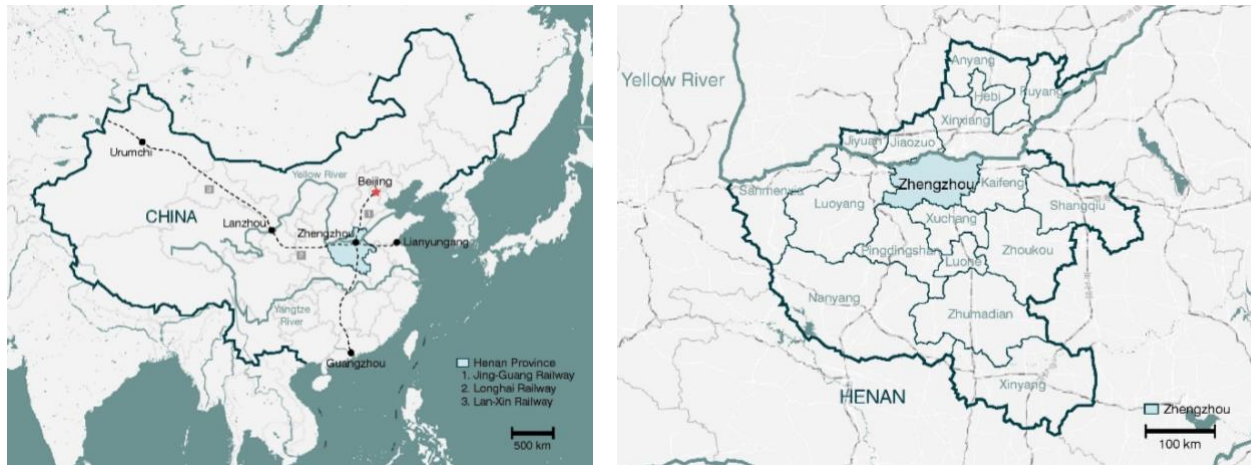


Figure 4-1. Location of Zhengzhou in China (left) and Henan Province (right).
Source: Author.

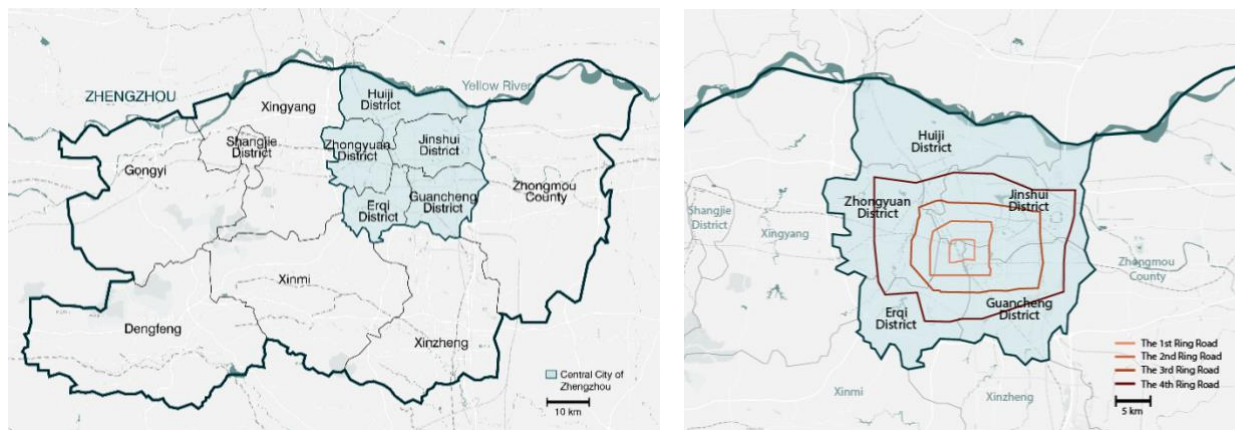


Figure 4-2. Zhengzhou's administrative area (left) and the central city zone (right).
Source: Author.

Zhengzhou cannot represent all of China as a singular case; however, it can be viewed as meditating and combining various characteristics of urbanization and real estate development observed in different cities throughout China. To begin with, despite not being situated in an economically advanced area, Zhengzhou has witnessed rapid economic growth and urbanization in line with national trends since the economic reforms. According to Figure 4-3, Zhengzhou's urbanization rate has consistently remained about 15 percentage points above the national

average since 1978. By the end of 2021, the total population³¹ of Zhengzhou reached 12.74 million, ranking 11th among all cities in China (Zhengzhou Bureau of Statistics, 2022). Although Zhengzhou is not classified among “the cities of migrants,” and its population growth has decelerated in recent years, the inflow of its population continues to surpass the outflow, establishing Zhengzhou as an emerging megacity³².

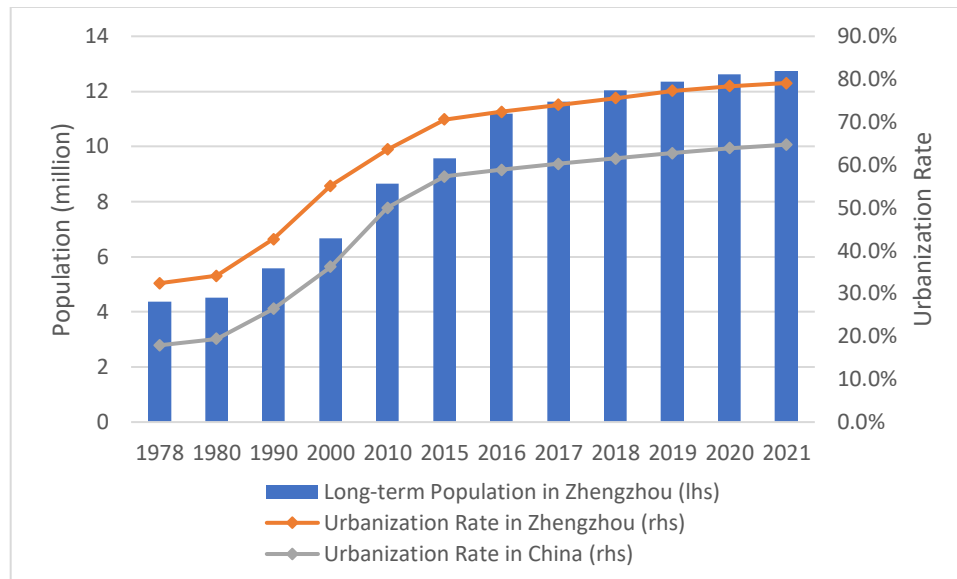


Figure 4-3. Long-term population and urbanization rate in Zhengzhou.
Data source: China Statistical Yearbook 2022; Zhengzhou Statistical Yearbook 2022.

On the one hand, Zhengzhou has been placed in a privileged position, receiving special support from higher-level governments. Benefitting from its provincial capital status, large population base, and rich cultural heritage, Zhengzhou has been chosen as an experimental field for various national initiatives and gained a great deal of policy and financial support from the central government and Henan provincial government since the 1950s. This state-directed capitalism accelerated Zhengzhou’s economic development and urban growth (X. Wang &

³¹ More precisely, it is the population of long-term residents (*changzhu renkou* 常住人口) who reside in the city for more than six months within a year, including migrants in their host cities.

³² The UN Department of Economic and Social Affairs defined megacity as an urban agglomeration of over 10 million inhabitants.

Tomaney, 2019). “The Rise of Central Regions” Plan (2004)³³ and the construction of the “Central Plains Economic Zone” (2011)³⁴ put Zhengzhou at the forefront of reducing regional inequalities and promoting economic restructuring and sustainable development. In 2015, Zhengzhou was designated as one of the key cities in the Belt and Road Initiative, emerging as an international transportation and logistics hub, a global commercial center, and a forerunner of cultural exchanges (Xinhua, 2015). In December 2016, the National Development and Reform Commission (NDRC) designated Zhengzhou as one of the nine National Central Cities (*guojia zhongxin chengshi* 国家中心城市)³⁵, reaffirming its role of driving regional development, developing the export-oriented economy, and promoting international cultural communication (Hamnett et al., 2023; NDRC, 2017). In 2018, Zhengzhou recorded its gross regional domestic product of 1.07 trillion RMB. It became the 3rd city in the central region and the 16th city in China to join the “one-trillion-yuan GDP club.” In 2021, Zhengzhou’s gross regional domestic product reached 12.54 trillion RMB, still ranked 16th among cities nationwide and 3rd in the central region.

On the other hand, as an inland city without inherent geo-economic advantages, Zhengzhou heavily relies on investment in manufacturing and infrastructure to fuel its economic development (Zhengzhou Bureau of Statistics, 2021). Zhengzhou is one of the major manufacturing epicenters of China, with a network of vast industrial zones and tech parks established under various national initiatives. Manufacturing enterprises were attracted to

³³ “The Rise of Central Regions” program was launched by Premier Wen in 2004. It encompassed the provinces of Hubei, Jiangxi, Henan, Hunan, Anhui, and Shanxi (Ang, 2016).

³⁴ The State Council officially approved the “Development Plan for the Central Plains Economic Zone” in 2012. The Plan regards Zhengzhou as the central city of the proposed economic zone, which encompasses Henan and parts of Hebei, Shanxi, Anhui, and Shandong provinces (Lan, 2012).

³⁵ National Central Cities are key cities within the national urban system that drive regional growth. As of 2023, there were nine National Central Cities, i.e., Beijing, Shanghai, Tianjin, Guangzhou, Chongqing, Chengdu, Zhengzhou, Wuhan, and Xi’an (Hamnett et al., 2023).

Zhengzhou by its lower costs of labor and land, establishing a “branch plant economy” (X. Wang & Tomaney, 2019). Among them, Foxconn is the most influential manufacturer in Zhengzhou, which makes Zhengzhou the largest iPhone manufacturing center in the world and known as “iPhone City.” Foxconn is the largest exporter and employer not only in Zhengzhou but also in Henan Province, making the electronic information industry the first “pillar industry” in the city.

In November 2022, however, Foxconn had to lock down due to the local COVID-19 pandemic outbreak, which led to a decline in its production capacity and disrupted Apple’s supply chains. Protests erupted at the factory campus over low wages and the government’s stringent zero-COVID policy. The situation was not eased until Foxconn conceded to workers’ demands in a public statement. This incident alerted companies and manufacturers like Apple and Foxconn to diversify their supply chains and assembly lines away from Zhengzhou or even China (M. Zhang, 2022). Moreover, labor costs in Zhengzhou have been rising as workers started to fight for their labor rights, asking for decent wages and humane working conditions, which drives many manufacturers to shift their investment and production to other places where wages are even lower, such as Vietnam, Indonesia, and India (X. Wang & Tomaney, 2019). As a result, Zhengzhou is losing its advantages in attracting manufacturing investment, making it a severe challenge for Zhengzhou’s economic development.

Besides manufacturing, the real estate industry is another pillar of Zhengzhou’s economy. Zhengzhou’s municipal governments have made great efforts to push urbanization and real estate development in the city, and the main reason is that revenues generated from land sales have been the primary source of capital for infrastructure investment in Zhengzhou (X. Wang & Tomaney, 2019). Between 2016 and 2022, Zhengzhou’s dependence on municipal finance on land conveyance revenue was about 42.4 percent on average, peaking at 47.7 percent in 2019

(Figure 4-4).³⁶ Although Zhengzhou's reliance on land finance decreased after 2019 due to the recent sluggish real estate market, it remained about 7 percentage points higher than the national average between 2016 and 2022. The municipal government has been actively engaging in land leasing and property development to accumulate capital and drive high-speed economic growth in Zhengzhou. However, this commodification of urban spaces has fueled the city's rapid urban sprawl and contributed to rising housing prices (Angel et al., 2011; R. Jiang et al., 2022; X. Wang & Tomaney, 2019). Between 2002 and 2020, market-rate housing prices surged from 1,914 RMB per sq. m to 9,845 RMB per sq. m, registering four times growth within two decades (Figure 4-5).

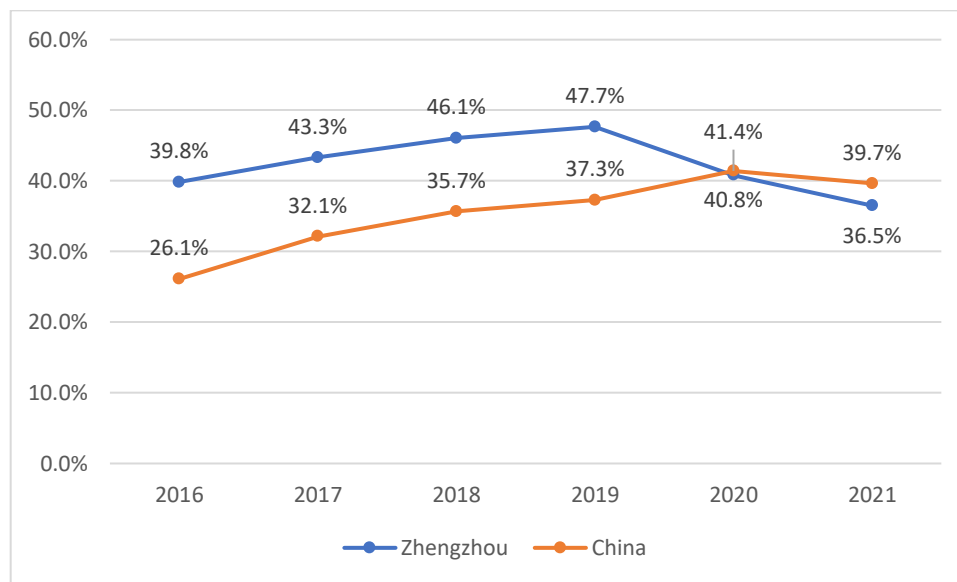


Figure 4-4. The dependence of municipal finance on land conveyance in Zhengzhou and China, 2016-2021.
Data source: China Statistical Yearbook 2017-2022; Zhengzhou Statistical Yearbook 2017-2022.

³⁶ The dependence of municipal finance on land conveyance revenue or the degree of land finance dependence is measured by the ratio of land transfer fee for state land to total local fiscal revenue. The total local fiscal revenue is the sum of the general public budget revenue of the local governments, revenue of government funds, and operating revenue of state-owned capital. The land transfer fee is part of the revenue of government funds.

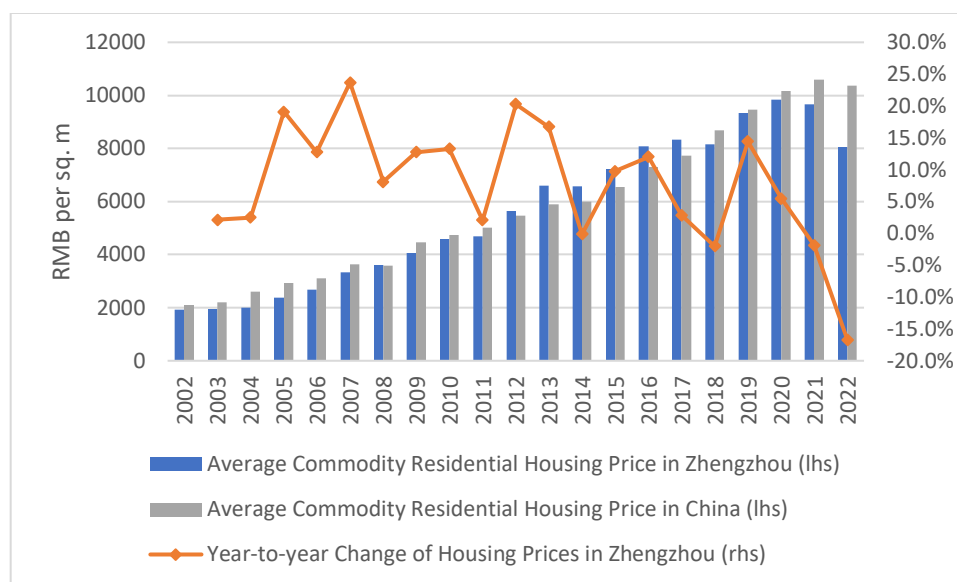


Figure 4-5. Commodity residential housing prices and annual growth rates in Zhengzhou, 2002-2022.
Data source: National Bureau of Statistics.

Zhengzhou's real estate sector experienced significant growth during the 2000s and 2010s, driven by an ample supply of land and the proactive launch and sale of residential projects. This expansion was based on the expectation that migrants from surrounding rural areas would continue to move into the city. As of 2021, there were 1,519 real estate companies in Zhengzhou, ranked 3rd in the country³⁷. Since 2018, Zhengzhou's real estate investment accounts for more than half of the total investment in fixed assets. Due to the massive housing construction, the average floor space per capita in urban areas has increased from 24.3 sq. m in 2003 to 41.1 sq. m in 2022 (ZZHS[2022]No. 138).

Nonetheless, unlike first-tier and coastal cities where housing demand has always been strong, Zhengzhou has seen excessive building beyond what the local market could absorb, leading to an oversupply of homes and making its real estate sector vulnerable to market downturns. As real estate activity has contracted sharply in the whole country since the government crackdown on real estate speculation in 2020, this ongoing market downturn has

³⁷ The top two were Shanghai and Chongqing which have 2,692 and 24,39 real estate companies respectively.

significantly damaged Zhengzhou's economy. Moreover, the city experienced severe flooding in July 2021 due to heavy rainfall, and the COVID-19 lockdown in the subsequent month further disrupted construction activities, putting the housing market and cash-strapped developers under tremendous pressure.

Average housing prices in Zhengzhou dropped 1.8 percent in 2021 and 16.7 percent in 2022 from the previous year (Figure 4-5). Real estate investment fell 18.7 percent in 2022 year-on-year, leading to an 8.5 percent down in the city's total investment in fixed assets (Zhengzhou Bureau of Statistics, 2023). The property market downturn has exacerbated the debt burden faced by Zhengzhou municipal governments, which relied on sales of land use rights as their major source of revenue. The decrease in land conveyance revenue also resulted in a reduction of the city's infrastructure investment. Zhengzhou's general budget expenditure was down 10.3 percent in 2022 year-on-year due to a 22.1 percent decline in the city's total revenue (Zhengzhou Bureau of Statistics, 2023).

In response to these challenges, the municipal government has implemented several measures tailored to the city's unique circumstances to stabilize the local housing market while adhering to the principle that "housing is for living in, not for speculation." On the supply side, the municipal government strives to reduce housing inventory by developing a rental housing market, promoting the ARH program, and improving the quality of the living environment. On the demand side, the municipal government has made great efforts to support housing demand in Zhengzhou. The latest measures include the cancellation of housing purchase and sale restrictions, reductions in mortgage rates and down payment ratios, cuts in housing transaction taxes, providing home-buying subsidies for talents and families with more than one child, and

encouraging residents to sell their old homes to a local state-owned company and buy new ones instead (ZZHS[2022]No. 138; ZZHS[2024] No. 58).

Overall, Zhengzhou has been a promising city in central China. Its advantageous geographical location and political status link its economic development and urban growth to national development strategies. Nonetheless, the city's rapid rise in the past two decades has posed severe challenges. Zhengzhou has now come to a critical turning point, and economic restructuring is necessary to ensure its sustainable urban development in the long run.

4.2 Affordable Housing Development in Zhengzhou

Apart from being an experimental ground for national initiatives in economic development, Zhengzhou has been a pilot city to carry out housing reforms and implement housing programs. In 1980, Zhengzhou was selected as one of the four cities to pilot housing privatization and marketization. In 1998, Zhengzhou terminated the welfare housing distribution system and fully socialized and marketized housing construction, consumption, and management. Since then, the thriving real estate industry has been a key contributor to Zhengzhou's economy. Along with rapid growth in population and economy, Zhengzhou has experienced a decades-long housing boom since the beginning of the millennium. Even though Zhengzhou's housing prices have been moderate compared to the national average (Figure 4-5), the surge in housing prices has made it unaffordable for a significant portion of the city's population, as most jobs in Zhengzhou are in low-paid manufacturing and service sectors, which brings the city's average urban income below the national average level.³⁸ To address the pressing housing affordability crisis, Zhengzhou municipal governments responded to national

³⁸ In 2022, Zhengzhou's urban average disposable income was 46,287 RMB, whereas the national level was 49,283 RMB.

affordable housing initiatives and actively implemented affordable housing programs since the 1990s.

4.2.1 The ECH Program

In response to the 1994 housing reform, the central government launched the Comfortable Housing Project in 1995, in which 150 million sq. m of ECH would be built nationwide during the 9th Five-Year Plan (1995-2000). Zhengzhou was selected as one of the pilot cities to implement this project (State Council General Office, 1995). In the same year, Zhengzhou planned to build 15 Comfortable Housing projects, providing ECH for low-income households with local *hukou* whose living area is less than 4 sq. m per person. The municipal government also stipulated that ECH households could resell the unit in the private market after they bought it for more than five years.

Initially, the price of ECH units in Zhengzhou was set very close (around 85 percent) to the market rate because the housing market was underdeveloped. Therefore, very few households could afford or were willing to buy ECH units at the time, and most ECH units were purchased by work units and sold to their employees at cost price. Nonetheless, since the housing market was fully established and market-rate housing prices soared, ECH became increasingly popular in Zhengzhou. By the end of 2007, Zhengzhou had built more than 6 million sq. m of ECH, helping 59,000 families solve housing issues.

Since the central government committed to accelerating affordable housing development in 2007 in response to the housing affordability crisis and the global financial crisis, Zhengzhou made an effort to increase ECH production. In 2007, Zhengzhou municipal governments founded the Zhengzhou Public Housing Investments Co., Ltd. The Company was state-owned, solely funded by the Municipal State-owned Assets Supervision and Administration Commission of the

State Council (SASAC), and managed by the Municipal Housing Security and Real Estate Management Bureau. The Company was the first of its kind in China, responsible for the investment, financing, construction, operation, management, and repayment of affordable housing projects.³⁹ It was a new attempt to marketize affordable housing development to increase the supply of affordable housing. Between 2007 and 2010, Zhengzhou started the construction of 3.6 million sq. m of ECH and completed 1.8 sq. m of ECH (Chinese Real Estate Statistics Yearbook, 2008, 2009, 2010).

In 2008, the average commodity residential housing price was 3,598 RMB per sq. m, whereas the average cost of ECH was 1,806 RMB per sq. m, only 50 percent of the market rate. However, as ECH became more affordable and in huge demand, many people took advantage of the loose qualifications and profited from the ECH program. To ensure that ECH benefits people in real need, Zhengzhou municipal governments issued the *Administrative Measures for the ECH Development* in 2005, which limited the size of ECH units to 120 sq. m and tightened qualifications, including *hukou* requirements and household income and housing conditions. The *Administrative Measures* also stipulated that ECH units were not allowed to be rented out, and the household must make a supplementary payment to the government if they resold the unit in the private market. In 2010, Zhengzhou municipal governments updated the *Administrative Measures*, which further elevated eligibility criteria and restricted the size of ECH units: small- and medium-sized ECH units should be controlled under 70 and 90 sq. m, respectively.

Nevertheless, a series of corruption scandals and fraud in Zhengzhou's ECH development and allocation came to light, which attracted broad concerns from the public. In 2011 alone,

³⁹ After the Company's investment and financing circulation system was reformed in 2013, the scope of its business was expanded to include market-rate housing development, real estate marketing, housing leasing, and property management.

Zhengzhou's Commission for Discipline Inspection investigated over 10 cases of corruption related to the ECH program, with 12 officials being transferred to the judiciary, involving a total of 110 million RMB. (J. Han, 2013). The most notorious case involved Zhai Zhenfeng, a former director of the housing administration bureau in Zhengzhou's Erqi District, who was accused of embezzlement, bribery, and abuse of power to seek profits for his family in 2012. It was reported that Zhai's family owned 29 houses, and his wife, who owned a real estate company that participated in ECH development, illegally helped two other housing officials get 27 ECH units (Xinhua, 2014). Due to these scandals and poor administration, there was growing public opposition to the ECH program.⁴⁰ Consequently, the Zhengzhou municipal government stopped site selection for new ECH projects in 2011 and no longer accepted ECH applications in 2013 (ZZMD [2013] No. 113). As such, ECH withdrew from the historical stage in Zhengzhou. As of 2020, Zhengzhou has constructed and allocated 168,000 ECH units.

4.2.2 The CRH Program

Besides the ECH homeownership program, Zhengzhou also took the lead in the implementation of the CRH program in 2001. The CRH program only targeted the lowest-income house-poor households with local residency. Eligible households could choose to receive either rent subsidies, which was the primary form of support, or in-kind subsidies (rental housing no larger than 50 sq. m and the rent was lower than 10% of the market rate). The CRH program imposed heavy fiscal and administrative burdens on municipal governments since they could not sell CRH units to recoup the initial investment and had to pay for building maintenance and rent

⁴⁰ Interview with a government official in June 2019.

subsidies continually. Therefore, the CRH program was carried out slowly in Zhengzhou and only benefited 2,091 families by 2007 (Hou, 2007).

Before 2006, the CRH units mainly came from old public housing, private housing bought by the government, and social donations. To produce more CRH units and reduce budgetary pressure, Zhengzhou started to build CRH units through an inclusionary housing approach in 2006, even before the central government officially introduced the inclusionary housing scheme nationwide. The construction of new CRH units was tied in with ECH development in Zhengzhou, and about 5 to 8 percent of the units were designated as CRH within the ECH project. In 2008 alone, Zhengzhou commenced the construction of 189,800 sq. m of CRH units (Pei, 2008). By November 2012, Zhengzhou began constructing 15,500 CRH units and had completed 6,500 of them, benefiting 38,038 families from the CRH program (China Economic Times, 2012).

4.2.3 The PRH Program

After the central government introduced the PRH program, Zhengzhou was again selected as one of the pilot cities for its implementation in 2010 (ZZMG [2010] No. 212). The PRH program targeted the “sandwich class”—those who could not afford a decent market-rate home in the city but were not qualified to rent CRH units or buy ECH units, including mainly migrant workers, new graduates, and low-to-middle income house-poor families—by providing rent or in-kind subsidies to eligible households. In May 2013, Zhengzhou municipal governments merged the ECH and CRH programs into the PRH program (ZZMD [2013] No. 113). According to the housing officials, this move aimed to expand the coverage of the housing

security system and increase the efficiency of administration.⁴¹ Families who had received a permit within the ECH and CRH programs after their applications were approved were now eligible for the PRH program. As a result, the PRH program was open to households without homeownership if their average income did not exceed a threshold (six times the urban minimum living standard)⁴² and had social insurance and formal employment if they did not hold local *hukou*.

Families participating in the PRH program could choose to receive rent subsidies and seek housing in the private sector or move into PRH units offered at reduced prices compared to the market rate. The rents for PRH units and rent subsidies were classified into four levels based on household income. According to the latest policy issued in 2016 (ZZMD [2016] No. 110), eligible households whose income falls into the highest level could receive a rent subsidy of 72 RMB per person (with a minimum of 200 RMB per household). Alternatively, if they opt for in-kind subsidies, the rent for their PRH units is approximately 70 percent of the market rate. Families earning less than the urban minimum living standard could receive a rent subsidy of 240 RMB per person. If they choose to live in PRH units, their rent would be less than 10 percent of the market rate.

PRH units are no larger than 60 sq. m, and the lease typically lasts three to five years. If the sitting tenants wish to renew the lease, their eligibility will be reassessed. So far, the sitting tenants do not have the option to purchase the unit in Zhengzhou, and PRH units remain owned by the municipal government.

⁴¹ Interview with Zhengzhou Housing Security and Real Estate Management Bureau officials, July 2019.

⁴² As of July 2022, the urban minimum living standard in Zhengzhou was 750 RMB per person per month or 9000 RMB per person annually. Therefore, the threshold was 4,500 RMB monthly income or 54,000 RMB annual income. According to the 2023 Zhengzhou Statistical Yearbook, the average annual disposable income in Zhengzhou's urban area was about 46,300 RMB per person in 2022.

As with CRH, new PRH units were mainly produced through an inclusionary housing approach, which linked PRH production with market-rate housing development. To improve the operation and management of PRH units, the Zhengzhou Public Housing Investments Co., Ltd. founded the Zhengzhou PRH Operations Center Ltd. in 2014, which is responsible for the repurchase and operational management of PRH units. By the end of 2020, Zhengzhou had about 152,000 PRH units (including projects under construction), and 125,000 PRH units had been allocated to eligible households. In addition, about 48,000 families had received rent subsidies. In total, about 173,000 households in Zhengzhou benefited from the PRH program, which covered about 4.2 percent of families (ZZHB[2022]No. 138).

4.2.4 The ARH Program

Following the directives of the central government, Zhengzhou initiated the ARH program in 2022. According to the *Opinions on Accelerating Affordable Rental Housing Development (ZZMGO[2022]No.15)*, the ARH program in Zhengzhou provides three types of housing: affordable rental housing for the general public, mainly targeting new urban residents⁴³ and young adults with no income threshold or *hukou* restrictions for eligibility in principal; affordable rental housing that is tie-in constructed by industrial zones and tech parks as well as other enterprises, prioritizing or targeted their employees in the allocation; and affordable rental housing for talents.

In Zhengzhou, the municipal government provides policy incentives, including tax reduction or exemption, long-term loans, and other financial and land policy support to bring ARH from the private sector. ARH units will be primarily produced through developing new

⁴³ In Zhengzhou, new urban residents (*xin shimin* 新市民) refer to individuals who relocate to the city for various reasons, such as work or school. They do not hold a local *hukou* or have held one for less than three years. This group mainly includes migrant workers, college graduates, newly recruited professional talents, etc.

ARH projects on the city's idle collective or nonresidential land, renovating vacant affordable housing or private properties that were repurchased or re-rented by market entities, and reconstructing vacant or underutilized commercial housing, industrial plants, storage, and other nonresidential property inventories. The lease term for ARH units ranges from one to three years, and the rent is below the market rate, typically 70 to 90 percent of it, though this may vary by project. The property owners could delegate operating agencies or operate the project themselves. ARH units produced through renovation and reconstruction should stay in operation for at least five years. After five years of operation, they could either remain as ARH or withdraw from the program.

By the end of 2023, a total of 83,813 units in 64 projects (including ones under construction) had been certified as ARH.⁴⁴ As of 2023, Zhengzhou municipal governments were still working on the policy regarding ARH allocation.

4.3 Inclusionary Housing Development in Zhengzhou

As discussed above, Zhengzhou started inclusionary housing practice in 2006, which accelerated CRH development by producing a certain amount of CRH units within ECH projects. Not until 2011, Zhengzhou municipal governments issued the *Implementation Measures for Tie-in Construction of Affordable Housing with Commodity Housing Development in Zhengzhou* (ZZM[2011]No. 41), which expanded the inclusionary housing scheme to include all affordable housing programs and applied to private housing development citywide. The *Implementation Measures* stipulated that the **new commodity residential housing developments in Zhengzhou should designate at least 10 percent of the square footage as affordable housing**, which the

⁴⁴ The number was calculated from all the ARH Project Certification publicized on the website of Zhengzhou Housing Security and Real Estate Management Bureau (<https://zfbzj.zhengzhou.gov.cn/>).

government would buy back at a benchmark price⁴⁵. The Municipal Urban Planning Bureau and Municipal Development and Reform Commission prescribed the required share of affordable housing. The 10 percent of required affordable housing would still allow developers to make some profits so that they were willing to participate in the inclusionary housing development while producing a considerable amount of affordable housing units to meet the demand.

According to the *Implementation Measures*, the intention of implementing the inclusionary housing scheme was to increase the supply of affordable housing through multiple channels, answering the call of the central government to curb the soaring growth of housing prices in major cities and better regulate the housing market to solve housing issues for urban residents. In addition, the rationale behind the inclusionary housing strategy also includes a social aspect. In the interviews with Zhengzhou's housing officials, they all mentioned that the inclusionary housing scheme was intended to help affordable housing residents live in a desirable location and enjoy the same neighborhood amenities, services, and living environment as market-rate housing residents. Besides, as affordable housing becomes more attractive, it will be easier to sell or rent out.⁴⁶

4.3.1 Development Process of an Inclusionary Housing Project

Error! Reference source not found. illustrates the development process of a typical inclusionary housing project in Zhengzhou. Developing an inclusionary housing project involves the following steps and actors.⁴⁷ First, before the land transfer, the urban planning department

⁴⁵ According to the interviews with housing officials and developers in Zhengzhou, the benchmark price equals to ECH price approved by the Zhengzhou Price Bureau.

⁴⁶ Interview with officials from Zhengzhou Housing Security and Real Estate Management Bureau, July 2022.

⁴⁷ The overall development process of an inclusionary housing project was summarized and distilled from the *Implementation Measures for Tie-in Construction of Affordable Housing with Commodity Housing Development in Zhengzhou* (ZZM[2011] No. 41) and from interviews with government officials.

(within the Municipal Natural Resources and Planning Bureau) will formulate a regulatory plan for the land parcel, which specifies the total floor area for different property types and provides planning and design conditions based on the plan. Then, the Municipal Housing Security and Real Estate Management Bureau (hereafter, “the Housing Security Bureau”) will develop the details of affordable housing required for the land parcel as part of the conditions for the assignment of the land. The details include the housing type, the number of units, the total floor area, unit layout, construction standards, and the buy-back of the units after construction is completed.

The second step involves land transfer, which is similar to regular market-rate housing projects. The Municipal Natural Resources and Planning Bureau (hereafter, “the Natural Resources Bureau”) will formulate an assignment plan for the use rights of state-owned land. This plan will outline all land transfer conditions and be submitted to the Municipal People’s Government for review. Once approved, the Natural Resources Bureau will announce the plan to the public, compile land transfer documents, and make these documents available to prospective bidders or buyers. Developers will conduct a feasibility study, seek financing from financial institutions, complete preliminary planning and design, and obtain land use rights through bidding, auction, or listing. The bid winner or buyer will conclude a *Contract on the Assignment of the State-owned Land Use Right* with the Natural Resources Bureau and a *Contract on the Tie-in Construction of Affordable Housing* with the Housing Security Bureau, which specifies details of affordable housing that will be built within the project, its location and unit layout, supporting facilities, technical and construction quality requirements, handover deadline and procedures, building inspection and acceptance, as well as liability for breach of contract. The result of the land transfer shall be released to the public. Once the contract is signed, the developer can apply

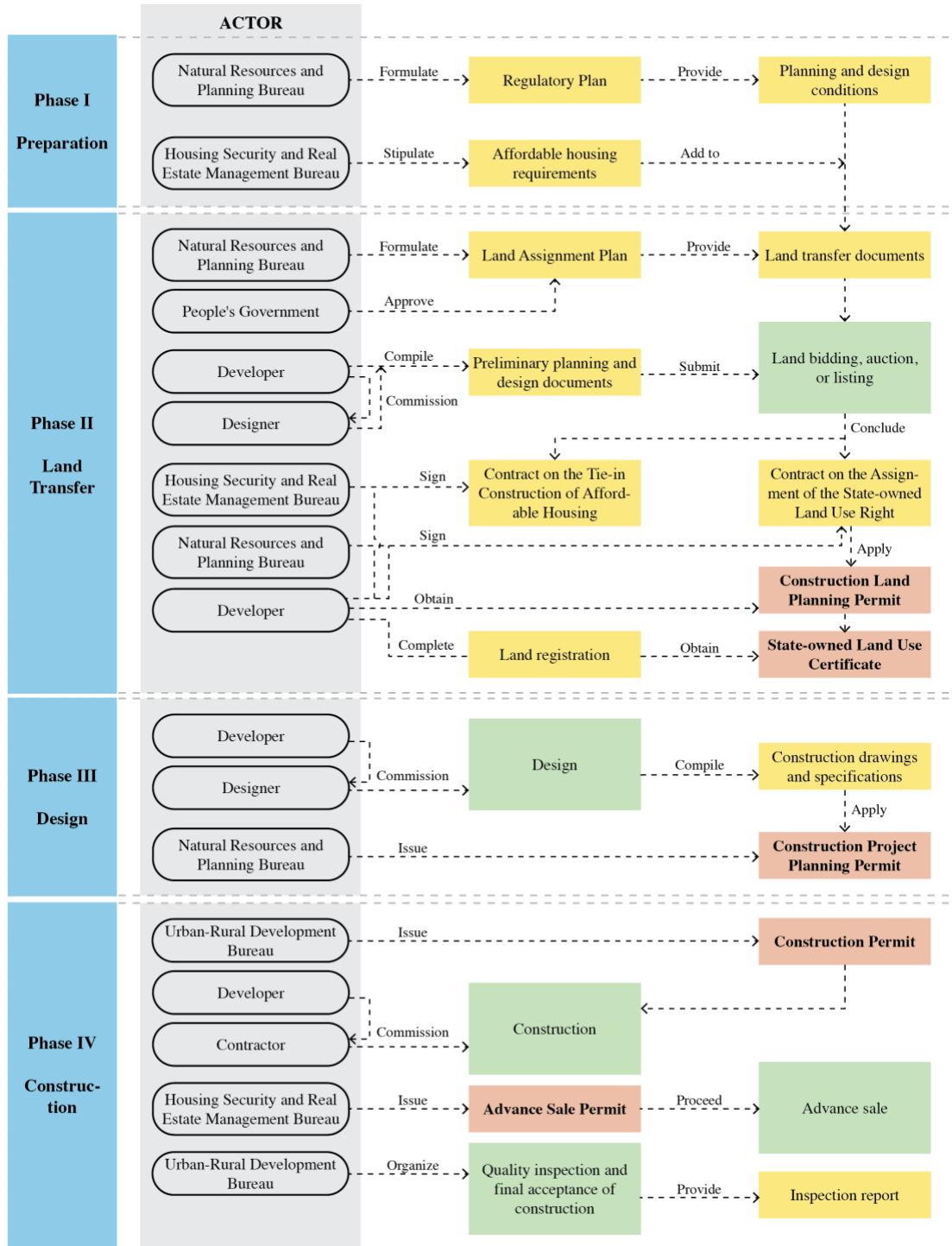
for a construction land planning permit from the Natural Resources Bureau. With the permit, the developer can complete land registration, obtain a state-owned land use certificate, and thereby officially acquire the land use rights.

After acquiring the land, the developer can proceed to finalize the project design. The developer will appoint design companies to complete architectural design and engineering and provide construction drawings and specifications. The affordable housing units are required to be concentrated within the same building or building section, guided by the principle “scatter on a large scale, concentrate on a small scale (大分散, 小集中).” According to interviews with housing officials and developers, the idea was to reduce social conflicts among different income groups and enhance design and administrative efficiency. The design of affordable housing should follow the requirements specified in the contract, focus on functionality, and meet the basic requirements of natural lighting and ventilation, acoustic insulation, energy efficiency, and public health for residential housing. The interior of the affordable housing (except ECH units) should have essential utilities and interior finishes, including doors and windows, water, electricity, gas, cable TV, etc., so that the residents can move in immediately after the completion. The exterior of the affordable housing should be consistent with the market-rate housing design. The design documents will be submitted to the Natural Resources Bureau for approval to obtain a construction project planning permit.

Next, the project can move on to the construction phase. The developer selects the accredited and qualified project contractor and construction supervision unit through the bidding process for construction projects. Having assembled the construction team and finalized the relevant documents, the developer can request a construction permit from the Municipal Urban-Rural Development Bureau. Once the permit is received, construction activities can start

immediately. During construction, the developer can register with the Housing Security Bureau to obtain an advance sale permit if the project meets the requirements. The permit allows the developer to sell market-rate housing, even while the project is under construction. Affordable housing should be constructed simultaneously as market-rate housing in the project. If the project is developed in phases, affordable housing should be constructed in the first phase. Upon the completion of the construction, the Municipal Urban-Rural Development Bureau will organize a quality inspection and final acceptance of construction and issue a construction acceptance certificate and a final acceptance record if the project meets all standards and requirements.

Finally, the developer will submit all required documents to the Housing Security Bureau to obtain a housing sale or rental permit. Having obtained the permit, the developer is now prepared to list the market-rate housing for sale. Once the housing units satisfy delivery and usage conditions, they will be handed over to the homebuyer or renter. The developer should also include a warranty and a user manual with the delivery. The Housing Security Bureau will take over the affordable housing units as stipulated in the *Contract on the Tie-in Construction of Affordable Housing*, register the property rights, and allocate the units to eligible households according to the relevant policies. After the housing sales, the developer will hand over the property service to a professional property management company for a monthly fee, which will be responsible for the management and maintenance of the property, including affordable housing units. As such, the development of an inclusionary housing project is completed.



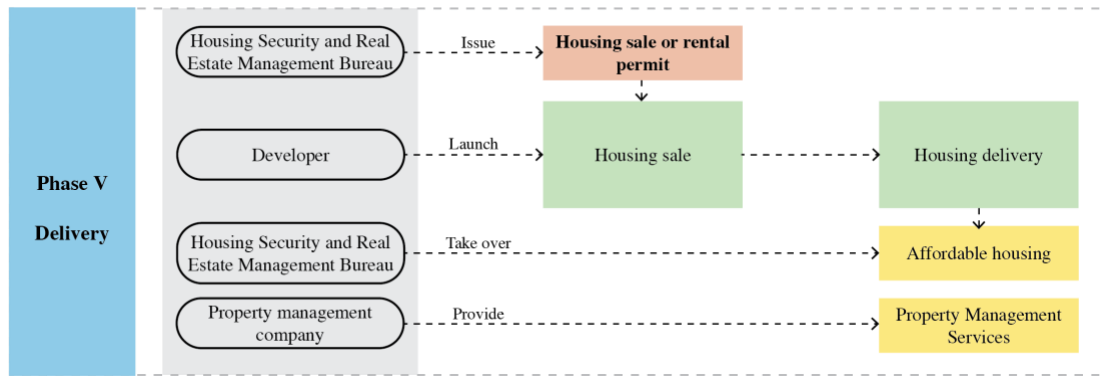


Figure 4-6. Inclusionary housing development process.
Source: Author.

4.3.2 Buyout Options and Cost Offsets

In Zhengzhou, the inclusionary housing policy applied to every market-rate residential housing project and residential-commercial mixed-use project in the city with no exemptions. Nonetheless, the municipal government offered an alternative to onsite construction of affordable housing units in certain exceptional cases, known as the buyout option. The developer could request the buyout option if they believed building affordable housing within the project was inappropriate. If the municipal government approves the request after it is discussed in the executive meetings, the developer could pay in-lieu fees, which would be used in affordable housing programs. However, this buyout option was offered on a case-by-case basis, and the municipal government did not delineate the circumstances under which the request would be approved. The absence of clear specifications may potentially create an opportunity for favoritism and corruption.

If the developer took the buyout option, the required share of affordable housing should be raised depending on the base land price. If the base land price is in the first grade (the land is most expensive), the required share of affordable housing should be multiplied by 2.4 if the land use is residential or mixed-use residential, and by 3 if the land use is mixed-use commercial.

Conversely, if the base land price is in the fourth grade or lower, the required share of affordable housing will remain the same. Then, the in-lieu fee must equal at least the total square footage of affordable housing needed for the project multiplied by the average ECH price in the district plus the costs associated with interior finishing.

To compensate developers for selling a portion of their housing units below prevailing market prices, Zhengzhou municipal governments offered policy incentives as cost offsets. These included reduced land prices (administrative allocated land prices exempt from land transfer fees) for affordable housing, waivers of urban infrastructure supporting fees and various administrative and institutional fees, and half-off operating service charges.

Even provided with cost offsets, some developers admitted that they still preferred taking the buyout option since the affordable housing development would affect profit margins, especially for small housing projects in the inner city areas. According to one of the local developers in Zhengzhou, “... the cost for us to build PRH units is high and will influence profit margins, which is the key indicator for developers to decide whether to take the land... so our company usually would try to take the buyout option through public relations or by other means... The sizes of land parcels for our projects located in the city’s central urban area are often small, so if we had to build affordable housing units within the project, the number of market-rate housing units we could build would be too low to make a profit. Therefore, for a project on a limited size of land located in the city’s central urban area, the developer prefers taking the buyout option since it will increase the profit margin and ensure the quality of the living environment for market-rate housing residents.”⁴⁸

⁴⁸ Interview with a local developer in Zhengzhou, May 2022.

4.3.3 The Change in the Spatial Distribution of Affordable Housing

Zhengzhou implemented the ECH and CRH programs before 2013, meaning that all construction efforts for these projects commenced before that year, with unit assignments completed by 2018. In 2011, Zhengzhou launched the PRH program and has actively promoted its construction ever since. According to the information obtained from the Housing Security Bureau, a total of 22,416 ECH units (37 projects) were sold to eligible households between 2013 and 2018. In the rental housing sector, Zhengzhou started the construction of 14,222 CRH units (51 projects) after 2008 and 115,429 PRH units (333 projects) by 2018. Based on this dataset, this study mapped the spatial distribution patterns of each type of affordable housing in Zhengzhou (see Table 4-1 and Figure 4-7 to Figure 4-9).

Table 4-1. The spatial distribution of affordable housing in Zhengzhou.

Program	ECH	CRH	PRH
Total units (projects)	22,416 units (37 projects)	14,222 units (51 projects)	115,429 units (333 projects)
The average number of units within one project	605.8	278.9	346.6
The number of projects located within the inner-city areas (percentage)	4 (10.8%)	41.2%	146 (43.8%)
The number of projects located at the urban fringes (percentage)	33 (89.2%)	39.2%	130 (39.0%)
The number of projects located in the suburbs (percentage)	0 (0%)	19.6%	57 (17.1%)
The number of units located within the inner-city areas (percentage)	2,319 (10.3%)	5,468 (38.4%)	46,799 (40.5%)
The number of units located at the urban fringes (percentage)	20,097 (89.7%)	5,366 (37.7%)	42,645 (36.9%)
The number of units located in the suburbs (percentage)	0 (0%)	3,388 (23.8%)	25,985 (22.5%)

Source: The author compiled data from the Zhengzhou Municipal Housing Security and Real Estate Management Bureau in June 2019 and the author's fieldwork.

Table 4-1 indicates that ECH projects primarily consist of large, concentrated affordable housing developments. These projects often create neighborhoods solely for affordable housing

residents, contributing to residential segregation and poverty concentration. In contrast, CRH and PRH are more decentralized. CRH units are mostly constructed within ECH projects, while PRH units are integrated into market-rate and owner-occupied housing, promoting a mixed living environment.

Moreover, most ECH and CRH projects are distributed out of the central districts and concentrated at the urban fringes (i.e., between the Third and the Fourth Ring Road), where access to economic opportunities and public services is typically limited in such locations (Figure 4-7 and Figure 4-8). Meanwhile, PRH projects are more evenly distributed throughout the city and are more likely to be located in inner-city areas (i.e., within the Third Ring Road) (Figure 4-9). This could be explained by the fact that, due to China's "land-based public finance" and intergovernmental system, local governments tend to locate concentrated affordable housing projects in less-developed areas to reduce their overall fiscal burdens and political risks⁴⁹ while leasing expensive land in the urban core for private developments to keep economic growth (see Section 2.2.3). Therefore, PRH units are generally located in more desirable areas of the city since they are mostly built within new market-rate housing developments.

⁴⁹ Local governments can directly assign state-owned urban land to developers for affordable housing projects, but they are still responsible for acquiring the land from the original property owners. In many cases, urban land acquisition involves a long and complicated process of negotiating with sitting tenants about demolition and relocation. It is not rare to observe many tenants refusing to be relocated or demanding favorable terms, which places tremendous political and fiscal pressure on local governments (Dang et al., 2014).

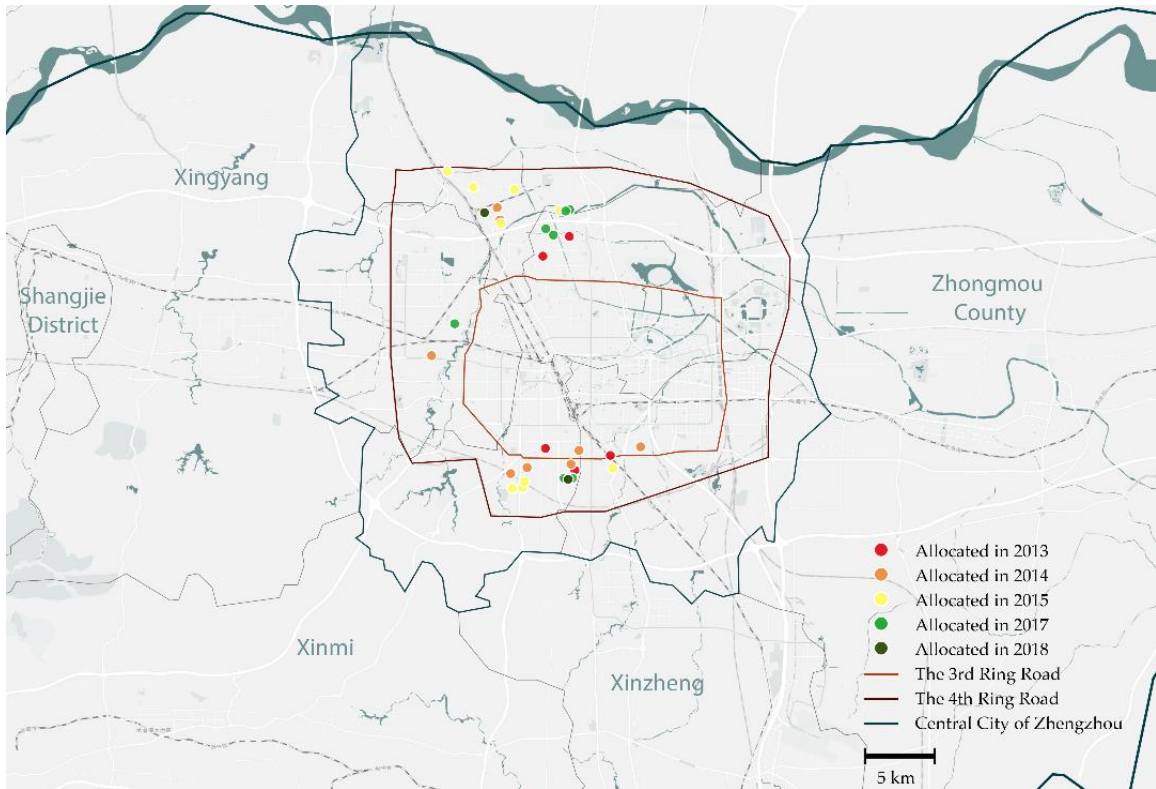


Figure 4-7. The spatial distribution of ECH projects allocated between 2013 and 2018 in Zhengzhou.
Source: Author.

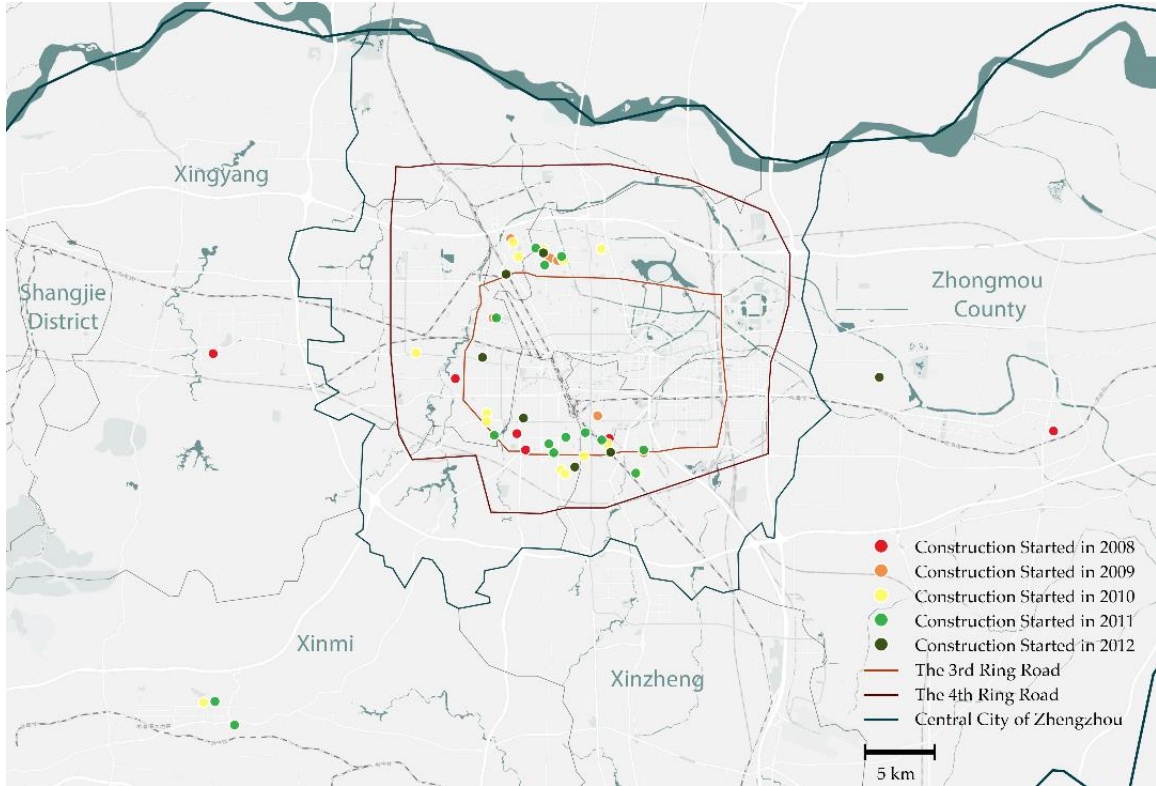


Figure 4-8. The spatial distribution of CRH projects started between 2008 and 2012 in Zhengzhou.
Source: Author.

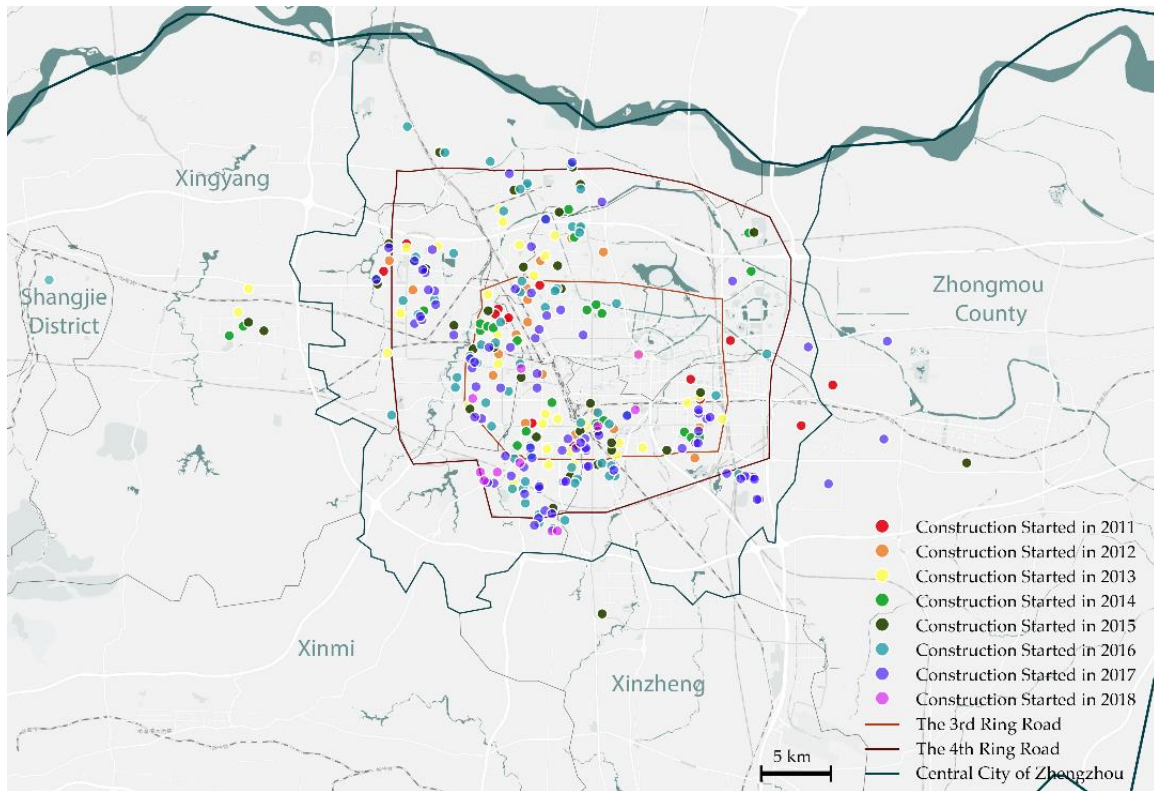


Figure 4-9. The spatial distribution of PRH projects started between 2011 and 2018 in Zhengzhou.
Source: Author.

4.3.4 Recent Development of the Inclusionary Housing Scheme in Zhengzhou

In 2016, Zhengzhou municipal governments imposed a moratorium on the mandatory inclusionary housing policy to ensure a stable and healthy housing market (ZZMGO [2016] No. 14). According to the officials from the Zhengzhou Municipal Housing Security and Real Estate Management Bureau, there were several reasons behind this move: First, the number of PRH units that had been constructed (or were still under construction) exceeded the number of households waiting for allocation. According to their market analysis, they believed that the surplus of PRH units could meet the demand at least until 2018. Second, as the housing market in Zhengzhou became riskier over the years, featuring skyrocketing housing prices and oversupply, it was hoped that this move could bring down housing prices after lifting the requirement for developers to build affordable housing within their private developments. In

addition, it could help reduce market-rate housing stock in Zhengzhou by focusing on providing rent subsidies to eligible households so that they can find existing, good-quality rental homes directly in the private sector.⁵⁰ As yet, the municipal government has not resumed the tie-in construction of affordable housing in Zhengzhou.

During the recent market downturn, Zhengzhou municipal governments have provided policy incentives to encourage developers to transform their unsold housing stock into ARH units or affordable housing for talents and encourage homeowners to sell their second-hand homes to Zhengzhou Urban Development Group Co., Ltd—a state-owned enterprises founded by Zhengzhou municipal governments—as affordable housing and then buy a new one in the private sector.

This new voluntary inclusionary housing scheme aims to stabilize local housing markets while increasing affordable housing production, although the outcomes have yet to be seen and examined. During the 14th Five-Year Plan period (2021-2025), the municipal government expects to raise 400,000 units of ARH and affordable housing for talents (the number of ARH units should be no less than 200,000) in Zhengzhou via the new voluntary inclusionary housing scheme.

4.4 Discussion

Zhengzhou's approach to affordable housing has transitioned from large-scale, concentrated production (ECH) to a more decentralized and incremental inclusionary housing model (PRH and ARH). Before adopting the inclusionary housing approach, affordable housing development in Zhengzhou faced three major problems. First, the supply of affordable housing

⁵⁰ Interviews with officials from Zhengzhou Housing Security and Real Estate Management Bureau, July 2019 and July 2022.

to the general public did not meet the demand since most affordable housing projects were built either by work units to house their employees or as a part of the shantytown redevelopment to house displaced residents. Second, although the central government explicitly required that the urban land supply prioritize affordable housing developments, the land intended for affordable housing was insufficient and hard to obtain since it was not listed in the land use plan until 2011. In addition, the local government tended to designate a large amount of land for industrial purposes to boost local revenues and drive GDP growth. Third, due to the unreasonable land supply, affordable housing projects were concentrated in undesirable locations where the lack of accessibility, public services, and employment opportunities created a problem of “spatial mismatch.” For the same reason, many low-income households gave up their access to affordable housing, leaving many affordable housing units vacant in marginalized locations.

In the case of Zhengzhou, implementing a mandatory inclusionary housing scheme was the key to addressing all these challenges in a flourishing housing market. Mandating affordable housing units in market-rate projects can secure a steady land supply for affordable housing and boost production as long as new housing developments continue in the city. Furthermore, the inclusionary housing approach helped to avoid discriminatory site selection practices for affordable housing projects and contributed to reducing residential segregation on a city scale. In an inclusionary housing project, affordable housing residents can enjoy the same locational advantages as market-rate housing residents. Improved access to economic opportunities and resources can enhance the well-being of affordable housing residents.

Nonetheless, the study has highlighted some caveats that deserve our attention. First, the municipal government did not explicitly address social inclusion in its policy design and implementation. The rationale for the inclusionary housing strategy was to enhance affordable

housing production, stabilize local housing markets, and offer improved housing options and living conditions for families with lower incomes. Consequently, the government did not prioritize social inclusion in the inclusionary housing development in Zhengzhou. With no effort from the government, enhancing social inclusion through an inclusionary housing approach could not be guaranteed.

Second, the government should consider providing more comprehensive incentives for cost offsets, attracting developers to engage in inclusionary housing development. When these cost offsets are adequate, developers are more likely to be motivated to construct affordable housing units on-site, particularly in a robust housing market. Conversely, in a sluggish market, they may be more inclined to convert their existing housing stock into affordable housing units. In addition, the availability of such incentives is likely to prompt developers to allocate a greater portion of their budgets toward affordable housing. This would help improve the design and construction quality of affordable housing and ensure that the comfort of residents is maintained while pursuing cost efficiency.

Third, the inclusionary housing policy specified that affordable housing units should be concentrated within the same building or building section, guided by the principle of “scatter on a large scale, concentrate on a small scale.” The intention was to reduce large-scale residential segregation and poverty concentration while avoiding social conflicts among different income groups within the neighborhood. However, this could be counterproductive if affordable housing units are placed in the least desirable locations of the development to reserve better locations and orientations for market-rate housing units. In the worst-case scenario, the affordable housing units might be separated from the market-rate housing units by physical barriers, leading to a lack of shared access to neighborhood facilities and services for both groups. This spatial

marginalization and isolation will not yield social inclusion within the project; instead, it will lead to residential segregation at the neighborhood level and intensify social conflicts.

Chapter 5 Lives Within Inclusionary Housing Neighborhoods

During the past two decades, the Chinese government has committed to affordable housing development to help its growing population find decent homes in the city. Nonetheless, discussions on China's affordable housing policies have mostly emphasized top-down issues of finance, regulations, and implementation, and few of them have investigated policy outcomes from residents' perspectives. Therefore, besides examining inclusionary housing policy design and implementation, this study goes beyond the policy and bureaucracy-centered housing studies so common in China and uses the case study method to explore inclusionary housing policy outcomes from the residents' perspectives. To achieve this goal, two inclusionary housing neighborhoods in Zhengzhou were selected as case studies—Hanlin and Shenglong (see Chapter 3, Section 3.4.2 for case selection). In each neighborhood, a survey of residents was conducted and followed up with in-depth interviews to better understand their living experiences (see Chapter 3, Section 3.4.3 for data collection and analysis).

This chapter explores the outcomes of inclusionary housing policy at the neighborhood level. Initially, I analyze the overall physical characteristics of the two case study neighborhoods based on planning documents and observations from site visits, particularly how market-rate housing and affordable housing are spatially organized. Following that, I summarize and compare the demographic profiles of the survey respondents to illustrate the similarities and differences in social composition and residents' experiences in the two neighborhoods. Next, I assess the level of social inclusion perceived by residents across three hypothesized domains of social inclusion—material well-being, social interaction, and community attachment (see

Chapter 3, Section 3.2)—and inquire about how various neighborhood factors influence residents’ perceived social inclusion based on the survey and interview data. Finally, I investigate the physical proximity between market-rate and affordable housing from multiple viewpoints.

5.1 Physical Characteristics of the Neighborhood

Both case study neighborhoods are master-planned developments built in the 2010s, during a time when Zhengzhou’s real estate market was thriving. The neighborhoods are divided into sections by city streets or physical barriers, with each section forming a gated community.

Hanlin

The Hanlin neighborhood occupies about 94 acres (380,000 sq. m) of land and offers 7,466 housing units. Therefore, the residential density in Hanlin is roughly 79 households per acre. The neighborhood’s greening rate is around 30 percent, which merely meets the minimum requirement of the national residential building code. The floor area ratio (FAR) stands at 3.5, and the site coverage ratio (SCR) is about 25 percent.⁵¹

Hanlin is comprised of three neighborhood sections⁵² for market-rate housing: Kong Yuan contains 7 apartment buildings, accommodating 1,049 market-rate housing families and 189 PRH families; Taoli Yuan consists of 10 apartment buildings, with a total of 1,665 market-rate housing units and 372 PRH units; and Meng Yuan comprises 8 apartment buildings, providing 1,023 market-rate housing units and 192 PRH units. All the apartment buildings in

⁵¹ The floor area ratio (FAR) is the ratio of a building’s floor area to the size of its land parcel. The site coverage ratio (SCR) refers to the percentage of the total site area that is covered by the building footprint. In China, the site coverage ratio is known as “*jianzhu midu* 建筑密度,” which literally translates to “building density.”

⁵² As mentioned in Chapter 3, Section 3.4.3, this study only focuses on market-rate housing and affordable housing. The resettlement housing section is not considered in the analysis.

Hanlin are high-rise, having 29 to 33 stories. Each section contains a kindergarten, property management offices, underground parking, and outdoor open spaces, including public green, paved areas for exercise, and European-themed landscapes.

The physical layout of each section is centripetal (see Figure 3-4). Apartment buildings are mostly positioned along the periphery of the section, encircling a landscaped open space in the middle. Apartment buildings along the city streets were designed as residential-commercial complexes featuring stores and restaurants on the first and second floors, benefiting the surrounding areas.

The neighborhood was designed to be pedestrian-friendly. In each section, pedestrian and vehicular circulation are kept physically separate as much as possible. Vehicles are directed to the underground parking garage. Pedestrian flows are organized through pathways and walking trails that integrate green spaces and connect each apartment building.

The neighborhood design adopted a European style. Each section features French-themed landscapes, such as “The Elysée Garden” and “The Seine River.” The Art Deco style inspired the apartment building design, which uses a classic three-stage elevation in the façade. The developer and designers intended to employ the exotic visual concept to depict an image of the “Peach Blossom Spring” in the city.

In Hanlin, each market-rate housing section contains a certain number of PRH units. Following the principle “scatter on a large scale, concentrate on a small scale,” all PRH units are concentrated within one apartment building (see Figure 3-4). One exception is Taoli Yuan: since one apartment building (Building #7) cannot contain all 372 PRH units required by the inclusionary housing policy, some PRH units are in the same building (Building #4) as market-rate housing units—units on the 28th floor and above are market-rate housing, while those below

the 28th floor are PRH. The PRH buildings are located at the least desirable locations of the neighborhood section, either at a corner or near noisy commercial areas.



Apartment Building



Entrance of a Neighborhood Section



Walking Trail



Landscape



Open Space and Sitting Area



Playground

Figure 5-1. Scenes in Hanlin.
Source: Author.

Shenglong

The Shenglong neighborhood covers an area of 101 acres (409,900 sq. m) and houses 10,442 residential units. Shenglong's residential density is approximately 103 households per acre, significantly higher than Hanlin's 79 households per acre. About 32 percent of the neighborhood is landscaped with greenery, just exceeding the minimum threshold (30 percent) outlined in the national residential building code. The neighborhood's floor area ratio (FAR) is 3.85, which is greater than Hanlin's FAR of 3.5. The site coverage ratio (SCR) is around 25 percent, which is identical to Hanlin's.

Shenglong is comprised of three market-rate housing sections and one PRH section: both Yard 1 and Yard 2 contain eight apartment buildings, accommodating 2,782 and 2,731 market-rate housing families, respectively; Yard 3 consists of three apartment buildings, with a total of 614 market-rate housing units; The PRH section also comprises three apartment buildings, providing 1,087 PRH units. Shenglong's apartment buildings are all high-rise, ranging from 18 to 33 stories. The neighborhood has three kindergartens and two elementary schools. Yards 1 and 2 contain essential neighborhood amenities that serve their residents, while Yard 3 shares some of its amenities with the PRH section, such as property management offices and underground parking.

Like Hanlin, Shenglong's neighborhood section is structured with a centripetal layout, with apartment buildings along the edges surrounding a central landscaped open space (see Figure 3-6). A few apartment buildings along the city streets are residential-commercial complexes—stores and restaurants are located on the lower levels of the building, catering to residents of the neighborhood and surrounding areas. Commercial properties in Shenglong are more concentrated than in Hanlin. A large-scale commercial complex with a total area of 62,800

sq. m was built at the neighborhood's northwest corner, where the subway station is located, becoming a destination for shopping, dining, and entertaining.

The neighborhood adopted a modern European architectural style and postmodernism in landscape design. Pedestrian and vehicular flows are kept separate as much as possible within the neighborhood sections to achieve pedestrian-friendly. Some hard-surfaced outdoor open spaces are provided between apartment buildings, featuring sitting areas, playground structures, sporting facilities, and nature-themed landscapes. With the elegance and simplicity of the design, the developers and designers aimed to create ideal homes for the middle class and a landmark neighborhood that suits the needs and tastes of modern life.

In Shenglong, all PRH units are concentrated in three apartment buildings located in the southeast corner of the neighborhood. They form a gated neighborhood section with a controlled entrance and a closed perimeter of walls and fences. The PRH section provides neighborhood amenities such as playground structures and sporting facilities for its residents. Nonetheless, PRH residents must go to Yard 3 to access property management services, and market-rate housing residents in Yard 3 must drive to the PRH section to enter the underground parking lot.



Apartment Building



Entrance of a Neighborhood Section



Walking Trail



Landscape



Open Space and Sitting Area



Walking Trail and Building Entrance

Figure 5-2. Scenes in Shenglong.
Source: Author.

5.2 Demographic Characteristics of Respondents

This section outlines and compares the survey respondents' personal and household demographic features from the two case study neighborhoods. In the survey questionnaire, respondents were inquired about their personal information, such as gender, marriage status, *hukou* status, age, occupation, and education attainment, as well as household information, such as household composition, household income, property ownership, length of residency, and previous resident experiences (see Appendix A). A summary of the complete result can be found in Table 5-1.

5.2.1 Similarities and Differences Between Respondents of the Two Case Study

Neighborhoods

As the summary table indicates (Table 5-1), samples from Hanlin and Shenglong were demographically comparable in age, education, income, household structures, and the like. Female and male respondents were evenly represented in both neighborhoods in the survey. Most respondents were either in a marriage or cohabiting with a partner. About 60 percent of respondents in both neighborhoods had a household size of three or four individuals.

Nonetheless, differences between the two neighborhoods can be found in some demographic items. First, most respondents in Hanlin were non-local residents, whereas most respondents in Shenglong held a local *hukou*. Second, the age composition of respondents slightly differed between Hanlin and Shenglong. A large portion of respondents in Hanlin were in their 20s and 30s, while most respondents in Shenglong were in their 30s, followed by the group in their 40s. In both neighborhoods, people in their 70s and above were not represented in the survey. This may be because older people had little access to smartphones, experienced difficulties completing the online survey without help, or were reluctant to participate in the study.

Regarding occupation, the most noticeable difference is that Hanlin had a higher percentage of respondents who were students (25.0%) than Shenglong (4.7%). Nevertheless, most respondents in both neighborhoods were working full-time.

More than 80 percent of respondents in both neighborhoods attended higher education. However, the percentage of respondents who reported a graduate school education in Hanlin (40.6%) is significantly higher than that in Shenglong (11.8%).

Moreover, there were differences in household information items between the two case study neighborhoods. More than half of respondents in both neighborhoods reported household incomes between 50,000 RMB and 199,999 RMB.⁵³ Nevertheless, Shenglong exhibited a slightly higher and broader spread of household incomes than Hanlin. About 28 percent of respondents in Shenglong had a family income above 200,000 RMB, higher than Hanlin's 17 percent.

While most respondents in both neighborhoods lived in self-owned market-rate housing, about 16 percent of respondents in Hanlin lived in private rental homes, much higher than Shenglong's 5 percent. Given that renters were less inclined to participate in the study, it is logical to assume that the actual proportion of renters in both neighborhoods was greater than the survey data suggested.

On average, respondents in Shenglong occupied larger apartment units than those in Hanlin. In Shenglong, most respondents lived in a three-bedroom apartment (54.3%). In Hanlin, however, a large portion of respondents lived in a two-bedroom apartment (36.5%), almost equal to that of respondents living in a three-bedroom apartment (38.5%).

Concerning family structure, a significantly higher portion of respondents in Hanlin were not living with any senior or child (44.8%), whereas this number was much smaller in Shenglong (19.7%). In Shenglong, most respondents had at least one child (under 18) in their family (75.6%), which was much higher than that of Hanlin (50.0%).

Respondents in the two case study neighborhoods shared many similarities regarding their previous residential experiences. Most respondents bought or rented a housing unit in

⁵³ According to the 2023 Zhengzhou Statistical Yearbook, the average annual income in Zhengzhou's urban area was about 46,300 RMB per person.

another market-rate neighborhood or a work unit residential compound before moving into their current homes.

In both neighborhoods, work-related reasons were the leading cause for residents to move to their current homes. (40.6%in Hanlin; 31.5% in Shenglong). In Hanlin, other popular motivations were to live in a better neighborhood (27.1%) or a better apartment (17.7%). In Shenglong, becoming a homeowner (29.9%), living in a better neighborhood (18.9%), and living in this location (18.1%) are other popular motivations to move.

Nonetheless, I acknowledge that selection bias exists in the study. Since the survey was distributed in WeChat groups, residents who did not have access to smartphones or the internet, were not included in the WeChat groups, or had difficulties completing the survey might be less represented in the sample than in the neighborhood (undercoverage bias). In addition, the study relied on volunteer participation, and thus, volunteer bias might be present.

Table 5-1. Demographic features of Hanlin and Shenglong.

		Hanlin		Shenglong		Total	
		(n)	(%)	(n)	(%)	(n)	(%)
Gender	Male	47	49.0%	65	51.2%	112	50.2%
	Female	49	51.0%	62	48.8%	111	49.8%
Marriage	Married/living with a partner	68	70.8%	110	86.6%	178	79.8%
	Single/divorced/widowed	28	29.2%	17	13.4%	45	20.2%
Hukou Status	Local <i>hukou</i>	38	39.6%	67	52.8%	105	47.1%
	Non-local <i>hukou</i>	58	60.4%	60	47.2%	118	52.9%
Age	Under 20	6	6.3%	0	0.0%	6	2.6%
	20-29	35	36.5%	20	15.7%	55	23.6%
	30-39	35	36.5%	76	59.8%	111	47.6%
	40-49	11	11.5%	21	16.5%	32	13.7%
	50-59	9	9.4%	9	7.1%	18	7.7%
	60-69	0	0.0%	1	0.8%	1	0.4%
	Above 70	0	0.0%	0	0.0%	0	0.0%
Occupation	Full-time job	56	58.3%	90	70.9%	146	65.5%
	Part-time job	12	12.5%	10	7.9%	22	9.9%
	Homemaker	3	3.1%	10	7.9%	13	5.8%

	Self-employed		9	9.4%	16	12.6%	25	11.2%
	Student		24	25.0%	6	4.7%	30	13.5%
	Retired		1	1.0%	2	1.6%	3	1.3%
	Unemployed		0	0.0%	0	0.0%	0	0.0%
	Other		4	4.2%	3	2.4%	7	3.1%
Highest Education Level	Less than high school		5	5.2%	7	5.5%	12	5.4%
	High school		11	11.5%	12	9.4%	23	10.3%
	College		41	42.7%	93	73.2%	134	60.1%
	Graduate school or above		39	40.6%	15	11.8%	54	24.2%
Household Income	Less than ¥20,000		15	15.6%	7	5.5%	22	9.9%
	¥20,000 - 49,999		12	12.5%	12	9.4%	24	10.8%
	¥50,000 - 99,999		20	20.8%	32	25.2%	52	23.3%
	¥100,000 - 199,999		32	33.3%	41	32.3%	73	32.7%
	¥200,000 - 299,999		7	7.3%	22	17.3%	29	13.0%
	¥300,000 - 399,999		8	8.3%	6	4.7%	14	6.3%
	¥400,000 - 499,999		1	1.0%	3	2.4%	4	1.8%
	¥500,000 - 999,999		0	0.0%	3	2.4%	3	1.3%
	More than ¥1,000,000		1	1.0%	1	0.8%	2	0.9%
Current Resident Experiences	Housing type	Self-owned market-rate housing	61	63.5%	98	77.2%	159	71.3%
		Private rental housing	15	15.6%	6	4.7%	21	9.4%
		PRH	11	11.5%	23	18.1%	34	15.2%
		Other	9	9.4%	0	0.0%	9	4.0%
	Number of bedrooms	1	21	21.9%	9	7.1%	30	13.5%
		2	35	36.5%	48	37.8%	83	37.2%
		3	37	38.5%	69	54.3%	106	47.5%
		4 and above	3	3.1%	1	0.8%	4	1.8%
	Average Length of Residency		3.1		4.7		4.1	
	Average floor area (sq m)		80.5		88.2		84.9	
	Household size	1	6	6.3%	5	3.9%	11	4.9%
		2	10	10.4%	11	8.7%	21	9.4%
		3	29	30.2%	38	29.9%	67	30.0%
		4	31	32.3%	38	29.9%	69	30.9%
		5	13	13.5%	23	18.1%	36	16.1%
		6 and above	7	7.3%	12	9.4%	19	8.5%
	Household structure	With child under 18	48	50.0%	96	75.6%	144	64.6%
With senior above 60		25	26.0%	38	29.9%	63	28.3%	
Without senior or child		43	44.8%	25	19.7%	68	30.5%	
Senior only		0	0.0%	0	0.0%	0	0.0%	

Previous Resident Experiences	Neighborhood type	Market-rate housing neighborhood	47	49.0%	45	35.4%	92	41.3%
		Work unit compound	16	16.7%	25	19.7%	41	18.4%
		Urban village	8	8.3%	23	18.1%	31	13.9%
		Urban-rural fringe	1	1.0%	1	0.8%	2	0.9%
		Demolition resettlement neighborhood	9	9.4%	14	11.0%	23	10.3%
		Affordable housing neighborhood	0	0.0%	5	3.9%	5	2.2%
		Rural village	11	11.5%	10	7.9%	21	9.4%
		Other	4	4.2%	4	3.1%	8	3.6%
	Housing type	Self-owned market-rate housing	35	36.5%	37	29.1%	72	32.3%
		Self-owned housing-reform housing	4	4.2%	9	7.1%	13	5.8%
		Self-owned affordable housing	3	3.1%	0	0.0%	3	1.3%
		Rental-occupied affordable housing	4	4.2%	0	0.0%	4	1.8%
		Rental-occupied market-rate housing	19	19.8%	49	38.6%	68	30.5%
		Rental-occupied public housing	2	2.1%	4	3.1%	6	2.7%
		Resettlement housing	8	8.3%	6	4.7%	14	6.3%
		Self-built housing	14	14.6%	16	12.6%	30	13.5%
		Inherited/bestowed housing	0	0.0%	1	0.8%	1	0.4%
		Shelter/homeless	1	1.0%	0	0.0%	1	0.4%
		Other	6	6.3%	5	3.9%	11	4.9%

Source: Author.

5.2.2 Implications of Demographic Features to Social and Community Life

The survey results indicate that a large proportion of residents in the two case study neighborhoods were well-educated young adults who lived in families of three or four members and worked or went to school in the area. Nonetheless, some differences in social compositions have been observed between the two neighborhoods, which could impact social experiences and community life.

Compared to Shenglong, Hanlin appeared to accommodate younger residents with higher levels of education who came to Zhengzhou for work or study without holding a local *hukou*.

More households in Hanlin comprised childless families or nuclear families without members from the grandparental age group. Moreover, there were more renters in Hanlin with relatively lower incomes. Based on the demographic information obtained from the survey questionnaire, one can infer that a larger group of residents in Hanlin were students or well-educated young professionals who were affiliated with neighboring universities (Zhengzhou University and Henan University of Technology). In theory, families with similar structures and educational backgrounds are better positioned to establish a shared lifestyle and agree on community values. On the other hand, however, opportunities for social engagement can be significantly constrained in families primarily comprised of busy working individuals without children or senior members serving as the communication bridge.

Comparatively, Shenglong's social composition was more diversified than that of Hanlin. Residents of Shenglong came from a more diverse array of social backgrounds, which was evident in the greater variance in household incomes, occupations, and other personal backgrounds. Nevertheless, most families in Shenglong shared a similar structure: working parents with school-aged children; families with preschoolers usually had senior members living with them to help with the children. Therefore, although there might be some challenges to agreeing on a shared lifestyle and community norms among residents with diverse social backgrounds, similar family structures and the presence of children and senior members may lead to more socialization opportunities within the neighborhood.

5.2.3 Demographic Characteristics of Affordable Housing Residents

The demographic features of affordable housing residents were mostly in line with the neighborhood's social composition. Most affordable housing residents were in their 20s or 30s (73.5%) and had a college or graduate education background (76.5%). Most of them had a full-

time job (70.6%) and lived in a family of three or four people (52.9%). Nonetheless, a few demographic items denote differences between affordable and market-rate housing residents. First, more than half of the affordable housing residents held non-local *hukou* (67.6%). Even in Shenglong, where most residents had local *hukou*, 15 out of 23 (65.2%) affordable housing respondents were non-local. This indicates that more and more low-income migrants benefited from affordable housing programs. Since the inclusionary housing policy increases the affordable housing supply, it further proves that inclusionary housing helps reduce housing inequality.

Second, affordable housing residents reported lower household incomes than market-rate housing residents. Most affordable housing residents had a family income below ¥100,000 (74.5%). This result was expected since affordable housing programs mainly target low-income households.

When asked why they decided to move to their current homes, the most popular answer among affordable housing residents was job-related (52.9%), followed by wanting to live in a cheaper apartment (29.4%) and allocated by the government or work unit (23.5%).

5.3 Social Inclusion Within the Case Study Neighborhoods

In this section, I first examine residents' responses to the questions that measure their perceived level of social inclusion and investigate different components within each hypothesized domain of social inclusion. Then, the section proceeds with a regression-based analysis of what factors contribute to residents' perceived level of social inclusion. Besides statistical analysis, interviews supplement the argument to draw a complete picture of mixed-income neighborhoods.

5.3.1 Social Inclusion and the Three Domains

In the survey questionnaire, respondents were directly inquired about the level of social inclusion they perceived within the neighborhood. Table 5-2 summarizes the responses to the related questions. The summary table indicates that residents in Hanlin reported perceiving a slightly higher level of social inclusion than residents in Shenglong, but it was not statistically significant⁵⁴. If we compare residents of different housing types, market-rate housing residents reported a higher level of social inclusion they perceived in the neighborhood than affordable housing residents, which was statistically significant⁵⁵. This self-reported social inclusion serves as a subjective indicator reflecting the respondents' intuitive understanding, with or without thoroughly considering various factors related to social inclusion.

Table 5-2. Comparison of responses to questions related to the perceived level of social inclusion.

No.	Question	Hanlin		Shenglong		Market-rate Housing Residents		Affordable Housing Residents	
		Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
13(27)	I have perceived a high level of social inclusion in my neighborhood. (1 = “strongly disagree”, 2 = “disagree”, 3 = “neutral”, 4 = “agree”, 5 = “strongly agree”)	3.36	0.77	3.24	0.73	3.32	0.73	3.15	0.82
16	What is the level of social inclusion you perceived in the neighborhood? (1 = “very low”, 2 = “low”, 3 = “medium”, 4 = “high”, 5 = “very high”)	3.10	0.83	2.98	0.84	3.09	0.83	2.71	0.80

Then, the level of social inclusion perceived by the residents can be measured using the 22-item scale developed from the three hypothesized domains of social inclusion: material well-being, social interaction, and community attachment (see Table 3-3). The measure has three

⁵⁴ According to the *t*-test result for question 17, the effect of the neighborhood was not statistically significant at a 0.05 level, $t(206.36) = 1.13$, $p = .26$.

⁵⁵ According to the *t*-test result for question 17, the effect of the housing type was statistically significant at a 0.05 level, $t(46.75) = 2.57$, $p = .01$.

subscales corresponding to the hypothesized domains. Each item is a statement that prompts participants to choose from a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). The score for each subscale is the average score of all items within that subscale, and the final score of social inclusion is the average score of all items. The range of scores goes from 1 to 5. The setup of the items leads to the interpretation that a higher score corresponds to a higher level of social inclusion; conversely, a lower score indicates a lower level. Appendix C summarizes the results and presents each item's mean score and standard deviation across neighborhoods and housing types.

Table 5-3 and Table 5-4 summarize and compare the scores of each subscale, as well as the final score reflecting the perceived level of social inclusion among residents of the two neighborhoods and across different housing types. The mean values indicate that, in general, residents of both neighborhoods conveyed a positive perception of social inclusion. The average level of perceived social inclusion ranged between “medium” and “high,” regardless of neighborhood or housing type. Residents in Hanlin reported a higher level of social inclusion than those in Shenglong; market-rate housing residents experienced a higher level of social inclusion than affordable housing residents. These findings are consistent with the results of self-reported social inclusion.

Nonetheless, the *t*-test results, which suggest significant differences (at a 0.05 level) between the neighborhoods and housing types, provide a more detailed picture: When comparing the two neighborhoods, the differences in residents' material well-being and community attachment were statistically significant, whereas there was no substantial difference regarding social interaction. In comparing market-rate housing and affordable housing, only the difference in residents' community attachment was statistically significant, and there were no substantial

differences in material well-being and social interaction. Overall, Hanlin's final score of social inclusion was significantly higher than that of Shenglong, but the difference between market-rate and affordable housing residents was not statistically significant.

Table 5-3. Social inclusion score in Hanlin and Shenglong.

Subscale	Neighborhood	Mean	Std. Dev.	t Statistic	df	p-value
Material Well-being	Hanlin	3.38	0.61	2.53	184.70	.01*
	Shenglong	3.18	0.51			
Social Interaction	Hanlin	3.28	0.60	1.09	190.69	.28
	Shenglong	3.20	0.53			
Community Attachment	Hanlin	3.46	0.59	2.14	205.02	.03*
	Shenglong	3.28	0.59			
Final Score	Hanlin	3.37	0.54	2.19	188.36	.03*
	Shenglong	3.22	0.47			

Note: * $p < 0.05$.

Table 5-4. Social inclusion score across different housing types.

Subscale	Housing Type	Mean	Std. Dev.	t Statistic	df	p-value
Material Well-being	Commodity	3.26	0.58	-0.67	53.44	.50
	Affordable	3.32	0.46			
Social Interaction	Commodity	3.24	0.55	0.72	42.16	.48
	Affordable	3.16	0.64			
Community Attachment	Commodity	3.41	0.56	2.52	40.51	.02*
	Affordable	3.08	0.72			
Final Score	Commodity	3.30	0.49	1.19	43.78	.24
	Affordable	3.19	0.53			

Note: * $p < 0.05$.

Material Well-Being

Material well-being consists of two subjects: stability of housing tenure (3 items) and economic and social resources (2 items). According to the mean values, respondents from Hanlin scored higher on all items than respondents from Shenglong. Nonetheless, only the differences in the two items related to economic and social resources were statistically significant. This indicates that residents of the two neighborhoods had no substantial differences regarding their

perceptions of housing stability; however, more residents in Hanlin believed they had better education resources and job opportunities after moving into their current homes. The difference was mainly attributed to Hanlin being closer to Zhengzhou University and Henan University of Technology, the two most prestigious universities in Henan Province and the biggest employers in the area. Many residents of Hanlin were either studying or working in them. In addition, the elementary and middle schools beside the Hanlin residential development are known as “key schools” in the High-tech Industrial Development Zone. As some Hanlin residents mentioned in the interview, the availability of quality education resources for their children was one of the primary considerations when choosing the neighborhood.

When comparing the two housing types, it is noteworthy that affordable housing respondents gave higher scores on the two items on economic and social resources than market-rate housing residents on average, although the differences were not statistically significant. This is probably because affordable housing residents could only afford to live in neighborhoods with poor job opportunities and education resources before moving to their current neighborhoods. Due to the inclusionary housing policy, they could live in neighborhoods with much better economic and social resources than their previous ones.

Regarding housing security, affordable housing residents were more confident that housing became more affordable after moving into their current homes than market-rate housing residents. About 70 percent of affordable housing respondents agreed or strongly agreed that their housing costs decreased upon relocating to their current residences. The percentage was much higher than that of market-rate housing residents (about 30 percent). This confirms that affordable housing programs have effectively improved housing affordability for eligible households. One resident noted in the interview that the rent he paid for an affordable housing

unit was approximately one-third lower than the market rate for a comparable unit in the same neighborhood.

On the other hand, affordable housing residents felt their living situation was significantly less secure or stable than market-rate housing residents. This can be explained by the fact that most market-rate housing residents were homeowners who had more stable living situations than affordable housing renters in general. Besides, affordable housing residents felt less secure about their rental homes because even though they were given a three-year lease, that lease could be terminated immediately if they no longer qualified for the affordable housing program (e.g., if their income per capita exceeded the income threshold or if the family bought a home). The Housing Security Bureau utilizes big data to identify disqualifications online in real time. In addition, the Zhengzhou Public Housing Investments Company, which operates and manages affordable housing developments in the city, randomly sends staff door-to-door to check up on the eligibility of affordable housing households and illegal subletting. If the lease is broken, residents will face eviction or must pay the rent at market rates and move out within a specific timeframe. The intention was to avoid fraud and falsification and ensure that the affordable housing program would benefit people in real need. This policy, however, has resulted in an increased turnover rate in affordable housing, causing some residents to feel uncertain about their housing stability. During the interview, one affordable housing resident commented, *“There is nothing wrong with it (the policy) in principle, but it just makes MANY people feel uncomfortable.”*

Furthermore, many affordable housing residents expressed anxiety about the frequently changing policy, as they worried that they might suddenly no longer qualify for the program or that the rent would be increased. In the interview, some residents mentioned their hope to buy

their units someday if the policy allowed it so they could become homeowners and achieve a more stable living situation.

Social Interaction

Social interaction includes four key subjects: neighboring (3 items), social support (1 item), social acceptance (2 items), and social participation (3 items). The mean scores show that except for social support, respondents of Hanlin gave higher scores for each subject than respondents of Shenglong. Nonetheless, *t*-test results indicate that differences between the two neighborhoods were not statistically significant for all items within the domain of social interaction.

When comparing the two resident groups, affordable housing respondents scored higher on neighboring and social support than market-rate housing respondents, who scored higher on social acceptance and participation. Except for one item, *t*-test results suggest no significant statistical differences between the two housing types for all aspects related to social interaction.

Neighboring refers to a casual interaction among two or more neighbors living next door, in the same building, or within the same neighborhood section. It usually occurs in the corridor, elevator, or courtyard when neighbors return home after work, exercise, or watch children play. These unplanned social contacts may evolve into meaningful social interactions and let neighbors get to know each other over time (Fleming et al., 1985). In the interviews, most people in both neighborhoods said they often had casual encounters with their neighbors in the building, especially the elevator. They would greet each other or engage in small conversations. Neighbors they had the most contact with were usually people living on the same floor or in the same building, meaning people of the same housing type. Residents with kids or dogs had more casual contact with people living in other buildings, often when they were watching their kids

play in the playground or walking their dogs in open spaces. Interestingly, compared to market-rate housing residents, affordable housing residents appeared to have more contact with their neighbors, and their casual encounters were more likely to develop into meaningful connections. Some affordable housing residents mentioned in the interview that sometimes they would visit and hang out with their neighbors or have meals together at home or in a restaurant.

Social support contributes to feelings of being cared about by others. Neighbors helping each other solve problems can cultivate a sense of community and inclusion (Kim, 2001). Most residents affirmed that they would get help from neighbors if it were not too much trouble, such as receiving deliveries or keeping a spare key. As one resident described, “... *if people in the neighborhood need some tool, they just ask for it in our WeChat group, and people who have it would lend it to them. If someone runs into problems, such as having trouble turning on their computer, people in the WeChat group will put forward some ideas and help solve the problem. Sometimes, they even come to your door to help.*”

The survey results indicate that affordable housing respondents experienced a higher level of neighboring and social support than market-rate housing respondents, even though the variations did not reach statistical significance. This can be partly explained by the fact that some affordable housing units in both neighborhoods were designated for some local enterprises to allocate to their eligible employees. Therefore, many affordable housing residents who were neighbors also happened to be coworkers. This may also support the argument to some degree that low-income people from disadvantaged communities can benefit more from thick social networks and mutual support to cope with their environments in everyday life compared to their market-rate housing counterparts (Manzo et al., 2008; Tester et al., 2011; Vale, 2002).

Social acceptance signals the level of feeling of being included in the community. The respondents reported no substantial differences between the two neighborhoods or the two housing types regarding the level of social acceptance. In the interviews, most residents responded positively when asked about their feelings of being accepted or included by the community. The few residents who did not, they either shared stories about conflicts with their neighbors or expressed frustrations about their opinions or suggestions being ignored by the property management team. For instance, one resident living in a top-floor apartment talked about how he was annoyed and disturbed by downstairs neighbors coming to the roof to hang their laundry. He and other top-floor residents complained to the property manager about this issue, but it still was not resolved by then. *“I understand people have different standpoints, which leads to disagreement,”* the resident said, *“but still, I feel that it is not inclusive, and I’m not being valued.”*

Social participation implies one’s willingness to interact with people community-wide on planned social occasions and spend time on community affairs and corresponding activities. It is a kind of social interaction that is more active and formal than neighboring. According to the survey results, participation in social events and activities within the neighborhood was significantly higher among market-rate housing residents than affordable housing residents. The most common reasons residents did not attend neighborhood events were lack of time or interest. They stated in the interview that most of these events were held during their working hours, so they could not attend. Some residents noted that even if these events were organized outside their work schedule, they were too exhausted from their work to participate, or they chose not to because the activities primarily catered to children or seniors. Only a few residents mentioned they had done voluntary work in the neighborhood, such as organizing mass COVID-19 testing

during the pandemic lockdown and clearing the floodwater after the “7.20” Zhengzhou Rainstorm in 2021. They noted that engaging in these activities helped to build connections with their neighbors, yet these connections had not transformed into meaningful relationships. As one resident said, “... *(after the volunteer work) we just say hello as a common courtesy and exchange a few words at most when we run into each other. Nothing deep.*”

Community Attachment

Community attachment also comprises four concepts: community cohesion (3 items), sense of security (2 items), activity-friendliness (1 item), and sense of belonging (2 items). According to the survey results, Hanlin respondents exhibited significantly higher community attachment than Shenglong respondents. In comparing the two housing types, market-rate housing respondents reported substantially higher community attachment than affordable housing residents.

Community cohesion describes positive interactions among people with different characteristics and personal backgrounds in a community. Among the three items within this subject, only one item reaches statistical significance between the two neighborhoods and between the two housing types: Hanlin’s residents perceived better neighborly relationships than Shenglong’s, and market-rate housing residents were more content with the relationship among neighbors than affordable housing residents. This can be explained by the fact that compared to Hanlin and market-rate housing residents, more residents of Shenglong and affordable housing residents remarked on some conflicts among neighbors they witnessed or encountered in the interviews.

A sense of security portrays the feelings of being secure and at ease experienced in the environment, contributing to residents forming positive psychological ties with the community.

Residents in Hanlin felt more secure in the neighborhood than residents in Shenglong, and the difference reached statistical significance for both items. Compared to affordable housing residents, market-rate housing residents reported a higher sense of security; however, there was no statistical significance between the two housing types for both items. During interviews, residents, particularly those living in market-rate housing, highlighted one primary concern regarding some apartments being rented out to all kinds of people without proper background checks, which compromised their sense of security. Another issue raised by residents in Shenglong was related to neighborhood planning—pedestrians were not separated from vehicle traffic in some areas of the neighborhood. As one resident described, *“Every time I leave the parking garage, I feel anxious because kids are playing nearby, and I’m concerned about hitting them due to my blind spots.”*

Activity-friendliness illustrates to what extent the neighborhood environment can facilitate and promote residents’ physical activity, which positively affects their well-being and contributes to developing a strong community bond. The study asked residents if they regularly played a sport or exercised within the neighborhood to indicate the neighborhood’s activity-friendliness. According to the survey results, comparing the two neighborhoods showed no statistical significance in terms of activity-friendliness. In contrast, the comparison of the two housing types indicated that market-rate housing residents viewed the neighborhood as more activity-friendly than affordable housing residents, with the difference reaching statistical significance. In the interviews, some residents mentioned that they rarely engaged in outdoor activities within the neighborhood because they thought the neighborhood’s activity spaces were crowded and unattractive. Some younger residents noted that recreational areas were mainly occupied by seniors and kids, so they prefer exercising outside the neighborhood, such as

walking and jogging along the city streets. However, many residents revealed that they engaged in more physical activities in the neighborhood during the COVID-19 pandemic because they wanted to get some fresh air but could not leave the neighborhood during the lockdowns. Nonetheless, a few others took a different stance—they reduced outdoor activities in the neighborhood during the pandemic to avoid the risk of cross-infection.

A sense of belonging refers to the feeling of deep connection with the people and places, which are essential to individuals' subjective well-being (Allen et al., 2021). The survey results indicate that residents of Hanlin experienced a notably stronger sense of belonging compared to those in Shenglong, and residents of market-rate housing reported a significantly greater sense of belonging than those in affordable housing. In the interviews, most residents affirmed that they had felt a sense of belonging in the neighborhoods. Nevertheless, some market-rate housing renters and affordable housing residents in the interviews expressed that they considered their current homes as temporary and unstable, resulting in a weak sense of belonging. One affordable housing resident remarked, *"... we are rural migrants and do not own a home in the city, so we have some sense of belonging living in a PRH unit. However, we still feel somewhat ill at ease because we do not own it after all."*

5.3.2 Influential Factors of Social Inclusion

This section explores factors that impact residents' perceived level of inclusion via multivariate analyses. The study examined residents' perceived neighborhood design, management and services, social environment, and housing conditions in relation to social inclusion, controlling for household and individual characteristics. Table 5-5 provides an overview of each variable used in this study. The dependent variable is the social inclusion score

measured by the 22-item scale. The independent variables indicate residents' satisfaction with each item on a 5-point Likert scale, treated as continuous data in the analysis.

Table 5-5. Definition and descriptive analysis of the variables.

Variables	Description	Mean	Std. Dev.
Dependent variable			
Social inclusion score	Level of agree or disagree with 22 items on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree)	3.29	0.50
Independent variables			
Neighborhood planning	Level of satisfaction with each item on a 5-point Likert scale (1 = very dissatisfied, 5 = very satisfied)	3.45	0.98
Building construction		2.98	1.02
Property management		3.17	1.07
Neighborhood facilities		3.23	0.93
Community culture and identity		3.16	0.87
Community events and activities		3.13	0.89
Shared values among neighbors		2.69	0.78
Community participation		3.00	0.93
Unit design		3.30	0.90
Utilities		3.47	0.88
Neighborhood surroundings		3.28	0.96
Control variables			
Neighborhood	0 = Hanlin, 1 = Shenglong	0.57	0.50
Housing types	0 = market-rate housing, 1 = affordable housing	0.15	0.36
Length of residence	Number of years	4.05	2.24
Household composition	0 = without child or senior, 1 = with child or senior	0.70	0.46
Gender	0 = male, 1 = female	0.50	0.50
Hukou status	0 = non-local hukou, 1 = local hukou	0.47	0.50
Marital status	0 = single/divorced/widowed, 1 = married/living with a partner	0.80	0.40
Age	1 = <20, 2 = 20-29, 3 = 30-39, 4 = 40-49, 5 = 50-59, 6 = >=60	3.02	0.93
Education	1 = middle school and below, 2 = high school, 3 = college level, 4 = graduate level and above	3.05	0.75

A correlation analysis was performed to check for multicollinearity (see Appendix D for the full results). The results show that “neighborhood facilities” has high correlations with “property management,” “community events and activities,” and “neighborhood surroundings”; “community events and activities” also has high correlations with “neighborhood surroundings”; “community participation” and “community culture and identity” are highly correlated. Therefore, “neighborhood facilities,” “community events and activities,” and “community participation” were removed from the analysis. After this, the correlations between each two of the seven variables range from 0.32 to 0.64.

Results and Interpretation

The means and standard deviations of the independent variables are listed in Table 5-6 and Table 5-7 to compare the differences between the two case study neighborhoods and between the two housing types. The results indicate that residents in Hanlin were significantly more satisfied with the neighborhood planning, building construction quality, community culture and identity, unit design, and neighborhood surroundings than residents in Shenglong. While there were no substantial differences in other aspects, affordable housing residents were notably less satisfied with the quality of building construction than market-rate housing residents.

Table 5-6. Means, standard deviations, and t-test of main variables between the two neighborhoods.

Variables	Neighborhood	Mean	Std. Dev.	t Statistic	df	p-value
Neighborhood planning	Hanlin	3.64	0.95	2.53	206.77	.01*
	Shenglong	3.31	0.97			
Building construction	Hanlin	3.23	0.99	3.28	206.36	.00**
	Shenglong	2.79	1.00			
Property management	Hanlin	3.28	1.10	1.39	198.61	.17
	Shenglong	3.08	1.04			
Community culture and identity	Hanlin	3.30	0.89	2.57	197.49	.01*
	Shenglong	3.03	0.84			
	Hanlin	2.61	0.84	-1.17	189.64	.25

Shared values among neighbors	Shenglong	2.74	0.74			
Unit design	Hanlin	3.47	0.86	2.40	211.55	.02*
	Shenglong	3.18	0.92			
Utilities	Hanlin	3.57	0.88	1.51	204.08	.13
	Shenglong	3.39	0.88			
Neighborhood surroundings	Hanlin	3.48	0.92	2.72	209.50	.01**
	Shenglong	3.13	0.96			

Note: * $p < 0.05$; ** $p < 0.01$.

Table 5-7. Means, standard deviations, and t-test of main variables between the two housing types.

Variables	Housing Type	Mean	Std. Dev.	t Statistic	df	p-value
Neighborhood planning	Commodity	3.44	0.99	-0.15	47.39	.88
	Affordable	3.47	0.93			
Building construction	Commodity	3.07	1.00	3.52	46.92	.00**
	Affordable	2.44	0.96			
Property management	Commodity	3.12	1.07	-1.48	46.32	.15
	Affordable	3.41	1.05			
Community culture and identity	Commodity	3.16	0.84	0.09	41.54	.93
	Affordable	3.15	1.02			
Shared values among neighbors	Commodity	2.70	0.76	0.50	42.25	.62
	Affordable	2.62	0.89			
Unit design	Commodity	3.34	0.90	1.48	44.62	.15
	Affordable	3.09	0.93			
Utilities	Commodity	3.50	0.84	1.06	40.30	.29
	Affordable	3.29	1.08			
Neighborhood surroundings	Commodity	3.26	0.96	20.66	45.81	.51
	Affordable	3.38	0.95			

Note: * $p < 0.05$; ** $p < 0.01$.

Then, three multivariate regression models were developed to investigate influential factors of social inclusion. Model 1 does not include any control variables. Model 2 only controls for household characteristics, including neighborhood, housing type, length of residence, and household composition. Model 3 controls for both household and individual characteristics, adding gender, *hukou* status, marital status, age, and education as control variables.

Table 5-8 presents the basic results from the proposed models. Model 2 outperforms the other two models with the highest adjusted R-squared and the lowest AIC value, indicating its superior fit to the data. The result of Model 2 suggests that community culture and identity, as well as utilities, could significantly affect residents' perceived level of social inclusion (at a 0.05 level), while shared values among neighbors and unit design had a marginally significant effect on social inclusion (at a 0.1 level), after controlling for neighborhood, housing type, and household characteristics.

Finally, the variance inflation factor (VIF) was computed for all variables in Model 2. The result shows that all variables in Model 2 have a VIF value below 3, which suggests moderate multicollinearity.

Table 5-8. Results of the impact factors of social inclusion based on multivariate regression analyses.

Variables	Social Inclusion Score		
	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Neighborhood planning	-0.040 (0.041)	-0.036 (0.040)	-0.036 (0.040)
Building construction	0.052 (0.037)	0.025 (0.039)	0.026 (0.040)
Property management	0.0005 (0.040)	0.037 (0.041)	0.040 (0.042)
Community culture and identity	0.107* (0.047)	0.116* (0.047)	0.113* (0.048)
Shared values among neighbors	0.097* (0.045)	0.076+ (0.045)	0.079+ (0.046)
Unit design	0.069+ (0.039)	0.067+ (0.038)	0.062 (0.038)
Utilities (water, gas, electricity, etc.)	0.093* (0.041)	0.089* (0.040)	0.092* (0.041)
Neighborhood surroundings	0.061 (0.041)	0.055 (0.040)	0.051 (0.041)
Control variables			
Neighborhood		-0.134* (0.063)	-0.138* (0.064)

Housing type		0.008 (0.085)	0.012 (0.086)
Length of residence		0.044** (0.014)	0.040** (0.015)
Household composition		0.076 (0.063)	0.081 (0.065)
Gender			-0.056 (0.056)
Hukou status			0.038 (0.059)
Marital status			-0.0007 (0.080)
Age			0.022 (0.035)
Education			0.026 (0.030)
R ²	0.356	0.394	0.401
Adjusted R ²	0.332	0.360	0.351
Residual Std. Error	0.410 (df = 214)	0.401 (df = 210)	0.404 (df = 205)
F Statistic	14.777** (df = 8; 214)	11.393** (df = 12; 210)	8.073** (df = 17; 205)
Akaike's Information Criterion (AIC)	245.68	239.94	247.46

Note: Standard errors are in parentheses; + $p < 0.1$; * $p < 0.05$; ** $p < 0.01$.

Community culture consists of norms, beliefs, and practices that residents share, and community identity refers to community characters that residents identify with, which could be cultural or physical features of the community. These two concepts are closely intertwined and positively affect residents' perceptions of social inclusion. During the interviews, when asked how to foster social inclusion within their neighborhoods, some residents mentioned the necessity of building community culture and enhancing community identity. Their suggestion comprised two measures to achieve the goal: first is regularly hosting meaningful cultural activities that would interest many residents and encourage their participation; second is providing communal spaces designated for these activities, such as a community recreation

center open to all residents. They believed these measures could facilitate social interaction and enhance community attachment, ultimately promoting social inclusion.

In addition, having shared values with neighbors contributed positively to social inclusion, albeit with only marginally significant associations. When residents were asked about the meaning of social inclusion, having shared values with neighbors was frequently mentioned in the interviews. Value congruence contributes to building trust and connectedness within the communities. As one resident commented, *“Speaking of social inclusion, I think its most important aspect is the ‘inclusion’ of values... because every action a person takes, or things people do, comes from their values... Without common values, there will be potential conflicts among neighbors.”*

Moreover, housing features, such as residential utilities and unit design, also impacted residents’ perceptions of social inclusion. Utilities, including electricity, water, natural gas, sewage services, and telecommunications, are crucial to the daily functioning of homes. Although each utility is vital in upholding the comfort and convenience of our living spaces, they are often neglected in the discussion of residential built environments. In the interviews, many residents of Shenglong complained that they were still using “temporary electricity,” resulting in many inconveniences and disputes.

Temporary electricity refers to the power the developer uses during building construction, which differs from the regular power supply for residential use. After the construction was completed, the developer was supposed to apply for completion acceptance to the power supply bureau so that the new development could be connected to the regular power supply. Nonetheless, it is not uncommon for many residential developments to still rely on temporary electricity even years after construction is completed, as developers often lack accountability,

and this practice can save them costs. Temporary electricity cannot meet the power demand for the whole neighborhood, so power outages occur frequently when power consumption peaks, which poses potential safety hazards and causes many troubles in residents' daily lives.

Besides electricity, some affordable housing residents in Shenglong also mentioned that their homes did not have gas or heating until one year after they moved in. The lack of proper utilities could lower residents' satisfaction with their neighborhoods, further weakening their community attachment and ultimately impacting their feelings of social inclusion.

Furthermore, unit layout and design positively affected social inclusion, although the associations were marginally significant. Residents with larger families living in smaller apartments tended to complain about unit design in the interviews. One affordable housing resident described his apartment: *"Only a queen-sized bed can fit in the master bedroom. Otherwise, there is no space to walk in the room. There is no space for my (one-year-old) kid to crawl on the floor."* Like utilities, unsatisfied unit design was likely to lower residents' satisfaction with their living environment, leading to a shift in their sense of inclusion.

Among control variables, the result shows that the social inclusion of residents in Hanlin was significantly higher than that of residents in Shenglong; however, housing type showed no significant direct relation with social inclusion. This result was consistent with the finding in Section 5.3.1, suggesting that living in affordable housing per se was not negatively associated with social inclusion; instead, residents' perceptions of social and physical living environment influenced their feelings of social inclusion. In addition, the result indicates that the length of residence could positively affect perceived social inclusion. Residents who resided in their homes for extended periods tended to perceive a higher level of social inclusion.

5.4 Physical Proximity Between the Two Housing Types

The primary difference between Hanlin and Shenglong is that market-rate housing and affordable housing are separated into different neighborhood sections in Shenglong, whereas in Hanlin, the two housing types are mixed in the same neighborhood sections. Therefore, one central question in the study is: What is the most appropriate physical proximity between market-rate housing and affordable housing?

As mentioned in the last chapter, affordable housing development in China follows the principle “scatter on a large scale, concentrate on a small scale.” Within inclusionary housing neighborhoods, affordable housing units should be concentrated within the same building or building section to enhance overall design and administrative efficiency and mitigate social conflicts between different income groups. In practice, it is common to see that in inclusionary housing neighborhoods like Shenglong, affordable housing units are not only clustered on the outskirts of the development but also segregated from market-rate housing units by barriers like gates and fences, creating a small, separate neighborhood section.

In some cities, such as Beijing, Shenzhen, and Hangzhou, the municipal government has issued relevant policies prohibiting physical barriers to separate market-rate housing and affordable housing units within one neighborhood. According to officials from the Zhengzhou Housing Security and Real Estate Management Bureau, although Zhengzhou had no such policies, the municipal government would not issue the construction permit to the developer if they saw physical barriers in the construction documents. In many cases, however, despite not being part of the construction documents, physical barriers were added later to separate affordable housing from market-rate housing, either by developers during the construction (which was the case of Shenglong) or by market-rate housing residents after moving in. This

phenomenon occurred because developers had verbally promised that affordable housing would be physically separated from market-rate housing in the pre-sale, in order to attract more homebuyers and make more profits. Therefore, developers would build barriers to keep their promises, or market-rate housing residents would build barriers themselves, regarded as their entitlement. One official from the Housing Security Bureau remarked, *“Developers’ misleading statements are the root of conflicts between residents of market-rate housing and affordable housing.”*

Adding barriers between affordable housing and market-rate housing may cause many inconveniences to affordable housing residents’ lives because this separation limits their access to neighborhood facilities and confines their daily activities to a small neighborhood area. Social conflicts often arise when affordable housing residents want to tear down the barrier and market-rate housing residents protect it. When the conflict escalates into a physical confrontation (which has happened many times in Zhengzhou around 2020), law enforcement departments will intervene and tear down the barrier if it does not comply with the construction documents. Nevertheless, market-rate housing residents often rebuild the barriers afterward, and the conflict continues.

In the survey questionnaire, respondents were asked to what extent they were willing to live with affordable or market-rate housing residents at different physical distances. The survey results indicate that market-rate housing residents demonstrated a higher preference towards coexisting with affordable housing residents at greater distances. In contrast, affordable housing residents were more open to living with their market-rate housing counterparts at any distance (Figure 5-3 and Figure 5-4). Less than 20 percent of market-rate housing residents expressed willingness if they lived with affordable housing residents on the same floor, and the number

increased to 35 percent if they resided in different neighborhood sections with affordable housing residents. Over 40 percent of residents in affordable housing were willing to share a floor with those in market-rate housing. Their willingness did not change significantly if they lived with their market-rate counterparts in different neighborhood sections.

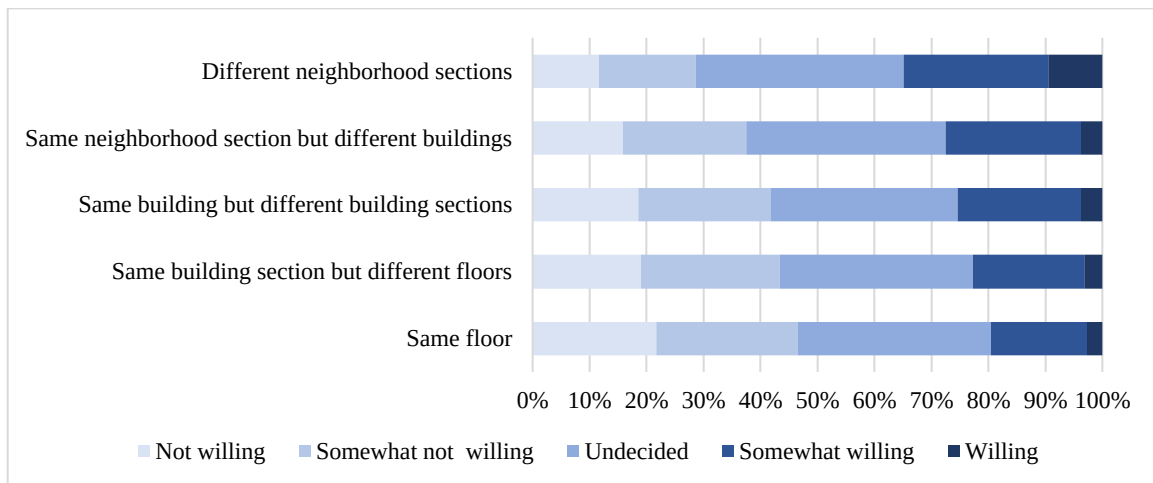


Figure 5-3. Market-rate housing residents' willingness to live with affordable housing residents at different physical distances.

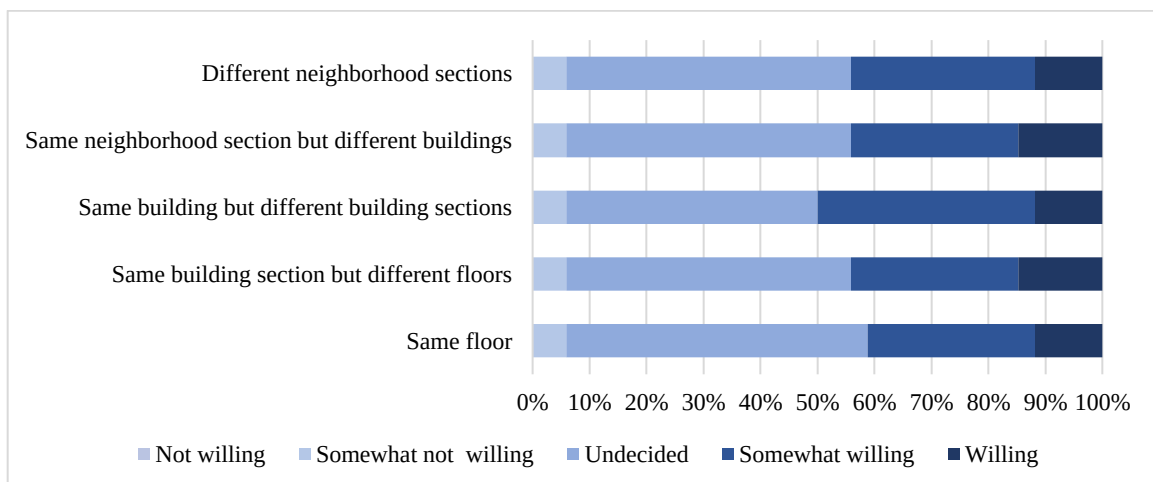


Figure 5-4. Affordable housing residents' willingness to live with market-rate housing residents at different physical distances.

According to the interviews, most market-rate housing residents mentioned that they were not informed about affordable housing before they moved in. Only a few knew the presence of affordable housing when they bought their apartments, but they had very limited knowledge

of the PRH program. Many market-rate housing residents endorsed the separation and were against the finer-grained mixed living since they believed affordable housing residents were from diverse backgrounds, and many of them were less educated and ill-mannered. They worried that they could not get along with their affordable housing neighbors, as they lacked shared values. In addition, they were afraid that their ill-mannered neighbors might bring incivilities to the neighborhood, such as littering, vandalism, and violence, and have a bad influence on their children.

Besides, they observed that illegal subletting was still common in affordable housing, even though the government has taken measures to tackle subletting. Units were illegally sublet or occupied by people not qualified for the affordable housing program, and living close to them would jeopardize their sense of security. One market-rate housing resident who lived in Building #7, Taoli Yuan, Hanlin (the only building in the neighborhood that includes both market-rate and affordable housing units) said, *“Many so-called PRH units were sublet to other people, which was not allowed, of course... It’s quite chaotic and raises potential safety concerns. We didn’t know PRH was like this. Otherwise, we would never buy this apartment.”*

Other market-rate housing residents who favored the separation thought living with affordable housing residents in the same neighborhood section would lower their quality of life. The affordable housing units are small and compact, as outlined in the PRH program—45 sq. m max for one-bedroom/studio units and 60 sq. m max for two-bedroom units—so developers must include as many PRH units as possible in one or more buildings to fulfill the requirements of inclusionary housing policy. Therefore, buildings designated for affordable housing tend to accommodate more households than those for market-rate housing, which drives up the neighborhood’s population and residential density. Without the separation, more people residing

in the same section would compete for limited neighborhood resources, such as public green spaces and recreation facilities, and lower the quality of the neighborhood. Since many market-rate housing residents believed they paid a premium for housing to live in a nice neighborhood and benefit from high-quality facilities and services, they were reluctant to share these with affordable housing residents who did not pay for them. As a result, they believed that the separation could maintain their exclusive access to neighborhood resources and guarantee a more favorable living environment for themselves.

On the other side, some market-rate housing residents stated that they didn't mind neighboring affordable housing residents in the same building or floor because they thought affordable housing residents were not much different from them. One market-rate housing resident remarked, *"We live in similar apartments, and many of them have jobs like we do... Some of my colleagues live in Building #9 (affordable housing units)... We are all working class and under a lot of pressure in life. Not everyone is well off..."* They also argued that income and social status did not determine one's manners and social behaviors. As one market-rate housing resident commented, *"No matter what type of housing you are living in, it does not account for one's practice of good or bad manners. Living in market-rate housing does not necessarily mean you are a good person. No, it is not the case."*

Besides, a few other market-rate housing residents felt that the presence of affordable housing residents would have little impact on the overall quality of the neighborhood, as the neighborhood was not considered high-end. Therefore, living near affordable housing residents was not a concern for them. *"I think the separation is unnecessary for a 'rigid demand housing' like this (Shenglong)."* As one market-rate housing resident in Shenglong shared in the interview, *"... unless you say there are some high-end villas in this neighborhood. Then, it makes*

sense to separate different housing types into distinct sections, given the wide disparities in residents' consumption levels."

Many affordable housing residents, especially those in Shenglong, complained about the inequities embedded in neighborhood planning and design—notably, physical barriers separating them from the rest of the neighborhood. These inequities have further deepened the issue of stereotyping and affordable housing residents' feelings of being stigmatized and marginalized. In the case of Shenglong, the developer built the fence and gate in Yard 3 to separate affordable housing from market-rate housing before residents moved in (Figure 5-5). According to the resident, the gate between the affordable and market-rate housing sections was always closed, except a few times it was opened for mass COVID-19 testing during the pandemic lockdown. When affordable housing residents moved in, their section was desolate, with minimal neighborhood amenities (Figure 5-6). After the residents complained about their living environment, the property management company added some landscape, bike sheds, and outdoor fitness equipment in the affordable housing section.



Figure 5-5. The fence and gate between affordable and market-rate housing in Yard 3, Shenglong.
Source: Author.



Figure 5-6. Scene in the affordable housing section of Yard 3, Shenglong.
Source: Author.

Some affordable housing residents thought building the barrier between the two housing types created a hierarchy of residents. As they were confined to a corner of the neighborhood, they felt as if they were treated as inferior residents. Even though their rent was below the market rate, they paid the same property management fees as market-rate housing residents. Therefore, they believed they deserved to enjoy the same neighborhood environment and facilities as their market-rate housing counterparts. One affordable housing resident of Shenglong noted, *“On the face of it, the gate (that separates PRH and market-rate housing) only blocks the road. But the gate was actually built in our mind, drawing a line to distinguish us from them (market-rate housing residents), right? How can we achieve social inclusion and harmony if the gate exists?”*

Nonetheless, some affordable housing residents favored the separation since they felt more comfortable living around people from the same income group. They believed living near market-rate housing residents would lower their social acceptance and sense of belonging. As one affordable housing resident explained, *“... It’s easier to get along and reach mutual understandings with people in the same boat... Because if we all live in PRH units, we belong to*

the same social group, and there would be understanding and acceptance of each other ... If the neighbors are market-rate housing residents, they feel better off than us and will look down on us."

Other affordable housing residents thought it made no difference whether the barrier existed as long as they had access to quality neighborhood facilities and services that met their daily needs. *"I think it doesn't matter,"* one of them noted, *"... What facilities and services they (market-rate housing residents) have, we (PRH residents) have the same (in our section). There is no big difference if the gate (between the two sections) is opened or closed. Besides, it's quieter when we have a courtyard of our own. I don't think there is a problem."*

The study also included interviews with property managers in both neighborhoods, who provided essential services such as security, gardening, and street cleaning for the neighborhood. In the interviews, property managers stated they had no preference regarding whether the two housing types were kept apart. They found no acute social conflicts between market-rate housing and affordable housing residents, and they would provide the same services and treat all residents equally in both situations. In the words of one property manager in Hanlin, *"... (market-rate housing and affordable housing) residents get along pretty well. As long as our residents don't have a problem with the arrangement (separated or not), it would be the same for us... They are all residential housing, whether market-rate housing or affordable housing. They are the same from our perspective. We treat our residents equally with no distinction."*

5.5 Summary

This chapter investigates China's inclusionary housing policy outcomes on a neighborhood scale by examining the physical and social features of the two case study

neighborhoods, measuring and comparing perceived social inclusion, and exploring appropriate physical proximity between the two housing types from different perspectives.

Both case study neighborhoods are typical examples of China's master-planned residential developments in the post-reform era. The city streets divide the neighborhoods into several gated sections, each providing community facilities and amenities exclusively for the residents to meet their daily living needs. Both neighborhoods feature a pedestrian-friendly street system, a European-themed landscape and architectural design, and a centripetal layout in which each section is an inward-facing building cluster with public greens and open spaces at the center.

The two case study neighborhoods were favored by well-educated young professionals living in nuclear families. Nonetheless, a larger share of residents in Hanlin was affiliated with the nearby universities since Hanlin is more conveniently located to them than Shenglong. Therefore, Hanlin's residents tended to be younger and better educated on average, migrate from other cities for school or work, and have smaller family sizes. Comparatively, Shenglong accommodated residents with a broader range of social status based on occupation and income.

Both neighborhoods contain PRH units, which are about 10 percent of the gross floor area as required by the citywide inclusionary housing policy. Affordable housing residents had lower household incomes than market-rate housing residents, and most were migrants holding non-local *hukou*. Except for income and *hukou* status, affordable and market-rate housing residents exhibited similar demographics regarding age, education level, and family composition. The affordable housing units are concentrated in one or more buildings on the neighborhood's periphery, following the "scatter on a large scale, concentrate on a small scale." The major difference between the two case study neighborhoods is that Shenglong has physical barriers that

separate market-rate and affordable housing into different gated communities, whereas Hanlin integrates both housing types within each neighborhood section.

Section 5.3 reports the level of social inclusion perceived by the residents in case study neighborhoods, with the following major findings: First, residents in Hanlin registered a significantly higher level of social inclusion than those in Shenglong. Within the three domains of social inclusion, the gap between the two neighborhoods was substantial in material well-being and community attachment, while the difference in social interaction was marginal. A closer examination of each domain discovered that compared to residents of Shenglong, Hanlin's residents were more satisfied with their economic and social resources after moving in, were more content with neighborly relationships, perceived a higher sense of security, and reported a stronger sense of belonging. These differences might be explained by the fact that Hanlin was close to more good education resources and job opportunities than Shenglong, and residents in Hanlin had fewer conflicts with their neighbors and had established some shared lifestyles and values since they had similar family structures and educational backgrounds.

Second, market-rate housing residents' perceptions of social inclusion were higher than those of affordable housing residents, although the difference was not substantial. Among the three dimensions of social inclusion, only the difference in community attachment was significant between residents of the two housing types. Upon thorough investigation into each domain, it was found that compared to affordable housing residents, market-rate housing residents considered their living situation more stable, had higher social participation, perceived better neighborly relationships, were more satisfied with relationships among neighbors, felt more secure in the neighborhood, perceived the neighborhood as more activity-friendly, and had a stronger sense of belonging. These differences can be partly explained by the effect of

homeownership on residential satisfaction and homeownership-related behaviors. Studies have found that homeownership could enhance residents' sense of belonging and safety in the Chinese context (Z. Huang et al., 2015). Being a homeowner could help people establish a social identity, thereby encouraging social participation. Besides, disparities in housing features and conditions could also contribute to the difference in social inclusion between affordable and market-rate housing residents (J. Chang et al., 2020; Z. Huang & Du, 2015). Affordable housing units were often small, had poor layouts, and were equipped with below-standard utilities, which barely met residents' living needs and thus lowered their residential satisfaction and weakened their community attachment.

This section delves deeper into the factors that influence residents' perceived social inclusion utilizing multivariate analysis. The results show that community culture and shared values with neighbors were positively associated with social inclusion; housing features, including residential utilities and unit design, also positively impacted residents' perceptions of social inclusion. Among control variables, neighborhood and length of residence strongly affected perceived social inclusion, while housing type had no significant correlation. This suggests that the housing type per se did not influence social inclusion; instead, residents' views of their social and physical living environment shape their feelings of social inclusion. These observations lend considerable support to the findings above.

Section **Error! Reference source not found.** investigates appropriate physical proximity between different housing types in the Chinese context. The case studies show that residential segregation persists at the neighborhood level under the inclusionary housing policy. Affordable housing units were intentionally concentrated on the periphery of the neighborhood and often encircled by walls and fences, isolating them from market-rate housing units.

The study reveals that multiple forces were involved in shaping this outcome. First, the government proposed “concentrate on a small scale” as the design guidance for affordable housing in inclusionary housing projects. The rationale was to improve design and administrative efficiency while mitigating conflicts among social groups.

Second, developers were motivated to pursue residential segregation since they believed the presence of affordable housing would discourage potential homebuyers, influence market-rate housing prices, and thus impact their profit margin. Therefore, they either took the buyout option when available or strived to separate affordable housing from market-rate housing as much as possible in their projects.

Third, residents’ preferences were one of the primary driving forces that maintained residential segregation at the neighborhood level. Affordable housing residents were stereotyped as less educated and ill-mannered by some market-rate housing residents even though they shared many demographic similarities according to the survey results, including age, education attainment, and family structure. Many market-rate housing residents endorsed segregation to uphold their sense of security, preserve their privileged access to high-quality neighborhood amenities, and ensure a more desirable living environment for themselves. Some affordable housing residents also favored segregation, thinking that living in proximity to others with similar economic status would help them gain social acceptance and a stronger sense of community. Nonetheless, many affordable housing residents were against segregation, as they felt stigmatized and treated as second-class residents. They asserted that they were equally entitled to enjoy good neighborhood amenities and benefit from neighborhood resources as their market-rate housing counterparts.

Although all driving forces may appear to have reached a state of equilibrium and that the stakeholders—i.e., the government, developers, residents, property management companies, etc.—have consented to the prevailing circumstances, this does not necessarily imply that we have arrived at the best solution. Finer-grained mixed living can be achieved by the joint efforts of all stakeholders. The government should take the lead in implementing mixed living within a building or on a smaller scale. The key is to eliminate stereotypes and bias against affordable housing residents. To do so, the government should first better plan for stewardship and monitoring to improve fairness and transparency of affordable housing programs, tackle subletting and other illicit practices, and ensure these programs benefit people in real need. Then, the government should educate the general public about affordable housing programs, especially correct misleading information on the beneficiaries of the programs, so that people would have a more positive attitude toward them. Finally, the government should streamline inclusive neighborhood planning and design to meet the living needs of all residents.

Developers should inform homebuyers about affordable housing during the pre-sale, provide accurate information on affordable housing programs and the project's social structure upfront, and ensure that construction complies with the design documents. While developers were not the only ones responsible for perpetuating residential segregation, their misleading statements about the spatial relationship between affordable and market-rate housing within the development significantly contributed to raising social tensions among residents of the two housing types. To create positive experiences in mixed living environments, all residents must be prepared for what to expect.

Residents should keep an open mind to discern stereotyping and stigmatization happening to them and around them. Being aware is the initial step toward addressing any social

concern or problem. Then, residents should be encouraged to describe, express, and share what they experience and witness, which can create a path to mutual understanding, respect, and acceptance with people from different social groups. Finally, being open and proactive in taking actions to counter stereotyping and stigmatization would allow residents to build social capital and eventually contribute to fostering social inclusion within the neighborhood.

Chapter 6 Defining Social Inclusion

Since the early 1990s, social inclusion (and its converse, social exclusion) has emerged and gained prominence in European countries, guiding policymaking and community practices within the European Union (EU) to address various social and economic disparities. In the EU, social inclusion has been associated with notions of access, equity, and social engagement, encompassing multiple social and economic domains, including housing, education, financial assistance, employment, disability services, etc. (Baumgartner & Burns, 2014; Hutchinson & Lee, 2004). Over the years, the concept of social inclusion has spread to other parts of the world and has been adapted to diverse cultural contexts and discourses. In this process, social inclusion has gained new meanings and connotations. Although defining and measuring social inclusion and its components cross-culturally remains a complex and challenging endeavor, it should be envisioned beyond the traditional discourses of the welfare state and embraced as a multidimensional construct involving economic components (e.g., housing security), social components (e.g., social participation), physical components (e.g., accessibility), and psychological components (e.g., sense of belonging).

Social inclusion has gained much attention in China since the early 2000s when the Chinese government pledged to build a “socialist harmonious society” by reducing socioeconomic disparities. Many Chinese scholars highlighted the emerging problems of inequality and urban poverty and investigated the social integration and inclusion of rural-to-urban migrants and the urban poor around their housing experiences (J. Chen et al., 2018, 2022; Y. Fang et al., 2020; Z. Liu et al., 2013; Y. P. Wang, 2005; Zheng et al., 2020). Nonetheless, the

definition and composition of social inclusion in the Chinese context remain unclear, and it is further complicated by the fact that other concepts, such as social cohesion and assimilation, are used interchangeably with social inclusion in many cases.

In this research, a 22-item scale was developed to measure social inclusion in the two case study neighborhoods. This instrument was built upon several related studies and adapted to the Chinese context. However, the survey results indicate that residents' intuitive assessment of social inclusion was relatively lower than the outcomes derived from the instrument, although the differences were marginal (see Chapter 5, Section 5.3). Nevertheless, this gap suggests a discrepancy between the assessment instrument and residents' subjective views on social inclusion: some components might be absent or should be removed from the instrument, or the weighting of some components in the instrument may differ from the subjective evaluations of residents.

This chapter investigates inclusionary housing at the personal level, exploring the meaning of social inclusion, its dimensions, components, and impacting factors from the residents' perspectives derived from their lived experiences. This chapter also elaborates on how residents' perspectives on their living environment and the concept of social inclusion shifted due to the COVID-19 pandemic, particularly as they found themselves confined to their homes and neighborhoods for extended periods and might prefer to limit physical interactions and encounters. Finally, this chapter concludes with a discussion of residents' insights on the inclusionary housing policy and affordable housing programs, identifying areas for enhancement informed by their daily life experiences.

6.1 Expressions of Social Inclusion

In the interviews, residents found “social inclusion” was familiar and commonly used, yet they struggled to provide a precise definition and tended to speak in broad and general terms. Most participants connected social inclusion with promoting social relationships and interactions among people from different social groups. They believed social inclusion is achieved when people live together in peace and harmony and have mutual trust, support, and understanding, free from any form of discrimination. As one resident tried to articulate his thoughts, *“Social inclusion is... It’s hard to say. I can’t express it. Probably like, no matter whether you are rich or poor or what, people can live happily together in a community with no bias or prejudice.”*

Many other residents linked social inclusion to welfare-state-related terms such as “access” and “equity.” They defined social inclusion as access to material resources, involvement in decision-making processes, or the commitment to equity across diverse social groups. For example, one resident remarked in the interview, *“Social inclusion means that all community resources, like education, neighborhood facilities, or public spaces, can be accessed equitably by everyone in the community, which means low-income people can access these resources at very low costs, so that people from all income groups can have similar life experiences, i.e., they can enjoy the same neighborhood environment, facilities, and benefits.”*

Although residents found it challenging to convey the meaning of social inclusion, their comments collectively illustrated certain inherent characteristics of the concept. First, residents tended to frame social inclusion as a large-scale social and political agenda instead of a practice dealing with local issues. Many residents linked social inclusion to major national strategic tasks and efforts, such as building a “socialist harmonious society,” achieving common prosperity, and maintaining social stability. As one resident put it, *“I think social inclusion involves narrowing*

the gap between rich and poor and eliminating classism... just like achieving common prosperity advocated by the state.” Some residents highlighted that promoting social inclusion required national measures to address inequalities. In the words of one resident, *“Narrowing the wealth gap is one important precondition of fostering social inclusion. Social conflicts can never be resolved if the gap is still this big, and social inclusion is impossible. The high class only plays with themselves, the low class works hard to survive, and the middle class is torn between the ideal and reality. There is no way social inclusion can be achieved.”*

Second, residents were inclined to regard fostering social inclusion as a large and complicated issue that requires the joint efforts of society. Besides national commitments to reduce inequalities, some residents pointed out that all stakeholders, such as local governments, developers, designers, property management companies, and residents, should work together to combat stereotypes and discrimination and construct inclusive living environments.

Third, many residents also considered fostering social inclusion a long-term progress rather than some short-term political gain. As one resident stated, *“... This is a long-term process, just like pursuing harmonious society and common prosperity, right? It requires long-term and sustained efforts. We certainly have not achieved social inclusion yet, and there’s still a long way to go, but we are working on it.”*

6.1.1 Perceived Dimensions of Social Inclusion

In the survey questionnaire, respondents were asked to select aspects of social inclusion based on their understanding. The results are summarized in Table 6-1. Even though residents generally found it difficult to define social inclusion in their own words, they tended to articulate their understanding of the concept through critical dimensions. According to the survey and interview results, most residents thought social inclusion implied equity of access to economic

and social resources, followed by meaningful participation in community decision-making and a counteraction of social isolation and marginalization.

Table 6-1. Perceived components of social inclusion.

Item	Dimensions	Frequency (total = 223)	Percentage
People share nearby resources (education, commercial, hospital, etc.)	Access	169	75.8%
People share neighborhood services and facilities	Access	163	73.1%
People participate in community issue discussions and decision-making	Community participation	157	70.4%
People accept and tolerate each other	Social isolation	152	68.2%
People interact and learn from each other	Social isolation	140	62.8%
People participate in community activities and events	Community participation	136	61.0%
People trust each other	Social isolation	128	57.4%
People have a sense of belong in this neighborhood	Community participation	118	52.9%
Other		9	4.0%

First, respondents predominantly indicated that social inclusion should be measured along with equitable access to economic and social opportunities and resources for all social groups. Many residents addressed the importance of sharing education resources, health services, environmental benefits, and other community resources in fostering social inclusion. They argued that this could increase social encounters and facilitate interactions among different social groups. As one resident put it, *“If there is a supermarket in the neighborhood in which people from all income levels do shopping and buy groceries, or a playground nearby where people take their kids outside to play and hang out, it provides an opportunity for people to interact with each other, which is a process of fostering social inclusion.”*

Second, a significant number of respondents associated social inclusion with the extent to which individuals could engage and participate in the community. They suggested that every

resident in the neighborhood, irrespective of their housing type and tenure, should have the opportunity to voice their thoughts and be a part of the community. More importantly, their actions and perspectives should receive equal attention and consideration from the government, developers, and property companies. As one affordable housing resident pointed out, *“Social inclusion cannot be achieved if only voices of the rich and homeowners are heard... Our opinions also matter. Even though it is understandable that we need to consider the interests of the majority, it doesn’t mean that we should ignore or sacrifice the interests of the minority.”*

Finally, most respondents posited that social inclusion should be considered as a remedy to social isolation and marginalization perpetuated by multiple forms of discrimination, such as classism, sexism, and ableism. They highlighted that promoting social inclusion involves establishing meaningful social contacts across different social groups, which can be gauged by the level of social tolerance, social participation, social interaction, and social trust. In the words of a resident, *“Social inclusion implies people across different occupations and income levels can understand each other... Some people make more money, and some people make less money. They may have different values and mindsets, which may lead to social conflicts and distance. But fostering social inclusion means building social relationships between those people... so people from different social classes or cultures can understand each other and establish strong ties.”*

6.1.2 Perceived Components of Social Inclusion

This study conducted a correlation analysis between residents’ self-reported social inclusion and the proposed social inclusion instrument to explore their perceived components of social inclusion. In Chapter 5, residents’ perceived level of social inclusion was measured using a 22-item scale developed based on existing studies. This section examines correlations between

residents' intuitive assessment of social inclusion and hypothesized measures to investigate perceived components of social inclusion. Residents' self-reported social inclusion corresponds to the result of survey question No. 16: "What is the level of social inclusion you perceived in the neighborhood? (1 = "very low," 2 = "low," 3 = "medium," 4 = "high," 5 = "very high")"

Table 6-2 summarizes the correlations between residents' self-reported social inclusion and the subscales of the proposed social inclusion measure. The scores for the material well-being and community attachment subscales exhibit moderate correlations (correlation coefficient ≥ 0.35) with residents' self-reported social inclusion, whereas the scores for the social interaction subscale demonstrate a stronger correlation (correlation coefficient ≥ 0.45). Despite some differences, the final scores derived from the 22-item scale align well with residents' instinctive evaluations of social inclusion.

Table 6-2. Correlations between the scores for each subscale of the 22-item social inclusion measure and residents' self-reported social inclusion.

Subscale	22-item Scale		Intuitive Assessment		Spearman's Rank Correlation Coefficient
	Mean	Std. Dev.	Mean	Std. Dev.	
Material Well-being	3.27	0.56	3.03	0.83	0.39***
Social Interaction	3.23	0.56			0.51***
Community Attachment	3.36	0.60			0.38***
Final Score	3.28	0.50			0.55***

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Then, correlations between residents' self-reported social inclusion and each evaluation item in the proposed social inclusion measure are calculated and summarized in Table 6-3. The results suggest that out of 22 items, one item ("3. I have felt my living situation is insecure and not stable. [reversed]") has a negligible correlation with residents' self-reported social inclusion, which should be removed from the instrument; six items are weak indicators of resident's perceived social inclusion (correlation coefficient is between 0.15 and 0.35), which should be removed or edited with discretion; ten items are moderate indicators (correlation coefficient is

between 0.35 and 0.45; highlighted in light grey), which could be retained but may need revision; and five items (correlation coefficient ≥ 0.45 ; highlighted in dark grey) exhibits good correlations with residents' self-evaluated social inclusion, which should be retained in the measure.

Table 6-3. Correlations between each evaluation item in the proposed social inclusion instrument and residents' self-reported social inclusion.

Subscale	Item	Spearman's Rank Correlation Coefficient
Material Well-being	1. I have felt my housing burden is reduced after moving here.	0.26***
	2. My living environment and situations have improved after moving here.	0.30***
	3. I have felt my living situation is insecure and not stable. (reversed)	-0.11
	4. I have had more job opportunities after moving here.	0.45***
	5. I have had better education resources after moving here.	0.38***
Social Interaction	6. I have neighbors who are my friends.	0.39***
	7. I have neighbors who I see or talk to every week.	0.39***
	8. I have had conflicts with my neighbors. (reversed)	0.24**
	9. If I had an emergency, my neighbors would be willing to help.	0.27***
	10. I have felt accepted by my neighbors.	0.37***
	11. I have felt my thoughts and opinions are valued in the neighborhood discussions and decision-making process	0.46***
	12. I have been involved in a group, club, or organization that is for people in this neighborhood.	0.52***
	13. I always attend social events or organizational activities within the neighborhood.	0.56***
	14. I have done some voluntary work in this neighborhood.	0.30***
Community Attachment	15. I have learnt something about my neighbors who have different social background with me.	0.32***
	16. People who live in this neighborhood get along well.	0.46***
	17. If there is a problem in this neighborhood, people here could get together to solve it.	0.42***
	18. I have felt safe in this neighborhood.	0.39***
	19. I have felt free to express my beliefs (e.g., political or religious beliefs).	0.41***
	20. I regularly do a sport, game, or physical exercise within the neighborhood.	0.44***
	21. I have a strong feeling that I belong to a community.	0.39***
	22. I have felt relaxed and comfortable in this neighborhood.	0.37***

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

The correlation analysis reveals the inconsistency between anticipated and experienced social inclusion. The results indicate that residents' perceived components of social inclusion are most related to access to economic opportunities and resources, social connection and interaction, and community participation and cohesion, which corresponds with the perceived aspects of social inclusion outlined in the last section. Based on the discussions of perceived dimensions and components of social inclusion, the proposed instrument can be revised to better reflect residents' lived experiences of social inclusion.

6.1.3 Perceived Impacting Factors of Social Inclusion

To explore the impacting factors of social inclusion from residents' perspectives, the survey questionnaire asked respondents to indicate to what degree each neighborhood feature could impact their perceived level of social inclusion on a 5-point Likert scale (1 = insignificant, 2 = minor, 3 = moderate, 4 = major, 5 = significant). The average score was computed for each item, enabling the results to be presented in a sequence that highlights the most influential factors down to the least influential ones (Figure 6-1).

First, the results showed that the mean score for property management practices was the highest among all neighborhood attributes, reflecting its great importance to residents' perceived level of social inclusion. In China, privately developed residential neighborhoods are usually managed by professional property management companies for a monthly fee. They provide not only basic services, such as cleaning, security, gardening, maintenance, and repairing, but also some value-added services, such as asset management services, community cultural initiatives, community support programs, ecological services, etc. Therefore, several neighborhood attributes are closely intertwined with property management practices, including involvement of community issues, neighborhood safety and security, neighborhood amenities, social events and

activities, and neighborhood culture and identity, all of which were influential factors affecting social inclusion experienced by residents.

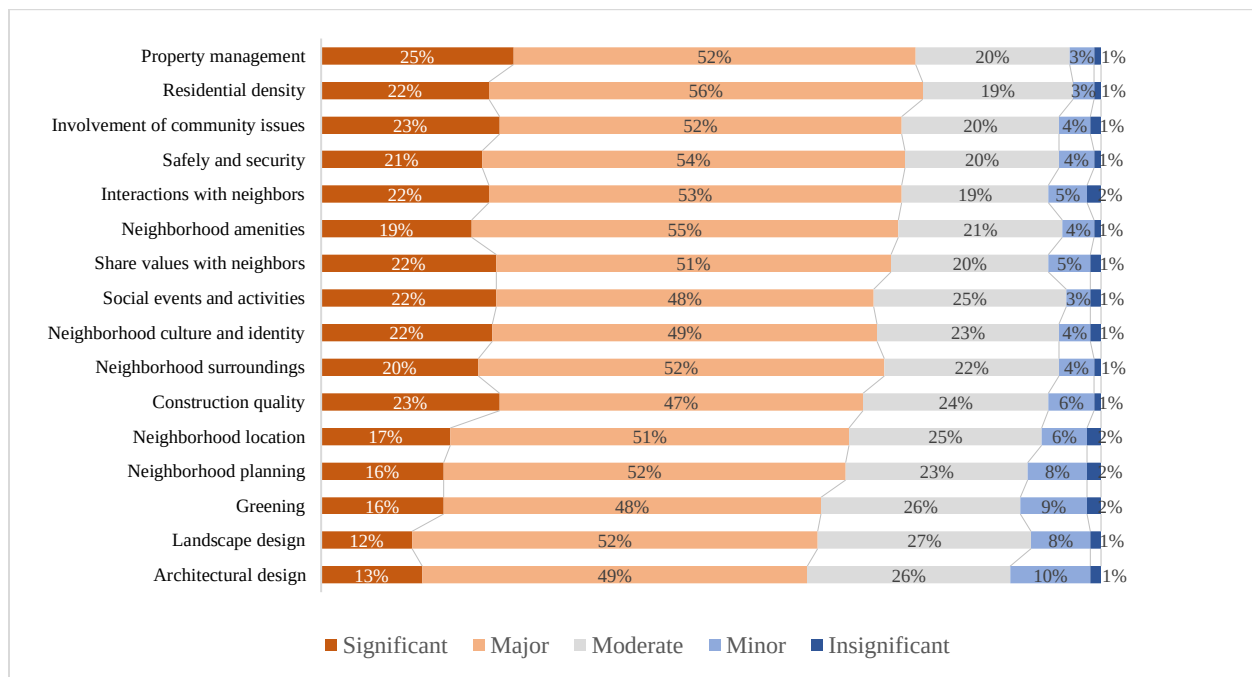


Figure 6-1. Perceived impacting factors for social inclusion, ordered by decreasing average scores.

In the interviews, many residents emphasized the importance of being treated equally without discrimination in property management practices to enhance social inclusion in the neighborhood. They highlighted that implementing inclusive and non-discriminatory management practices, where all residents can participate equally and enjoy equal rights in the community, was critical for mitigating tensions among different income and tenure groups. Some affordable housing residents pointed out that property management companies commonly prioritized the views of market-rate housing residents over theirs, which contradicted the goal of fostering social inclusion. They believed that property management companies implemented rules and regulated shared spaces within the neighborhood in a way that often favored the interests of market-rate housing owners. For example, many affordable housing residents in Shenglong mentioned that the property management company refused to remove the physical

barrier between the market-rate housing and affordable housing sections and kept the gate closed all the time as they adhered to the requests of market-rate housing residents.

Second, factors related to social interaction and relations were also frequently addressed by the residents. Many residents noted that they felt stronger social inclusion when they built connections with their neighbors and were willing to engage in interactions, even if those interactions were casual and not meaningful. As one resident put it, *“When I was walking or exercising in the neighborhood, in the resting area or near the fitness equipment, neighbors who I didn’t know would say hello to me; or, when I was walking my dog, some unknown neighbors would greet me off their own bat. All these little things make me feel nice and warm.”*

Moreover, many residents stated that community-wide social events and activities could facilitate social interactions and thus impact their perceived social inclusion. They hoped more interesting activities could be organized at appropriate times, attracting more residents from all social groups to participate. One resident provided examples: *“I think property management companies should regularly organize some activities, such as snow clearing in the winter, outdoor movies in the summer, or giving away some community perks, like movie tickets or free car washes. They can also organize some sports games and gather people together so neighbors can get to know each other.”* Although these social gatherings might not foster deep connections, they offer an opportunity to meet neighbors, helping to turn strangers into acquaintances.

Third, even though neighborhood planning and design ranked lowest among neighborhood attributes, some design-related factors—like residential density and the distribution of neighborhood facilities and amenities—were seen by residents as impactful on their sense of social inclusion. In both case study neighborhoods, market-rate and affordable housing apartment buildings had coherent designs, resulting in very few observable differences

between housing types if only looking from the outside. Nonetheless, market-rate and affordable housing could be distinguished by residential density and accessible neighborhood facilities and amenities. As mentioned previously, buildings set aside for affordable housing usually contain many more units than those for market-rate housing, leading to a higher residential density. Besides, affordable housing residents, especially those in Shenglong, were provided with poor neighborhood amenities, including garbage collection, bike sheds, outdoor fitness equipment, etc., compared to their market-rate housing counterparts. As a result, these two aspects accentuate the spatial divide and the differences between the two housing types, which may perpetuate the stigma attached to affordable housing, contribute to broader social divides, and ultimately affect residents' sense of social inclusion.



Figure 6-2. Trash recycling in market-rate housing section (left) and affordable housing section (right), Shenglong.
Source: Author.

In addition, several residents addressed that well-designed communal areas could play a critical role in promoting social interaction and thereby enhancing social inclusion. They remarked that comfortable and inviting shared spaces, whether indoors or outdoors, can encourage positive informal interactions among residents from various backgrounds if everyone can use these spaces appropriately. As one resident mentioned, *“It would be better if our neighborhood had more indoor communal spaces like a gym, a library, or a playroom. If the*

neighborhood included these spaces in the design, I think it would help people build connections and greatly contribute to social inclusion.”

6.2 Perceived Social Inclusion During the COVID-19 Pandemic

After the COVID-19 outbreak in China, the government took strict measures to bring the epidemic under control, including lockdowns, mass testing campaigns, and face mask mandates. In Zhengzhou, the municipal government imposed strict controls from time to time in response to the surge of COVID-19 cases in the city. For example, in January 2022, Zhengzhou municipal governments restricted residents in risky areas from leaving the city without approval from health control authorities and closed down non-essential services due to the latest local outbreak. In May 2022, Zhengzhou closed non-essential businesses and only allowed one member of each household with a negative test result to go out once a day to buy groceries. Not until December 2022 did the Chinese government lift many COVID-19-related restrictions nationwide and abandon the zero-COVID approach after protests broke out across several cities in November.

This section explores how residents’ views on their living environment and their grasp of social inclusion changed following the enforcement of strict COVID-19 measures, such as stay-at-home orders and restrictions on social gatherings. To do so, the survey questionnaire inquired respondents about the level of agreement with a series of statements related to the impact of the COVID-19 pandemic on their daily lives using a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). The results are summarized and illustrated in Figure 6-3.

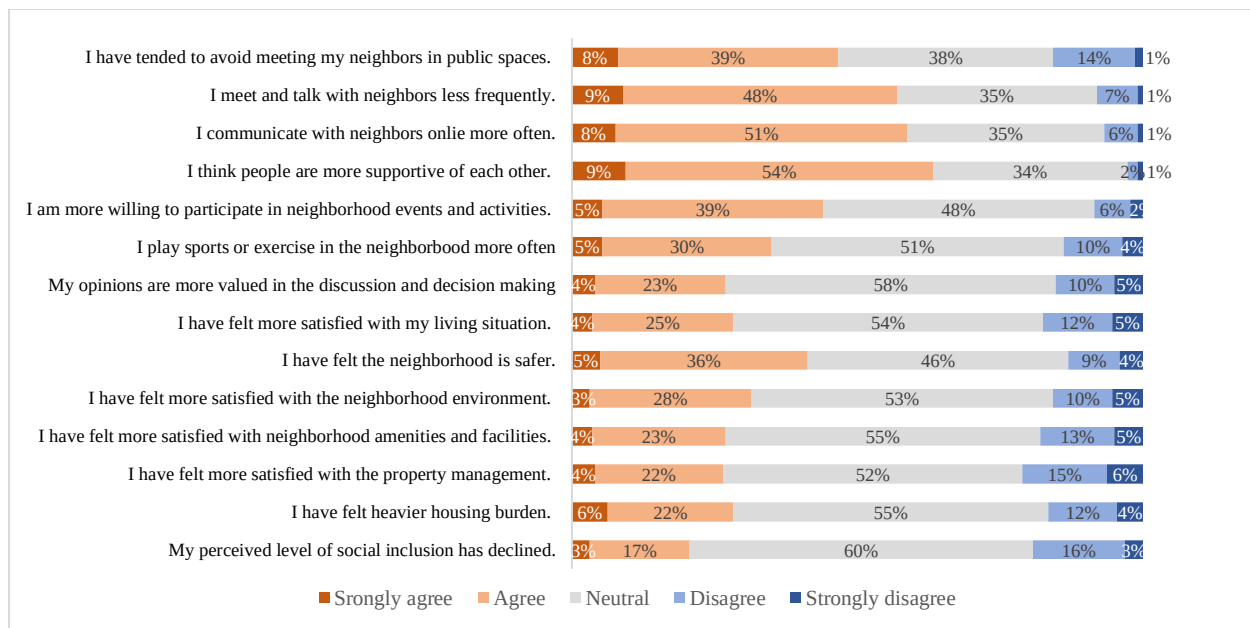


Figure 6-3. Residents' responses to statements related to the impact of the COVID-19 pandemic on their daily lives.

Most residents remarked that their daily activities were largely restricted to the neighborhood, which was the primary impact of the COVID-19 pandemic on their everyday lives. As they spent more time staying home and doing outdoor activities in the neighborhood, both positive and negative aspects of their homes and neighborhoods were magnified in their mind. For example, some residents mentioned that their regular participation in exercise and sports activities within the neighborhood made them more aware of and appreciate the neighborhood's greenery and available facilities. On the other hand, some residents expressed dissatisfaction regarding the crowded communal areas and inadequate neighborhood facilities falling short of demand, making it difficult for them to enjoy what was offered.

Moreover, a large number of residents (41%) perceived a stronger sense of security during the pandemic. In the interviews, many residents noted that they felt safe living in their neighborhoods amidst the local COVID-19 outbreak, which they attributed to the outstanding work done by the government and property management companies in pandemic control and ensuring the "last kilometer" delivery of daily necessities.

Besides movements and daily activities, most residents stated that the COVID-19 pandemic significantly influenced their interactions with neighbors. More than half of the residents (57%) indicated that they reduced social interactions with their neighbors during the pandemic. While many residents mentioned that they maintained casual encounters and surface-level interactions with their neighbors as they did before the pandemic, they intentionally avoided having deeper in-person interactions to practice physical distancing. Nonetheless, some residents noted that their increased participation in neighborhood walks and exercise routines during the pandemic facilitated more frequent casual encounters with neighbors.

In addition, over half of the residents (59%) suggested that although they avoided face-to-face social contact, they had more online communication with their neighbors during the pandemic. Many residents pointed out that people were more inclined to share information, discuss neighborhood issues, and ask for help in the WeChat groups, especially when quarantined at home or during the lockdown. More importantly, most residents (63%) observed greater social support during the pandemic through online interactions. Residents in need of assistance often posted their requests in WeChat groups, where they would receive timely responses and support from fellow residents or property managers. One resident provided an example: *“I saw it in the WeChat group... when some residents were quarantined at home, their neighbors and property managers helped them buy groceries... I think it manifested neighbors helping each other and being supportive.”*

Overall, most residents indicated that their perceived level of social inclusion did not change much during the pandemic. However, they held a more positive attitude toward fostering social inclusion. Many residents felt hopeful when they saw the collective efforts to curb the spread of the COVID-19 virus, make the neighborhood safe, and support each other during this

challenging period. One resident said, “... *I experienced a deep sense of unity and cohesion in this neighborhood. Facing the pandemic outbreak, everyone devotes wholeheartedly to fighting the coronavirus. Regardless of your social class, we collaborate our efforts, right? So, I think this is a positive aspect... From my point of view, I see the national solidarity and cohesion.*”

6.3 Opinions on Affordable Housing and Inclusionary Housing

In the interviews, residents expressed their primary concerns regarding affordable housing programs and the inclusionary housing policy, which includes three aspects: (1) Most residents focused on eligibility for affordable housing, the rent policy, and allocation plans. They were concerned about the fairness and transparency of affordable housing allocation and management. (2) Some residents cared about the quality of affordable housing units. They worried whether the unit layout, utilities, and interior finishing could meet their living needs. (3) Other residents highlighted the characteristics of the neighborhood. They paid attention to neighborhood location, residential density, security, green spaces, etc.

Accordingly, residents’ perspectives on affordable housing initiatives and the inclusionary housing approach can be categorized into three themes: (1) policy design and implementation; (2) apartment design and construction; and (3) neighborhood attributes.

6.3.1 Policy Design and Implementation

During the interviews, all residents affirmed that affordable housing programs contribute positively to the nation and its people and advocated for their continuation. Nevertheless, many raised concerns about equity and transparency in the allocation and management of affordable housing. They spoke frankly about the need to improve certain aspects of policy design and implementation to bring more benefits to people in real need.

Many residents noted that it was quite common for some people who were not qualified for the programs to gain access to affordable housing through underhanded deals, while those truly requiring assistance had to endure years of waiting. Some residents mentioned that there were scalpers who could be paid to help people acquire affordable housing. One affordable housing resident even disclosed that he paid 50,000 RMB to someone who applied for PRH on his behalf, yet he declined to share any further details. Additionally, a few residents revealed that some people exploited policy loopholes to hide their assets and income sources, allowing them to “qualify” for affordable housing programs. One resident stated, *“I knew someone, my colleagues, who had bought an apartment in the city, yet they are still keeping their PRH units. Because they registered their market-rate housing under their parents’ or their kids’ names, the Housing Bureau won’t do anything.”*

Moreover, as discussed before, illegal subletting was not uncommon in affordable rental housing programs. People who had another place to live rented out their affordable housing units at market rates and made a profit. For example, one affordable housing resident admitted that she took over the PRH unit from one of her relatives for a monthly rent, as her relative, who was the legal tenant of the unit, no longer lived in Zhengzhou.

Besides, many residents emphasized the need for the government to enhance publicity efforts and expand the social impact of affordable housing policies. Some market-rate housing residents considered participating in affordable housing programs before buying their current homes. Still, they eventually gave up because they had little knowledge of those programs and were unsure how to proceed with the application. One market-rate housing resident noted, *“I wanted to apply for the PRH a few years ago, but I didn’t know the specific policies and thought the application process was very troublesome, so I didn’t do it... It seems that the government*

failed to adequately promote or communicate these policies to the public. Many people who are targeted beneficiaries don't know what to do."

Finally, some residents addressed that the government must focus more on policy outcomes, not only those meaningless figures on paper but also the real impacts on people's everyday lives, to ensure those policies fulfill their intended goals. One affordable housing resident took the inclusionary housing policy as an example: *"Developers got the land and built enough affordable housing units as required, but then they added a gate to separate affordable housing from market-rate housing. The governments only care about developing mixed-income housing, but they don't care about the people living in it and don't care if this situation can exacerbate social conflicts between the rich and poor. How shall I put it— one is high up in the sky, while the other is down to the earth. The policies they made are high up in the sky, floating in the air, look beautiful and sound nice, while our daily lives are down to the earth, rolling in the mud."*

For policies to reach their desired outcomes, some residents highlighted that the government should provide social guidance and take proactive steps to meet social goals. They pointed out that the inclusionary housing policy is a passive way to foster social inclusion, an attempt at spatial and social integration by force. Therefore, to achieve a positive experience of mixed living, it is essential to initiate and promote social programs that actively address social conflicts and bridge social divides. One resident said, *"Even though you (the government) have made developers build these mixed-income developments and let people move in, you can't just leave us there without doing anything. More must be done because things are not going as expected, and social conflicts are even exacerbated."*

6.3.2 Apartment Design and Construction

As previously noted, many residents mentioned that affordable housing units were small and poorly laid out, which could not meet their basic living needs. One affordable housing resident stated that their main bedroom was less than three meters wide and could only fit a queen-sized bed. Another affordable housing described his unit (see Figure 6-4, unit A): *“After you enter the apartment, there is a kitchen and a bathroom on your right and a tiny little bedroom facing you. On your left is a small living room and a main bedroom. Only the main bedroom can get some sunlight. There is no sunlight in the living room. Sitting in that tiny bedroom feels like living in a pod apartment in Beijing.”* One market-rate housing resident commented, *“I visited my colleague who lives in a PRH unit. It was super small, and the layout was weird. It was very inconvenient for a three-person family, so I decided not to apply for it.”*

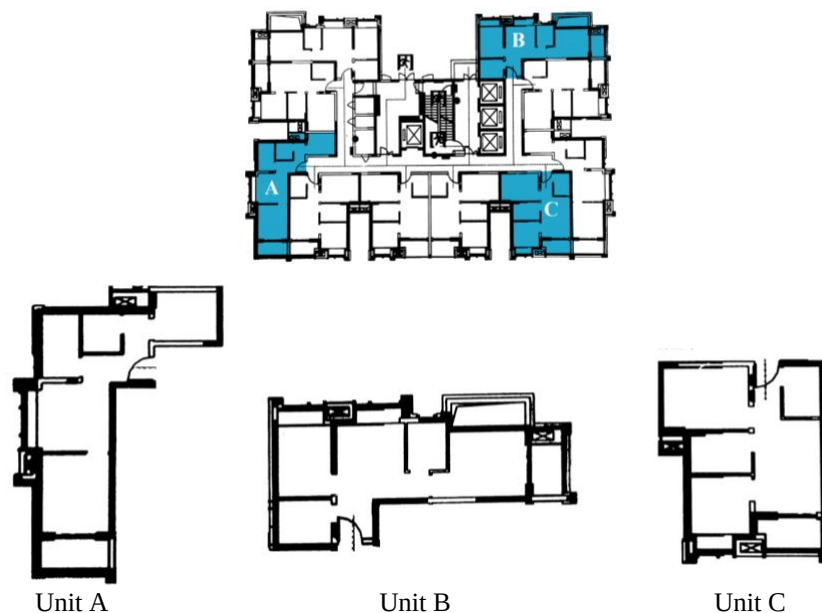


Figure 6-4. A typical layout of an affordable housing apartment building in Shenglong.
Source: Author.

Besides the unit layout, other residents were disappointed with the interior finishes of affordable housing. It is required that affordable rental housing units be in move-in condition and have basic interior finishing, such as painted walls, toilets, lighting, doors, and windows. Nevertheless, many affordable housing residents mentioned that the quality of the interior

finishes was subpar, leading to various issues. In the survey, more than half of the affordable housing respondents reported that they experienced problems of water leakage (67.6%) and peeling walls (61.8%), whereas only a small part of market-rate housing respondents had encountered such problems (25.9%; 34.4%).

Some affordable housing residents shared their frustrations regarding the large sums they needed to spend on interior improvements before and after moving in, not to mention the expenses for essential appliances and furniture, which imposed a significant financial burden on them. One of them clarified the expenses: *“After you get the empty apartment, you need to redo some interior finishes, buy appliances such as a fridge, washing machine, water heater, and air conditioner, and purchase furniture such as a sofa, bed, and dining table. All of these will cost you at least 20,000 RMB. But you only hold a three-year lease. Therefore, if you divide these expenses into 36 months, plus the rent, which is about 600 RMB per month, and the property management fee, which is about 90 RMB per month, the total cost for the apartment will be about 1,200 RMB per month. This closely matches the market rate for a furnished rental apartment of comparable size.”*

6.3.3 Neighborhood Attributes

Many residents focused on neighborhood features when considering affordable housing. First, some residents remarked that neighborhood location was their primary concern when choosing their homes. While affordable housing residents were generally provided with limited housing choices, they acknowledged and appreciated that the inclusionary housing policy allowed them to enjoy the same advantages of neighborhood location as their market-rate housing counterparts. One stated, *“Although we don’t have many choices, luckily, we live in a great location. There is a subway station and a shopping mall nearby. It is very convenient… I’ve*

heard those concentrated affordable housing developments are quite far away, on the city's outskirts. If assigned to these areas, I would give up the PRH unit and find a private rental home instead."

Second, several residents, especially single female residents, were concerned about neighborhood safety and security. They expressed feelings of unease and insecurity when living among affordable housing residents. They hoped that the government would put more effort into tackling subletting and that property management companies would provide better security services such as tight access controls and video surveillance.

Finally, many residents voiced their concerns about inequities ingrained in the planning and design of mixed-income neighborhoods. As discussed previously, they perceived that it was a common practice for affordable housing units to be segregated from market-rate housing units and concentrated at inferior locations in the neighborhood. They did not expect developers and designers to prioritize affordable housing as much as market-rate housing in neighborhood design. However, they assumed that the difference in their perspectives should be minor enough so that it wouldn't exacerbate the social divides and that affordable housing residents wouldn't feel excluded or as if they didn't belong to the community. One affordable housing resident remarked, *"It is obvious that, in terms of overall planning, affordable housing cannot compare with market-rate housing. Second, greenery and landscape design clearly show a gap between these two housing types. Third, construction quality... We know we are just renters and don't expect affordable housing to be as good as market-rate housing. But at least it should be good enough to meet our living needs."*

6.4 Summary

This chapter examines China's inclusionary housing policy outcomes on an individual scale by investigating the residents' expressions of social inclusion, the impact of the COVID-19 pandemic on their perceived social inclusion, and their overall insights on the inclusionary housing policy and affordable housing programs.

This study suggests that residents were familiar with the concept of social inclusion, yet they had difficulty defining it since it is an elusive and multidimensional construct. They generally described it as people from various backgrounds coexisting in peace and harmony without any discrimination or connected it with the principles of a welfare state. Overall, residents tended to frame social inclusion as a broad social and political endeavor, expecting a prolonged journey that demands collective action from all stakeholders to address issues of inequalities, stereotypes, and discrimination.

Analyzing residents' expressions of social inclusion revealed three dimensions of the construct: Most residents perceived social inclusion as ensuring equal access to economic and social resources, facilitating meaningful participation in community issues and decisions, and combating social isolation and marginalization.

Furthermore, the study examines the elements of social inclusion perceived by residents by analyzing the correlation between their self-reported feelings of social inclusion and the outcomes from a 22-item scale. The results highlight a noticeable gap between expected and experienced social inclusion, indicating the need to revise the proposed instrument to more accurately reflect residents' actual experiences of social inclusion in the Chinese context. Among the 22 items, five should remain unchanged, ten require minor adjustments, six need careful editing or removal, and one should be completely excluded from the measure.

Additionally, upon investigating impacting factors of perceived social inclusion, several neighborhood features of property management, social interaction and relations, and design aspects were identified as either diminishing or exacerbating social boundaries, thereby affecting the perception of social inclusion. First, inequitable property management practices lead to heightened tensions among different resident groups. Specifically, the unequal decision-making power between residents of market-rate housing and those in affordable housing allows the former to benefit from rules and regulations, as well as the physical environment, in ways that do not serve the interests of the latter. Second, creating opportunities for social connections and encouraging interactions within the neighborhood helps residents bridge social divides. Residents indicated that regularly hosting attractive community-wide social activities and gatherings could help achieve this objective. Third, design elements, such as varying residential densities and access to neighborhood facilities and amenities of differing qualities, could highlight the divides between resident groups. This may reinforce the stigma surrounding affordable housing, worsen broader social inequalities, and ultimately affect residents' feelings of social inclusion.

Section 6.2 examines how the COVID-19 pandemic changed residents' perceptions of their living conditions and social inclusion after strict measures, such as stay-at-home orders and restrictions on social gatherings, were enforced. The findings indicated that the pandemic limited residents' movements, leading them to spend more time at home and participate in outdoor activities in their neighborhoods. This increased their awareness of both the positive and negative aspects of their homes and neighborhoods. Notably, residents experienced an elevated sense of security during the pandemic due to the neighborhood's effective pandemic response and reliable "last kilometer" delivery of essentials.

Besides, the pandemic altered the pattern and mode of social interactions among neighbors. Residents generally reduced their meaningful face-to-face interactions with neighbors but continued to engage in casual and superficial encounters. On the other hand, residents were more engaged in online communication with their neighbors. As they developed virtual social connections within the neighborhood, they experienced greater social support throughout the pandemic. As a result, although their perceived level of social inclusion remained relatively stable during the pandemic, residents expressed a more positive outlook on fostering social inclusion. This shift occurred as they acknowledged the collective efforts to create a safer and more supportive community during these challenging times.

Section 6.3 summarized residents' insights on the inclusionary housing policy and affordable housing programs. Regarding policy design and implementation, residents expressed that more actions must be taken to ensure these policies benefit those who truly need housing assistance. First, they pointed out that the government should establish stringent measures to eliminate illicit practices and strengthen management in affordable housing programs, ensuring that these initiatives are fair and transparent. Second, they called for increased government outreach to inform the public about affordable housing programs and ways to get involved, aiming to enhance the social impact of these policies. Third, they emphasized the importance of the government examining policy outcomes from a bottom-up perspective and implementing follow-up social programs, if necessary, to ensure that affordable housing policies achieve their intended social objectives.

Moreover, residents emphasized that affordable housing units should be designed and constructed to meet their essential living needs. They expressed hope that affordable housing

would not significantly compromise the comfort of unit layouts or the quality of interior finishes in the pursuit of affordability.

Finally, residents voiced concerns about affordable housing related to several neighborhood factors, including location, safety, and inclusive planning. Overall, residents acknowledged that the inclusionary housing policy helped reduce spatial inequalities, allowing lower-income families in affordable housing to benefit from the same neighborhood advantages as their higher-income counterparts. Furthermore, some residents brought up safety and security issues for those in affordable housing, expressing a desire for better security services. Most importantly, many residents pointed out that inequities were embedded in the planning and design of mixed-income neighborhoods, which needed attention. They called for a more inclusive neighborhood design and hoped that the physical residential environment would not reinforce or exacerbate the social divides.

Chapter 7 Is Inclusionary Housing Inclusionary?

Housing is more than just a commodity; it is a fundamental human right. Over the past 30 years, China has experienced unprecedented rural-to-urban migration and an exceptional level of housing construction. The massive building of over 300 million new housing units in Chinese cities since 1978 has vastly improved living conditions for a burgeoning urban middle class. However, this rapid development has not benefited everyone equally; many low-income families and disadvantaged groups are confined to inadequate housing, often located in the least desirable areas of the city and far from economic opportunities and public services (Z. Liu et al., 2013; Z. Liu & Ma, 2021).

Confronted with soaring housing prices and widening social and economic disparities, many cities in China have implemented inclusionary housing (also referred to as inclusionary zoning) policies. These policies mandate or encourage developers to include a certain portion of affordable housing units in their market-rate housing projects. My dissertation responds to a lack of studies systematically examining how inclusionary housing works in China while evaluating its accomplishments, challenges, and limitations. Specifically, it seeks to answer the question: To what extent does the inclusionary housing policy serve as a social development tool that contributes to reducing housing inequality and fostering social inclusion in Chinese cities? My study uncovers the rationales behind the inclusionary housing policy and examines policy implementation. Most importantly, my dissertation transcends the conventional policy- and bureaucracy-focused housing studies prevalent in China, employing a case-study approach to investigate the outcomes of inclusionary housing policy from the residents' perspectives.

In this concluding chapter, I first summarize the key findings of this dissertation. Next, I share lessons learned from the study and discuss how governments, developers, designers, and property managers can collaborate to ensure that inclusionary housing achieves its social goals, thereby making mixed-income neighborhoods more livable, sustainable, and inclusive. Third, I provide a brief overview of inclusionary housing in other countries and situate China's inclusionary housing practices within a global context. Finally, I reflect on the journey of this research, in which I synthesize key insights and implications, outline the study's limitations, and suggest potential avenues for future research.

7.1 Major Findings of the Dissertation

Since the early 2000s, the Chinese government has adopted a new development strategy aimed at socioeconomic equality, emphasizing social development in addition to GDP growth. This new direction has prompted the central government to establish various national strategic tasks and initiatives to steer the country's political, social, and economic progress. Key goals include building a harmonious society, achieving common prosperity, and accomplishing people-centered urbanization. These national strategies impact people's daily lives by enacting and implementing various policies that pertain to their livelihoods.

In the housing sector, affordable housing development is central to the government's agenda. In 2007, the Chinese government officially introduced an inclusionary housing scheme that mandates or incentivizes developers to set aside a portion of units in their new market-rate projects for affordable housing. To address the housing affordability crisis that emerged in the post-reform era, many cities in China have adopted inclusionary housing as one of their primary strategies for creating more affordable homes. This shift indicates that China's affordable housing development is transitioning from a large-scale, mass-produced, government-led model

to a more decentralized, incremental approach that relies heavily on the private sector for delivery. In the pursuit of building a harmonious society and achieving people-centered urbanization, the inclusionary housing scheme is expected to reduce housing inequality and promote social inclusion in Chinese cities by integrating affordable housing into market-rate developments and creating mixed living patterns. However, it is still questionable whether the inclusionary housing policy can deliver these social benefits.

Acknowledging the lack of systematic research on inclusionary housing in China, this dissertation employs a case study approach and mixed methods to evaluate the policy's design and implementation and critically examine policy outcomes from different levels and perspectives.

At the city level, this research selected Zhengzhou as the focus of the study. By analyzing government documents and conducting interviews with officials and developers, the study reveals that the inclusion housing scheme has supported a steady land supply for affordable housing and boosted the production of affordable units in a thriving housing market. Moreover, it has mitigated discriminatory site selection practices for affordable housing projects, allowing its residents to enjoy the same locational advantages as their market-rate housing counterparts. These findings underscore that inclusionary housing can effectively facilitate affordable housing production and reduce residential segregation and spatial inequality on a city scale.

Nevertheless, the study highlights some caveats in the policy design and implementation that may hinder the success of inclusionary housing. First, municipal governments adopted the inclusionary housing scheme predominantly to increase the supply of affordable housing without explicitly considering social inclusion as one of the goals. This indicates that fostering social inclusion was not purposefully integrated into the policy's design and execution. Second, the

government needs to provide better policy incentives for developers to help offset the costs associated with affordable housing. This would attract developers and motivate them to build affordable housing on-site instead of opting for a buyout. Additionally, greater incentives would allow developers to allocate more resources to affordable housing, thereby enhancing the construction quality and residents' living conditions. Finally, the guiding principle of "concentrate on a small scale," which stipulates that affordable housing units should be clustered within the same building or building section, creates opportunities for spatial marginalization and isolation within the neighborhood, potentially resulting in residential segregation at the neighborhood level.

At the neighborhood level, the study focused on two inclusionary housing neighborhoods in Zhengzhou. It utilized survey instruments alongside qualitative interviews to investigate policy outcomes from the residents' perspective. The two case study neighborhoods, Hanlin and Shenglong, each exemplify a type of inclusionary housing neighborhood: In Hanlin, there are no physical barriers separating affordable housing from market-rate housing, while Shenglong has physical barriers that separate the two. Hanlin and Shenglong are comparable in location, housing types, length of residency, size, and demographic characteristics.

The study developed a 22-item scale to measure perceived social inclusion in the neighborhood. The instrument contains three subscales: material well-being, social interaction, and community attachment. The results indicate that residents in Hanlin perceived a significantly higher level of social inclusion than those in Shenglong. A thorough examination of each domain revealed that residents in Hanlin reported higher scores in terms of their economic and social resources, neighborly relationships, sense of security, and sense of belonging. These differences arise because Hanlin is closer to more educational resources and job opportunities than

Shenglong. Additionally, the residents of Hanlin share similar family structures and educational backgrounds, which contribute to fewer conflicts with their neighbors and help establish a shared everyday lifestyle and values in the neighborhood.

When comparing the two housing groups, market-rate housing residents reported a significantly higher level of community attachment than those living in affordable housing, although the difference in overall perceived social inclusion between the two groups was not substantial. Compared to affordable housing residents, those in market-rate housing perceived their living situation as more stable, enjoyed greater social participation, experienced better neighborly relationships, felt a higher sense of security, considered the neighborhood more activity-friendly, and had a stronger sense of belonging. These differences can be explained by the impact of homeownership on residential satisfaction and associated behaviors, as well as disparities in housing features and conditions between market-rate and affordable housing. On a positive note, affordable housing residents indicated that they gained access to better economic and social resources after relocating to the inclusionary housing neighborhood, which enhanced their material well-being.

Based on the multivariate analysis, the study found that factors including community culture, shared values with neighbors, and housing features (residential utilities and unit design) positively impacted residents' perceptions of social inclusion. The findings further revealed that neighborhood and length of residency significantly influenced the perceived level of social inclusion, whereas the housing type showed no substantial correlation. This indicates that residents' perceptions of their social and physical living environments shape their feelings of social inclusion rather than the housing type per se.

Finally, the study emphasized that residential segregation continues at the neighborhood level despite implementing an inclusionary housing policy. Affordable housing units were intentionally placed on the outskirts of the neighborhood, often surrounded by walls and fences, separating them from market-rate housing units. Several factors contributed to this outcome: the government's guiding principle of "concentrate on a small scale," developers' motivation to maintain segregation to protect their profit margins, and residents' preferences for segregation, which arise from stereotypes about affordable housing residents and a desire to preserve their exclusive access to neighborhood amenities and a more attractive living environment.

At the individual level, the study examined residents' perceptions of social inclusion. It noted that residents viewed social inclusion as an elusive and multidimensional construct. They generally described it as harmonious coexistence among people from diverse backgrounds, free from discrimination, or referred to it as the principles that underpin a welfare state. The study identified three key dimensions of social inclusion from residents' expressions: ensuring equal access to economic and social resources, facilitating meaningful participation in community matters and decision-making, and addressing issues of social isolation and marginalization. Residents regarded promoting social inclusion as an extensive social and political effort, anticipating a prolonged journey that requires collective action from all stakeholders to address inequalities, stereotypes, and discrimination.

The study also revealed several neighborhood features identified by the residents that could greatly enhance their perceptions of social inclusion. These features include fair and nondiscriminatory property management practices, regular neighborhood social gatherings and activities, and equitable neighborhood planning and design, such as uniform residential densities and shared access to neighborhood facilities and amenities.

Moreover, the study investigated how the COVID-19 pandemic affected residents' perspectives on social inclusion. Due to the strict measures enforced during the pandemic, residents found themselves spending more time participating in various activities within their neighborhoods. The nature of their social interactions with neighbors shifted notably; specifically, there was a decline in meaningful in-person interactions and a rise in online communications. The findings revealed that while residents' perceptions of social inclusion remained largely unchanged throughout the pandemic, there was a notable increase in their optimism regarding promoting social inclusion. This shift was attributed to a heightened sense of security and improved social support that residents experienced during these trying times.

Ultimately, the study synthesized residents' insights on inclusionary housing and affordable housing programs. In general, residents voiced their support for affordable housing policies and programs, recognizing their success in alleviating housing affordability issues for some individuals. They valued the inclusionary housing policy for reducing spatial inequalities, allowing affordable housing residents to benefit from the same locational advantages as those in market-rate housing. However, residents also suggested that several actions are necessary to transform affordable housing policies and programs, which often seem "*high up in the sky*," into practical solutions that achieve their intended objectives.

First, the government must guarantee fairness and transparency in policy design and implementation, increase public outreach, assess policy outcomes promptly, and introduce follow-up social programs. Second, the design and construction of affordable housing units should meet the fundamental living needs of the residents. Third, a few neighborhood characteristics must be factored into the planning and design of affordable housing. These

include neighborhood location, neighborhood safety and security, and issues of equity and inclusivity.

Overall, inclusionary housing has effectively enhanced affordable housing production in China. It has played a crucial role in mitigating housing inequality by offering more decent and affordable homes for migrants and low-income families in urban areas grappling with a housing affordability crisis. Importantly, integrating affordable housing within market-rate developments has significantly reduced residential segregation at the city level. This approach has enabled affordable housing residents to reside in neighborhoods with improved access to economic opportunities and public services while also enjoying improved neighborhood environments.

Nevertheless, inclusionary housing has encountered many issues and challenges in China. To begin with, residential segregation remains a persistent issue at the neighborhood level. Within mixed-income neighborhoods, affordable housing is often concentrated in one corner, segregated from market-rate housing. Finer-grained mixed living has yet to be achieved. Inequities embedded in neighborhood planning, architectural design, property management practices, and building construction have further intensified the issue of stereotyping and deepened social divides. Furthermore, despite different social groups residing near each other in the same neighborhood, social interactions and integrations across lines of income or tenure have been limited. All these challenges have hindered inclusionary housing from achieving its goal of promoting social inclusion at the neighborhood level.

Looking at the big picture, residents' sentiments and expressions suggest a generally positive attitude toward China's national goals and strategies, with a belief that these policies significantly impact their daily lives. However, terms such as "harmonious society" and "common prosperity" are viewed by some as possibly unrealistic. While there is support for

these national ideals, the lack of deep and careful implementation at the local level indicates that concepts such as social equity and inclusion will remain as abstract and elusive aspirations.

7.2 Design for Future Inclusionary Housing and Mixed-Income Neighborhoods

This section discusses the substantial opportunities that exist for improving inclusionary housing initiatives. To fully realize their potential and achieve societal objectives, collaboration among various stakeholders is essential. It examines how different participants—such as governments, developers, property managers, and designers—can effectively collaborate to ensure that inclusionary housing fulfills its intended social goals, ultimately contributing to the creation of livable, sustainable, and inclusive mixed-income neighborhoods.

7.2.1 *The Government*

First, the government should continue and expand its investment in affordable housing programs, supporting inclusionary housing practices by providing increased financial and political incentives. This will encourage developers to build affordable housing on-site and prompt them to allocate more of their budget, thereby ensuring higher construction quality and a better living environment.

Second, the government should better plan for monitoring and stewardship to ensure the fairness and feasibility of inclusionary housing practices. Local authorities should increase their efforts in overseeing the implementation process to improve efficiency and eliminate illicit practices, such as corruption, falsification, and illegal subletting. The government must ensure affordable housing programs genuinely benefit those in need, which is key to building public support. Additionally, local governments should thoroughly assess economic feasibility and continuously adjust inclusionary housing requirements and incentives in response to changing

market conditions, ensuring they do not cause more harm than good—these practices should not negatively impact the housing market or the real estate industry. This also helps build public support and enhances the quality of the policies.

Third, the government must expand its outreach efforts and inform the public about affordable housing programs. This involves providing clear and straightforward information about the programs’ eligibility, subsidies, application process, and allocation results; releasing detailed updates on implementation progress, program coverage, and production outcomes for public oversight; and educating the public about irregularities and illicit practices to protect the interests and residency rights of everyone. These actions will encourage greater participation in affordable housing programs among those in need, thereby fostering a more positive public perception of them and gaining stronger and broader public support for inclusionary housing development.

Fourth, the local government should regularly evaluate program performance and policy outcomes from a bottom-up perspective, understand their impacts on people’s everyday lives, make timely improvements, and implement follow-up social programs. These proactive measures help ensure that affordable housing policies and programs achieve their intended social goals. Instead of letting those policies and programs float “*high up in the sky*,” they will bring them “*down to the earth*.”

Fifth, the government should take the lead in exploring the potential for finer-grained mixed living patterns and streamlining inclusive design principles to meet the needs of all residents. Instead of adhering to the guidance of “concentrating on a small scale,” the government could experiment with mixed living within a building or on a smaller scale. Meanwhile, it is crucial to streamline inclusive design principles to address inequities in the

planning and design of mixed-income neighborhoods. The government should monitor inclusionary housing projects, remove any physical barriers between the two housing types, and advocate for inclusive design in neighborhood planning and design.

Sixth, the government should prioritize fostering social inclusion as a fundamental rationale for designing and implementing inclusionary housing policies. This will provide strong policy support for governments and advocates to promote social inclusion by incorporating inclusive design and social programs in mixed-income housing practices while mitigating opposition to exploring finer-grained mixed living patterns.

Last but not least, the central government should establish a national data platform to track and monitor affordable housing produced through various housing programs in each locality. The absence of a national data platform for systematically collecting program data poses a significant barrier to conducting cross-regional studies on inclusionary housing. Developing a comprehensive program data platform can empower researchers and policymakers to tackle more critical issues, such as the connection between the monetary value of incentives and affordable housing production, and compare the performance of different housing programs.

7.2.2 *The Developer*

Developers should ensure fairness and equity in neighborhood planning and housing construction. In addition to a uniform design, where different housing types are indistinguishable from the outside, there should be no physical barriers separating them. Both resident groups should have equal access to quality neighborhood facilities and resources to encourage more social encounters and build connections with neighbors. Furthermore, developers must ensure that affordable housing units are constructed to high standards, including materials, layouts,

interior finishes, and utilities, without compromising residents' comfort in their pursuit of affordability.

During pre-sales, developers must provide accurate information about the affordable housing units included in the project, clearly communicate affordable housing policies and programs, and prepare potential homebuyers for what to expect. Their deceptive or misleading statements regarding the spatial relationship between affordable and market-rate housing within the project may exacerbate social tensions between these two housing groups once they move in, thereby reinforcing residential segregation at the neighborhood level.

7.2.3 The Property Manager

The property management team should engage in fair property management practices by treating all residents equally and without discrimination. It is essential to provide the same quality of services to every resident, include representatives from all resident groups in the decision-making processes, and acknowledge the opinions of each resident to improve service delivery.

The property management team should also organize regular community-wide social activities or events that engage all resident groups and incorporate social projects, such as community gardens and neighborhood beautification initiatives, to promote meaningful social interactions. These efforts can create opportunities for building social connections. Over time, they may become part of the neighborhood's social character, reinforcing community identity and encouraging residents to become more active in community affairs.

Furthermore, property managers should stay alert to illegal subletting and other unlawful activities in affordable housing and promptly report these incidents to the municipal housing bureau. This will enhance residents' sense of security and improve the efficiency of affordable

housing programs. Additionally, property managers should work to identify any stereotyping and stigmatization directed at affordable housing residents, encourage them to express and share their experiences, and create a pathway to mutual understanding, respect, and acceptance among different social groups.

7.2.4 The Designer

Designers should adopt inclusive design strategies to meet the housing needs of all residents. Particularly for compact, affordable housing units, designers must optimize the available space and create layouts that prioritize practicality and functionality, which are essential for everyday living. For instance, designers should ensure that the unit allows for smooth traffic flow, that rooms are proportionate, and that essential facilities like kitchens and bathrooms are conveniently located. Given developers' desire to minimize costs, designers should strive to design affordable housing units that meet appropriate standards to enhance residents' daily living experiences. Although the government has asserted that affordable housing units should be as well-designed in every respect as market-rate units, affordable housing often receives significantly less attention in architectural design. Thus, designers should collaborate with developers and governments to invest effort into constructing inclusive living spaces for everyone.

Moreover, it is imperative for designers to deliberately incorporate communal areas that are welcoming and comfortable in their designs. Venues such as community centers, playgrounds, rest areas, and green spaces can be carefully tailored to promote social interactions and reinforce community identity. If everyone uses these spaces appropriately, they can encourage positive informal interactions among residents from varied backgrounds.

7.3 Inclusionary Housing in the World

Since its inception in the early 1970s in the United States, inclusionary housing has spread to other countries and has become a global phenomenon. The rising popularity of inclusionary housing could be attributed to the growth of privatization and deregulation worldwide, wherein the private sector assumes more costs associated with land development, and the central government assigns more housing responsibilities to regional and local authorities (Calavita & Mallach, 2010). Meanwhile, this trend was further influenced by growing concerns about social exclusion and a widespread backlash against large-scale, isolated public housing projects, such as Pruitt-Igoe in the United States and Grands Ensembles in France. Another driving force behind inclusionary housing was the dramatic rise in housing prices and the surge in housing construction that started in the late 1990s and lasted until the market collapsed in 2007. This housing boom triggered affordability issues, thus promoting the use of inclusionary housing as a vehicle for creating affordable housing.

Inclusionary housing has attracted intense scholarly and political discussions. Researchers have extensively studied the mechanisms of different forms of inclusionary housing and conducted comparative studies to explore their effectiveness in affordable housing production and fostering social inclusion under various circumstances (Calavita & Mallach, 2010; Kontokosta, 2014, 2015; Sanga, 2022; Schuetz et al., 2009; H. L. Schwartz et al., 2012; R. Wang & Balachandran, 2021; R. Wang & Fu, 2022). Discussions often categorize inclusionary housing policies based on their attributes, including the strength of requirements (mandatory or voluntary), affordability requirements (required share of affordable units, targeted income levels, and duration of affordability), affected projects (triggers and exemptions), cost offsets (incentives), and buyout options.

Some countries, like Spain and Ireland, have national inclusionary housing legislation mandates. In Spain, for example, the 2007 *Ley del Suelo* (Land Law) mandates that at least 30 percent of the land area designated for residential development in the plan be dedicated to social housing (Calavita & Mallach, 2010). Some other countries enable inclusionary housing, yet their contexts vary significantly. In China, the State Council issued an administrative regulation (SC[2007]No. 24), which calls for local governments to increase affordable rental housing production through the inclusionary housing approach. However, the central government provided no policy specifics, leaving local governments in charge of establishing regulations to finalize policy design and implementation. In England and France, the central government formalized inclusionary housing through national legislation, which empowers local authorities to negotiate for inclusionary housing or to enact ordinances pertaining to inclusionary housing (Calavita & Mallach, 2010). Aside from these cases, the situation is more complicated in the United States and Canada. Both countries employ decentralized land use regulations, incorporating inclusionary housing into various state or provincial legal and regulatory frameworks. In the United States, only a handful of states, such as New Jersey and Massachusetts, have state laws or court decisions⁵⁶ that offer a robust policy backdrop for inclusionary housing at the state level. Most states do not provide legislative support for inclusionary housing. This situation not only jeopardizes existing programs but also undermines the efforts of advocates seeking to establish new policies (Calavita & Mallach, 2010; Hickey et al., 2014; A. F. Schwartz, 2015).

⁵⁶ The legal challenges to exclusionary zoning in New Jersey produced the best-known fruit in the New Jersey Supreme Court: two *Mt. Laurel* decisions in 1975 and 1983. Recognizing the dwindling of the federal housing programs, the New Jersey Supreme Court ruled that every developing municipality must provide at least a “fair share” of the region’s affordable housing needs for all income groups (A. F. Schwartz, 2015). The court decisions laid the groundwork for inclusionary housing strategies in New Jersey.

Due to its inherent flexibility, inclusionary housing is highly adaptable to local conditions. However, this complicates efforts for policymakers and researchers to monitor the implementation and predict the effectiveness of the policies. To enhance clarity and understanding, the remainder of this section briefly compares the implementation and outcomes of inclusionary housing policies in China and the United States.

7.3.1 The Production of Affordable Housing

Research generally supports that inclusionary housing boosts the availability of affordable homes. In both countries, inclusionary housing has proven to be an effective means of creating affordable housing for those who cannot afford a decent house in the private market. Research in the United States indicates that inclusionary housing has emerged as a major and growing component of affordable housing production in some states (e.g., California, New Jersey, and Massachusetts), and it tends to be more effective than federal programs at generating affordable housing and maintaining long-term affordability, especially in smaller cities (Hickey et al., 2014; Thaden & Wang, 2017; R. Wang & Balachandran, 2021). Wang and Balachandran (2021) identified a total of 1,019 inclusionary housing programs that were implemented across 738 jurisdictions in the United States as of 2019. Among these, a subset of 258 of the programs had built approximately 110,000 affordable housing units over the years.

In China, due to a lack of systemic program data, there are no regional or cross-regional studies on inclusionary housing since it is often kept in various forms and locations—from official ordinances that are publicly accessible to informal policy documents maintained by specific departments. Nonetheless, in the case of Zhengzhou, the inclusionary housing scheme has effectively boosted the development of Cheap Rental Housing (CRH) and Public Rental Housing (PRH), significantly expanding the program’s reach and providing housing assistance to

more individuals in need. By the end of 2020, Zhengzhou had constructed and allocated approximately 125,000 PRH units, representing a significant achievement due to its inclusive housing policy.

Nonetheless, many researchers have noted that the effectiveness of affordable housing delivery depends on market conditions, the strength of enforcement, the length of affordability windows, and targeted income groups (Dawkins et al., 2017; Hickey et al., 2014; Mukhija et al., 2010; Ramakrishnan et al., 2019; Sturtevant, 2016; Thaden & Wang, 2017; R. Wang & Balachandran, 2021; R. Wang & Fu, 2022). In the United States, most inclusionary housing programs are mandatory, required to remain affordable for at least 30 years, and targeted to households earning 50-120% of the area median income (AMI) (R. Wang & Balachandran, 2021). In China, cities with local regulations on inclusionary housing have made the policy mandatory and ensured permanent affordability. In Zhengzhou, the income threshold for individuals applying for the affordable housing program is set at six times the urban minimum living standard (54,000 RMB). Considering the average annual disposable income in Zhengzhou's urban area was 46,300 RMB in 2022, the affordable housing program targets those earning less than approximately 117% of the average income in the city.

7.3.2 Social Integration and Inclusion

Social inclusion has been a key principle of social policy in North America and Europe. Therefore, from its origins in the United States to its dissemination worldwide, inclusionary housing has been regarded as a means for policymakers to advance a social inclusion agenda. Nevertheless, measuring the extent to which inclusionary housing promotes social inclusion for lower-income individuals and racial or ethnic minorities poses significant challenges. It is even

harder to determine the degree to which these groups or the larger community benefit from such initiatives (Baumgartner & Burns, 2014; Calavita & Mallach, 2010).

To address these challenges, many studies have examined the spatial integration of lower-income and minority households within mixed-income communities at the city level as a major outcome of inclusionary housing, which is expected to offer locational benefits and better life chances to these groups, such as access to low-poverty neighborhoods, more job opportunities, and improved public services. For instance, Schwartz et al. (2012) investigated inclusionary housing programs in eleven jurisdictions throughout the United States. They discovered that affordable housing units created through these programs primarily served low-income families, were widely distributed across the jurisdictions, and were often located in low-poverty neighborhoods and assigned to high-performing schools. Thus, they concluded that spatial integration achieved by inclusionary housing was remarkable, which “supplied some of the ingredients required to fulfill the goal of promoting social inclusion” (H. L. Schwartz et al., 2012, p. 27).

On the other hand, some researchers argue that the effectiveness of inclusionary housing programs in promoting an equitable distribution of low-income housing units is contingent on housing market conditions, the institutional framework of the program, community reaction to new mixed-income development, etc. For example, Kontokosta (2015) analyzed and compared inclusionary housing programs in Montgomery County, Maryland, and Suffolk County, New York. The study revealed that inclusionary housing programs in Montgomery County effectively spread affordable housing units across the region, whereas in Suffolk County, they primarily placed affordable housing units in poor, minority neighborhoods, even exacerbating residential segregation and isolation. This difference might stem from the greater community resistance to

low-income housing and the hesitance of local governments to modify land use plans and zoning in Suffolk County. Consequently, the study concluded that the effectiveness of inclusionary housing in promoting spatial integration is context-dependent.

In China, there exists a notable gap in comparative studies assessing the efficacy of inclusionary housing schemes in promoting spatial integration. This absence of research undermines our comprehension of how these initiatives can facilitate equitable urban development. This dissertation represents the first effort to explore the effects of inclusionary housing policy on the spatial distribution of affordable housing in a Chinese city. The study highlighted that affordable rental housing projects were more evenly distributed throughout the city under the inclusionary housing scheme and were more likely located in well-developed inner-city areas (see Chapter 4, Section 4.3.3). Affordable housing residents also recognized and valued the inclusionary housing policy for enabling them to live in areas with better job opportunities and education resources while enjoying the same neighborhood benefits as those in market-rate housing (see Chapter 5, Section 5.3.1 and Chapter 6, Section 6.3.3). Therefore, inclusionary housing has effectively reduced residential segregation on a city scale.

Besides spatial integration at the municipal level, many other questions regarding policy outcomes on various scales remain unanswered. This dissertation points out that residential segregation continues at the neighborhood level under the inclusionary housing scheme: affordable housing was kept separate from market-rate development; physical proximity did not translate to more significant social interaction and integration; and affordable housing residents encountered persistent stereotypes and marginalization, leading to weak community attachment. All these findings raise concerns about the effectiveness of inclusionary housing in fostering social inclusion.

Similarly, in the United States, affordable housing units are often grouped within a section of a mixed-income structure or arranged as separate buildings in an inclusionary housing project (Calavita & Mallach, 2010). These units may be visually integrated yet remain physically distinct from the market-rate development. However, there is a lack of research regarding the living experiences of residents in these developments, which leads to a limited understanding of how the spatial integration of inclusionary housing developments translates to social inclusion in the American context.

7.4 Reflections and Future Directions

Although inclusionary housing has been present in China for over fifteen years, the academic community has paid little attention to it. Studies in the United States have demonstrated its effectiveness in producing affordable homes in a heated market for low- to moderate-income families without placing excessive strain on public spending; additionally, it has significant potential to foster economic and social integration. Yet, there is a lack of empirical research examining the performance of inclusionary housing in China. This dissertation aims to bring this conversation to the forefront and serves as a trigger for further study. It seeks to inspire and encourage more researchers to explore inclusionary housing and how to realize its full potential in various contexts.

This dissertation provides an in-depth analysis of inclusionary housing in China, contributing valuable insights to the global discourse on inclusionary housing policies and mixed-income housing practices. By examining Zhengzhou as a focal point, this study highlights the effectiveness of inclusionary housing in increasing affordable housing production and reducing residential segregation at the city level. It assists low-income families in obtaining suitable and affordable housing options in areas that provide economic and social opportunities.

However, this study also critiques the fact that inclusionary housing has not yet fully achieved its goal of promoting social inclusion. Within the framework of inclusionary housing, the dynamics of residential segregation have evolved from a pervasive urban issue to a more localized neighborhood problem. Residents of affordable housing continue to face stereotyping and marginalization, which undermines their sense of belonging within their communities.

This dissertation advances the field of inclusionary housing by providing comprehensive contextual insights into the design, implementation, and outcomes of inclusionary housing policies within a developing nation. It presents a narrative that is distinct from the predominantly examined Western experiences. In the United States, inclusionary housing remains in a relatively marginal position within the housing system compared to federal housing policies and programs. This is primarily due to the absence of federal-level legislation that would furnish a policy framework, enabling local governments to effectively negotiate and advocate for the adoption and implementation of inclusionary housing initiatives. In this context, inclusionary housing has emerged as a contentious battleground where conservative and progressive ideologies intersect, pitting property rights against the right to adequate housing, neighborhood preservation against integration, and the interests of homeowners and developers against disadvantaged families and advocates for affordable housing. Furthermore, it highlights the intricate intergovernmental frameworks that complicate the effort to formulate equitable housing solutions (Sanga, 2022). The multifaceted nature of these issues underscores the challenges inherent in reconciling diverse stakeholder perspectives within the inclusionary housing policy landscape.

In comparison, China's central government actively promotes inclusionary housing nationwide by issuing administrative regulations, which positions inclusionary housing at the forefront of the country's housing system. China operates under a "regionally decentralized

authoritarian” intergovernmental system characterized by a unique blending of political centralization with fiscal and administrative decentralization (C. Xu, 2011). Within this framework, while local governments have a strong political incentive to promote economic growth, they also embrace inclusionary housing policies and strive to increase affordable housing production to ensure social stability and fulfill their construction tasks assigned by the central government despite the potential compromise to their fiscal revenue. This dual focus on economic advancement and social betterment has resulted in the construction of millions of affordable housing units through the inclusionary housing scheme in Chinese cities during the housing boom.

In addition, the Chinese government’s commitment to establishing a “harmonious society” and prioritizing people-centered urbanization development has achieved broad recognition and acceptance among the public. Consequently, people naturally associate housing policies with these overarching national objectives in their thinking and expressions. This alignment fosters substantial public support for inclusionary housing policies and affordable housing programs. As a result, inclusionary housing has become a critical component in China’s housing system, which not only aims to address the pressing need for affordable housing but also facilitates the integration of social equity into urban development strategies. This practice demonstrates a significant shift towards creating a more inclusive urban landscape, reflecting the broader socio-economic dynamics at play during this transformative period in Chinese urbanization.

Since local governments are responsible for designing and implementing inclusionary housing policies, they strike a balance between the interests of various stakeholders and the social benefits brought by mixed living. Their efforts lead to inclusionary housing initiatives that

promote greater spatial integration within cities while preserving segregation within neighborhoods. The findings presented in this dissertation indicate that these endeavors seem to have delivered a relatively inclusive built environment without triggering significant opposition from any stakeholders who might have jeopardized the initiatives. Nonetheless, this dissertation further suggests that a finer-grained mixed living can be realized with proper planning and design, which may benefit all social groups.

Yet, to achieve a finer-grained mixed living, a crucial question to consider is how to appropriately distribute the extra financial costs associated with building affordable housing in market-rate developments among key stakeholders, particularly the local government, developers, and market-rate homeowners. The dynamics governing these distributions are subject to change based on varying market conditions. In a robust housing market, stakeholders are willing to lower their returns to pay for inclusionary housing development, with the expectation of significant future gains: local governments provide financial incentives to developers while gaining land-based revenues from real estate activities; developers forfeit a segment of their profit margins to build affordable housing units so they can acquire the land and participate in the prevailing real estate boom; market-rate homebuyers pay somewhat higher housing prices to secure their homes, which is also considered a profitable investment. However, in a sluggish market, a new equilibrium must be established among stakeholders to sustain inclusionary housing development. This may require additional compromise in efforts to promote social inclusion and inclusive built environments, warranting further investigation. Given that this research was conceptualized and carried out during a period of prosperity in the Chinese real estate market, it prompts an inquiry into the continued relevance of the inclusionary housing model examined amidst the prevailing market downturn.

Another major contribution of this dissertation is that it evaluates the performance of inclusionary housing from a bottom-up perspective. Housing policies significantly influence people's everyday lives, and the nuances of these effects cannot be fully captured by quantitative data and documents alone. To further explore this complexity, the dissertation provides qualitative insights from various stakeholders to complement the quantitative findings, offering a more comprehensive understanding of the implications that inclusionary housing policies have on different social groups. Through case studies and personal narratives, the research highlights residents' lived experiences shaped by these policies, revealing the complexity of their impacts beyond mere statistics.

Following this line of inquiry, future research may build on this work by incorporating design agencies into the dialogue. Specifically, what roles do planners and architects fulfill in the process of developing inclusionary housing? In light of governmental directives and developers' inherent inclination to minimize costs, how do they engage and negotiate with decision-makers, and what design solutions do they propose to accommodate residents' living requirements while concurrently reducing costs and adhering to all design requirements? Moreover, how does architectural innovation navigate and potentially transcend the limitations observed within existing inclusionary housing models? Such investigations are vital for future advancements in the field, contributing to more effective mixed-income housing solutions and inclusive urban development.

Like any rigorous academic study, this dissertation acknowledges several limitations that merit attention. The identified issues encompass weaknesses in the research design, particularly concerning case selection and data collection techniques, alongside the practical implications of the findings. Although these limitations are present, they do not diminish the overall significance

of the study; instead, they suggest potential avenues for further exploration. The remainder of this section outlines the limitations of the study and discusses possible directions for future research that emerge from the identified constraints. By addressing these directions, scholars can extend the contributions of this dissertation and further advance knowledge in inclusionary housing practices and mixed-income housing development.

7.4.1 Study Limitations

To begin with, this dissertation employs the case study as its primary research strategy, which enables a comprehensive and detailed examination of inclusionary housing in real-life settings. However, using Zhengzhou as the sole case for analysis may limit the generalizability of the findings. China has a total of 694 cities (as of 2024), ranging from small county-level cities that are undergoing industrialization and urbanization to global megacities such as Beijing and Shanghai. Given the constraints of time and financial resources, it was extremely challenging to incorporate additional cities into the study. Nevertheless, as Yin (2018) argued, the single case study still demonstrates good generalizability of the theoretical proposition when the goal is analytic generalization (to expand and generalize theories) instead of statistical generalization (to study characteristics of the population from a sample). Therefore, studying inclusionary housing development in Zhengzhou provides insights into the policy design, implementation, and outcomes within the context of China, which has good applicability to relevant research in other Chinese cities.

Second, this study selected two inclusionary housing neighborhoods to investigate policy outcomes at the neighborhood and individual levels. Given that both neighborhoods are near the two major universities, many of their residents are affiliated with these prominent institutions, which is evident in the high education level reported in the survey. It is reasonable to conclude

that the two case study neighborhoods accommodate a specific demographic group characterized by high levels of educational attainment and relatively stable employment and income. Thus, one can infer that inclusionary housing projects serving other demographic groups may exhibit different outcomes. It would be ideal for the study to include several inclusionary housing neighborhoods in other areas of the city that serve various demographic groups, such as developments in industrial parks catering to migrant workers. However, it was quite difficult to find inclusionary housing developments in other regions of the city that are comparable to Hanlin and Shenglong in terms of size and housing types while controlling the potential influence of locational factors. Furthermore, since the study was conducted during the COVID-19 pandemic, I could not access other neighborhoods for fieldwork due to the strict measures enforced by the Chinese government in response to the surge in COVID-19 cases.

Third, as discussed in previous chapters, I acknowledge that selection bias exists in the survey and interviews. Since the survey was distributed online via residents' WeChat groups, residents without access to smartphones or the internet, those not included in these WeChat groups, or individuals having trouble completing the survey may be underrepresented in the sample relative to the actual demographic of the neighborhood. This situation exemplifies undercoverage bias. Moreover, both surveys and interviews relied on volunteer participation, which might introduce volunteer bias. To mitigate selection bias, several measures were implemented in the study, including gathering a minimum of 100 responses from each neighborhood, ensuring at least one respondent from each building section, and offering a small incentive to encourage participation.

Fourth, by the time the fieldwork was conducted, all residents had lived in the case study neighborhoods for less than ten years, and their average length of residence was about four years.

The study results have indicated that the length of residence could impact residents' feelings about their living environment. For example, people who have lived in the neighborhood for a more extended period might be less satisfied with the unit design and construction quality due to their changing needs and the deteriorating condition of the buildings. However, they may speak more highly of the neighborhood's social environment because they have developed stronger relationships with their neighbors. Therefore, if time and budget allow, it would be optimal for the dissertation to include a longitudinal study and conduct fieldwork at different times (e.g., pre-COVID, during COVID, and post-COVID) to explore how residents' perceptions of social inclusion have changed over time and how they have been influenced by social shifts.

Finally, discussions pertaining to inclusive built environments predominantly focused on neighborhood planning and facilities, lacking adequate examination of architectural features. Generic labels for architectural factors used in the survey, such as architectural style, density, unit design, or construction quality, are inadequate to capture the architectural essence of a real-world event. Fortunately, the follow-up interviews allowed residents to describe and elaborate on their views of the built environment, which provided supplementary information on residents' perceptions of the architectural factors in relation to their satisfaction with the living environment and perceived level of social inclusion.

7.4.2 Directions for Future Research

Based on the study limitations discussed, several promising avenues for future research emerge: More longitudinal, cross-regional, multi-site studies should be conducted to investigate the design and implementation of the inclusionary housing policy and the physical and social environments in mixed-income neighborhoods. At the city level, future research could examine and compare the prevalence, structure, and affordable housing output of the inclusionary housing

policy in cities at different development stages and economic positions. Another research direction to consider is exploring how and to what extent inclusionary housing influences housing market outcomes and, conversely, how the recent downturn in the housing market affects inclusionary housing outcomes.

At the neighborhood level, future studies should incorporate a wider variety of neighborhoods with different sizes and locations that cater to diverse demographic groups. One potential research avenue is to examine how residents perceive various architectural features and how this relates to their satisfaction with the living environment and sense of social inclusion. Researchers could elaborate on specific architectural features, including styles, building materials, color schemes, landscaping, combinations of housing types and layouts, and residential density, analyzing their psychological, behavioral, and social implications for residents' perceived social inclusion and living experiences. To do so, additional research tactics may be utilized in the study, such as observation, mapping, and sorting tasks.

It is also important to note that neither of the case study neighborhoods had an Owners' Committee (*yezhu weiyuanhui* 业主委员会). Through community elections and self-governance, private property owners form the committee to coordinate and manage their neighborhood's affairs. This practice was introduced in China during the 1990s and gained popularity in new residential developments in the 2010s. Ideally, the committee should prioritize the owners' interests and play an important role in monitoring the service quality provided by property management companies and acting on behalf of the owners in any disputes between residents or residents and the management teams. Future research should include the Owner's Committee in the discussion, consider it a potential actor in shaping the neighborhood's physical and social environments, and examine how it affects residents' perceived social inclusion.

At the individual level, future research could further revise and refine the 22-item scale developed in this dissertation to quantitatively measure social inclusion. Moreover, a validation study should be conducted to evaluate its validity within the general population. Upon completing a systematic validation, it signifies a step forward in establishing a leading measure for social inclusion.

In addition to more empirical studies on inclusionary housing, the evolving housing policies indicate other potential avenues for future research on mixed-income housing in China. As stated in Chapter 2, Section 2.4, the Chinese government is undertaking initiatives to convert some vacant market-rate units into affordable housing for rent or sale in an effort to revitalize the struggling market. This “macro-level” voluntary inclusionary housing scheme transforms market-rate developments into mixed-income housing. However, since this conversion occurs on a case-by-case basis, the composition of these neighborhoods can vary significantly in terms of proportions of various housing types included (allocation), along with the physical proximity between different housing groups (proximity).

This policy change points to the following possible directions for research. First, future studies could apply the theoretical framework from this dissertation to systematically explore the new housing scheme, examining policy design, implementation, and outcomes. Second, empirical research could focus on these newly converted mixed-income neighborhoods, investigating and comparing residents’ satisfaction levels and perceived social inclusion. These studies could help identify the most suitable allocation and proximity for mixed-income developments in China, offering valuable insights to enhance the livability, sustainability, and inclusivity of urban neighborhoods.

Appendices

Appendix A Survey Questionnaire

Consent to Participate in a Research Study

Inclusionary Housing and Mixed-income Neighborhoods in Urban China

Principal Investigator: Weican Zuo, Ph.D. student at Taubman College of Architecture and Urban Planning, University of Michigan

You are invited to participate in a research study about affordable housing programs in China. This is a study conducted by Weican Zuo at Taubman College of Architecture and Urban Planning, University of Michigan, to complete her Ph.D. dissertation. If you agree to be part of the study, you will be asked to complete a survey that will take about 15 minutes. This survey is to understand your general residential experience. The survey contains four sections about your personal experience and daily life: (1) your previous and current housing experience; (2) your perceived level of social inclusion after moving into your current residence; and (3) your personal background.

If you agree to participate, please complete the survey. You will receive ¥5 WeChat or Alipay red pocket to appreciate your participation. Participating in this research is entirely voluntary. By completing and returning this survey, you agree to participate in the study. You may skip or refuse to answer any survey question, move to the next one, or withdraw for any reason.

At the end of the survey, you will be asked if you wish to further participate in the next phase of this study, which includes a follow-up interview that can take place online or in person. If you indicate your willingness, the researcher will use the phone number or WeChat ID you provided to reach out to you and set up an interview for a future date.

To protect confidentiality, you will not be identified in any reports on this study. The data will be kept on a password-protected computer. Researchers will use special data coding to protect the information. Records will be kept confidential. They will only be used for this study and will not be available to any person or institution, including other researchers for related studies.

Your contribution will be greatly appreciated! Thank you for your participation!

Consent:

___ I have read and understood the above consent form. By checking this box, I indicate my willingness to participate in this study voluntarily.

PART A. YOUR HOUSING EXPERIENCE

1. **You are living in** _____ (neighborhood), _____ (section), _____ (building).
2. **You have been living in your current residence for** _____ (year) _____ (month).
3. **How would you describe the neighborhood you lived in before moving to your current residence?**
 - ☐ A market-rate housing neighborhood
 - ☐ A work-unit compound
 - ☐ An urban village
 - ☐ An urban-rural fringe
 - ☐ A demolition resettlement
 - ☐ An affordable housing neighborhood
 - ☐ A rural village
 - ☐ Other (Please specify) _____
4. **Which type of housing did you live in before your current home?**
 - ☐ Self-owned market-rate housing
 - ☐ Self-owned housing-reform housing
 - ☐ Self-owned affordable housing
 - ☐ Rental-occupied affordable housing
 - ☐ Rental-occupied market-rate housing
 - ☐ Rental-occupied public housing
 - ☐ Resettlement housing
 - ☐ Self-built housing
 - ☐ Inherited/Bestowed housing
 - ☐ Shelter/Homeless
 - ☐ Other (Please specify) _____
5. **When you moved to your current home, which of the following contributed to your decision to move? Please check all that apply.**
 - ☐ Wanted to move to a better neighborhood
 - ☐ Job-related reasons
 - ☐ Wanted a larger home
 - ☐ Wanted a cheaper home
 - ☐ Wanted to own instead of rent
 - ☐ Wanted to live independently
 - ☐ Wanted to live in this location
 - ☐ Wanted to get into real estate investment
 - ☐ Allocated by the government or the work unit
 - ☐ Forced to leave prior home because of demolition or renovation
 - ☐ Forced to leave prior home by landlord or because of eviction
 - ☐ Didn't get along with the landlord

- ☐ Previous accommodation was in poor condition
- ☐ So my child(ren) could get into a better school
- ☐ Personal reasons (such as divorce or marriage)
- ☐ Other (Please specify) _____

6. **The floor area of your current home is _____ m^3 , with _____ bedroom(s) and _____ bathroom(s).**

7. **Which type of housing are you currently living in?**

- ☐ Self-owned market-rate housing (please skip to question 9)
- ☐ Rental-occupied market-rate housing
- ☐ Public Rental Housing
- ☐ Other (Please specify) _____ (please skip to question 9)

8. **What will you do when your lease ends?**

- ☐ Renew my lease
- ☐ Move out and buy market-rate housing
- ☐ Move out and rent a home in the private market
- ☐ Move out and apply for affordable rental housing
- ☐ Move out and live with a friend or family.
- ☐ Other (Please specify) _____

9. **How satisfied are you with your current neighborhood in terms of the following aspects?**

	Very unsatisfied	Unsatisfied	Fair only	Satisfied	Very satisfied	Not applicable
Neighborhood planning	☐	☐	☐	☐	☐	☐
Greening and environment	☐	☐	☐	☐	☐	☐
Safety and security	☐	☐	☐	☐	☐	☐
Architectural design	☐	☐	☐	☐	☐	☐
Landscape design	☐	☐	☐	☐	☐	☐
Construction quality	☐	☐	☐	☐	☐	☐
Residential density	☐	☐	☐	☐	☐	☐
Property management	☐	☐	☐	☐	☐	☐
Neighborhood amenities	☐	☐	☐	☐	☐	☐
Community social activities and events	☐	☐	☐	☐	☐	☐
Neighborhood surroundings	☐	☐	☐	☐	☐	☐
Proximity to place of work	☐	☐	☐	☐	☐	☐
Proximity to public transportations	☐	☐	☐	☐	☐	☐

Commercial establishment	☐	☐	☐	☐	☐	☐
School near the neighborhood	☐	☐	☐	☐	☐	☐
Interactions with neighbors	☐	☐	☐	☐	☐	☐
Share values with neighbors	☐	☐	☐	☐	☐	☐
Community culture and identity	☐	☐	☐	☐	☐	☐
Involvement of community issues	☐	☐	☐	☐	☐	☐

10. **How satisfied are you with your current unit regarding the following aspects?**

	Very unsatisfied	Unsatisfied	Fair only	Satisfied	Very satisfied	Not applicable
Unit layout	☐	☐	☐	☐	☐	☐
Floor area	☐	☐	☐	☐	☐	☐
Interior Finish	☐	☐	☐	☐	☐	☐
Construction quality	☐	☐	☐	☐	☐	☐
Utilities	☐	☐	☐	☐	☐	☐
Building orientation	☐	☐	☐	☐	☐	☐
Location within the neighborhood	☐	☐	☐	☐	☐	☐

11. **How satisfied are you with neighborhood facilities? Check “Not applicable” if the neighborhood does not have such facilities or you don’t have access to them.**

	Very unsatisfied	Unsatisfied	Fair only	Satisfied	Very satisfied	Not applicable
Parking	☐	☐	☐	☐	☐	☐
Non-motor vehicle parking spaces	☐	☐	☐	☐	☐	☐
Clinics or pharmacy	☐	☐	☐	☐	☐	☐
Garbage collection/recycle	☐	☐	☐	☐	☐	☐
Community center	☐	☐	☐	☐	☐	☐
Recreation room	☐	☐	☐	☐	☐	☐
Library or reading room	☐	☐	☐	☐	☐	☐
Bank or ATM	☐	☐	☐	☐	☐	☐
Post office or mailbox	☐	☐	☐	☐	☐	☐
Gym	☐	☐	☐	☐	☐	☐
Outdoor fitness equipment	☐	☐	☐	☐	☐	☐
Sports field	☐	☐	☐	☐	☐	☐
Playground	☐	☐	☐	☐	☐	☐

Park/garden	☐	☐	☐	☐	☐	☐
Supermarket or convenience store	☐	☐	☐	☐	☐	☐
Food market or food store	☐	☐	☐	☐	☐	☐
Internet and cable	☐	☐	☐	☐	☐	☐
Water supply and drainage	☐	☐	☐	☐	☐	☐
Electric power facilities	☐	☐	☐	☐	☐	☐
Central heating	☐	☐	☐	☐	☐	☐

12. **Please indicate physical problems you have found around your unit. Please check all that apply.**

- ☐ Open cracks or holes in the interior walls or ceilings
- ☐ Broken plaster or peeling paint on the interior walls or ceilings
- ☐ Water intrusion and damage
- ☐ Signs of mice or rats
- ☐ Water pipe leak (last 12 months)
- ☐ Flush toilet breakdown
- ☐ Water supply stoppage (last 3 months)
- ☐ Heating equipment breakdown (last winter)
- ☐ Roofing problems (e.g., sagging roof and missing roofing material)
- ☐ Exterior siding problems (e.g., missing outside wall material and sloping outside walls)
- ☐ Window problems
- ☐ Other (Please specify) _____

PART B. YOUR PERCEIVED SOCIAL INCLUSION

13. **To what extent do you agree or disagree with the following statements?**

(1) My housing burden has been reduced since moving here.

- ☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(2) My living environment and situation have improved after moving here.

- ☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(3) I have had more job opportunities after moving here.

- ☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(4) I have had better education resources after moving here.

- ☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(5) I have neighbors who are my friends.

- ☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(6) I have neighbors whom I see or talk to every week.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(7) If I had an emergency, my neighbors would be willing to help.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(8) I have felt accepted by my neighbors.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(9) My thoughts and opinions are valued in the neighborhood discussions and decision-making process.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(10) I have learned something about my neighbors with different social backgrounds.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(11) I have been involved in a group, club, or organization for people in this neighborhood.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(12) I always attend social events or organizational activities within the neighborhood.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(13) People who live in this neighborhood get along well.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(14) I have felt safe in this neighborhood.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(15) I have felt free to express my beliefs (e.g., political or religious beliefs).

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(16) I have felt my living situation is insecure and unstable.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(17) I regularly do a sport, game, or physical exercise within the neighborhood.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(18) I have a strong feeling that I belong to a community.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(19) I have felt relaxed and comfortable in the neighborhood.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(20) I have had conflicts with my neighbors.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(21) If there is a problem in this neighborhood, people here could get together to solve it.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(22) I have done some voluntary work in this neighborhood.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(23) People from different income groups living in the same neighborhood can promote social inclusion.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(24) Fostering social inclusion is very important for our society.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(25) People from different income groups living in the same neighborhood can help low-income families access more job opportunities and better living environments.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(26) I care about social inclusion.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(27) I have perceived a high level of social inclusion in my neighborhood.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

14. **In your opinion, which of the following aspects should be considered when measuring social inclusion? Please check all that apply.**

- ☐ Residents participate in neighborhood discussions and decision-making processes
- ☐ Residents share neighborhood facilities and services
- ☐ Residents share local resources, such as educational facilities, commercial establishments, and healthcare services.
- ☐ Residents participate in neighborhood social activities and events
- ☐ Social acceptance
- ☐ Social trust
- ☐ Social interaction
- ☐ Sense of belonging
- ☐ Other (Please specify) _____

15. **To what degree does each of the following aspects of your neighborhood impact your perceived level of social inclusion?**

	Insignificant	Minor	Moderate	Major	Significant
Neighborhood planning	☐	☐	☐	☐	☐
Greening and environment	☐	☐	☐	☐	☐
Safety and security	☐	☐	☐	☐	☐
Architectural design	☐	☐	☐	☐	☐
Landscape design	☐	☐	☐	☐	☐
Construction quality	☐	☐	☐	☐	☐
Residential density	☐	☐	☐	☐	☐

Property management	☐	☐	☐	☐	☐
Neighborhood amenities	☐	☐	☐	☐	☐
Neighborhood surroundings	☐	☐	☐	☐	☐
Neighborhood location	☐	☐	☐	☐	☐
Interactions with neighbors	☐	☐	☐	☐	☐
Share values with neighbors	☐	☐	☐	☐	☐
Neighborhood culture and identity	☐	☐	☐	☐	☐
Involvement of community issues	☐	☐	☐	☐	☐
Other (_____)	☐	☐	☐	☐	☐

16. **What is the level of social inclusion you perceive in the neighborhood?**

- ☐ a very low level of social inclusion
- ☐ a low level of social inclusion
- ☐ a moderate level of social inclusion
- ☐ a high level of social inclusion
- ☐ a very high level of social inclusion

17. **To what extent would you be willing to live in the following scenarios?**

	Not willing	Somewhat not willing	Undecided	Somewhat willing	Willing
Live with affordable housing residents on the same floor	☐	☐	☐	☐	☐
Live with affordable housing residents in the same building section	☐	☐	☐	☐	☐
Live with affordable housing residents in the same building	☐	☐	☐	☐	☐
Live with affordable housing residents in the same neighborhood	☐	☐	☐	☐	☐
Live with affordable housing residents in different neighborhoods	☐	☐	☐	☐	☐

18. **To what extent would you be willing to live in the following scenarios?**

	Not willing	Somewhat not willing	Undecided	Somewhat willing	Willing
Live with market-rate housing residents on the same floor	☐	☐	☐	☐	☐
Live with market-rate housing residents in the same building section	☐	☐	☐	☐	☐

Live with market-rate housing residents in the same building	☐	☐	☐	☐	☐
Live with market-rate housing residents in the same neighborhood	☐	☐	☐	☐	☐
Live with market-rate housing residents in different neighborhoods	☐	☐	☐	☐	☐

19. **To what extent do you agree or disagree with the following statements about any changes in your social behavior and living experience after the outbreak of the COVID-19 pandemic?**

(1) I have tended to avoid meeting my neighbors in public spaces.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(2) I meet and talk with neighbors less frequently.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(3) I have had more online communication with my neighbors.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(4) People are more supportive of each other in this neighborhood.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(5) I am more willing to participate in neighborhood events and social activities online or in person.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(6) I play sports or exercise in the neighborhood more often.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(7) My thoughts and opinions are more valued in neighborhood discussions and decision-making processes.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(8) I have felt more satisfied with my living situation.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(9) I have felt the neighborhood is safer.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(10) I have felt more satisfied with my neighborhood environment.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(11) I have felt more satisfied with my neighborhood amenities.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(12) I have felt more satisfied with the property management in my neighborhood.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(13) I have felt my housing burden is heavier.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

(14) I have felt my perceived level of social inclusion has declined.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

PART C. YOUR PERSONAL BACKGROUND

20. **Are you**

☐ Male ☐ Female

21. **Are you**

☐ Married/living with a partner ☐ Single/divorced/widowed

22. **What type of *hukou* do you hold?**

☐ Local *hukou* ☐ Non-local *hukou*

23. **Are you**

☐ Under 20 ☐ 20 - 29 ☐ 30 - 39 ☐ 40 - 49
☐ 50 - 59 ☐ 60 - 69 ☐ 70 - 79 ☐ Above 80

24. **How many people live in your household? (_____)**

Number of children under age 5: (_____)

Number of children age 5 - 17: (_____)

Number of adults age 18 - 59: (_____)

Number of seniors older than 60: (_____)

25. **What is your work status? (Please mark as many as applied.)**

☐ Working full-time ☐ Working part-time ☐ Homemaker ☐ Self-employed
☐ Student ☐ Retired ☐ Unemployed ☐ Other (_____)

26. **Which is the highest level of education you had?**

☐ Less than high school ☐ High school degree ☐ Technical school degree
☐ Some colleges without degree ☐ College degree ☐ Advanced degree

27. **What was your total household income before taxes last year?**

☐ Less than ¥ 20,000 ☐ ¥ 20,000 – 49,999 ☐ ¥ 50,000 – 99,999
☐ ¥ 100,000 – 199,999 ☐ ¥ 200,000 – 299,999 ☐ ¥ 300,000 – 399,999
☐ ¥ 400,000 – 499,999 ☐ ¥ 500,000 – 999,999 ☐ More than ¥ 1,000,000

Thank you for your participation!

You are also invited to participate in one online or face-to-face interview. The interview should take about half an hour. The discussion topic will include your living experiences within this neighborhood. As an appreciation for your participation, you will receive **another ¥20** WeChat or Alipay red pocket. If you are interested, please leave your contact information below. Your personal information will not be disclosed to any third party.

Phone #

Or WeChat ID:

Appendix B Interview Protocol

Interviews With Government Officials

1. Why did Zhengzhou adopt the inclusionary housing scheme in 2011?
(What were the objectives of implementing inclusionary housing? Have they been achieved?)
2. How was the inclusionary housing policy developed?
(Why did the government determine 10% as the required share of affordable units? In what circumstances could the developer choose to buy out? At what price did the government buy these units from the developer? How did the government set the rent and rent subsidies?)
3. Can you describe a typical development process for an inclusionary housing project?
(Who are the main actors? What are their roles, respectively? If any, what difficulties have been encountered during this process?)
4. What was the process for allocating affordable housing units
(Who are the beneficiaries?)
5. Do you see any issues with the inclusionary housing policy?
(If so, in what ways can it be improved?)
6. What is your opinion on separating affordable housing from market-rate housing in the inclusionary housing project?
(Why did this happen? What did the government do about it? Can the finer-grained mixed living be achieved? If so, how? If not, why?)
7. Why has Zhengzhou stopped implementing inclusionary housing since 2016?
(Will it be resumed?)
8. What does the future hold for affordable housing development in Zhengzhou?
(Can you briefly compare PRH and ARH? How will the government convert market-rate housing into affordable housing? Will there be more mixed-income developments?)

Interviews With Developers

1. Can you describe a typical development process for an inclusionary housing project?
(How does an inclusionary housing project differ from a homogenous market-rate housing project in the development process?)
2. Have you encountered any challenges or difficulties in developing an inclusionary housing project?
(If any, how did you deal with them?)
3. When constructing affordable housing within a market-rate development, how does it impact your profit margin?
(Are you inclined to opt for buyout options? Are you more hesitant to undertake residential projects due to the inclusionary housing policy?)
4. What are the considerations behind the design of an inclusionary housing neighborhood?
(Why is separating affordable housing from market-rate housing a common practice in inclusionary housing projects? Who built the physical barriers separating the two housing types, and why? Are there any differences between the affordable and market-rate housing sections regarding the planning and design?)
5. Do you see any issues with the inclusionary housing policy?
(If so, in what ways can it be improved? Can the finer-grained mixed living be achieved? If so, how? If not, why?)

Interviews With Residents

1. Why did you choose to live in this neighborhood?
(What do you think about this neighborhood? When did you realize this is a mixed-income neighborhood? How did you feel when you learned about it?)
2. How does your current living situation compare to your previous housing experience?
(Are there any areas where things have improved and any areas where things have not?)
3. If given the second choice, would you rather live in a homogenous housing neighborhood?
(Why and why not?)

4. Based on your experience, do you see any issues with this mixed-living pattern?
(If so, in what ways can it be improved? Do you think finer-grained mixed living is achievable? If so, how? If not, why?)
5. What do you think of social inclusion?
(How do you define it? Is it important to our society? Do you care about it? What aspects of your daily life do you think should be embraced by social inclusion? How to measure social inclusion?)
6. What neighborhood features can impact your perceived level of social inclusion?
(How can your perceived social inclusion level be improved?)
7. Tell me about your interactions with neighbors.
(Where do you usually talk to your neighbors? Who do you speak to the most often? What do you typically talk about? Have you ever had conflicts with your neighbors?)
8. Tell me about community-wide social activities and events in this neighborhood.
(What kinds of activities or events are they? How often do you participate? If you never attended, why not? Can you tell me more about the community-wide conventions you attended last time? What do you think of these events and activities?)
9. Have you ever been involved in community issues?
(If so, can you provide an example and describe what happened? Can you describe the last time you participated in the community-wide decision-making process? Do you think your opinions were valued?)
10. Tell me about one incident in the neighborhood that made you feel excluded from this community.
(Do you feel you belong to this community? Do you feel at home in the neighborhood?)
11. How has the COVID-19 pandemic impacted your daily life?
(How has it changed your living situation and daily activities? Has it influenced your interactions with neighbors? Has it changed your feelings about the neighborhood? Has it changed your perceptions of social inclusion? If so, how?)
12. What do you think of affordable housing policies and programs?
(What are the pros and cons? In what ways can they be improved? What concerns you the most about affordable housing?)

Appendix C Mean and Standard Deviation of 22 Evaluation Items

Appendix Table C-1. Mean and standard deviation of 22 evaluation items.

Evaluation Item		Score Type	Neighborhood		Housing type	
			<i>Hanlin</i>	<i>Shenglong</i>	<i>Commodity</i>	<i>Affordable</i>
1	My housing burden has been reduced since moving here.	Mean	3.33	3.22	3.16	3.85
		Std. Dev.	0.98	0.93	0.95	0.74
2	My living environment and situations have improved after moving here.	Mean	3.60	3.40	3.52	3.32
		Std. Dev.	0.90	0.98	0.95	0.91
3	I have had more job opportunities after moving here.	Mean	3.33	3.02	3.13	3.29
		Std. Dev.	0.84	0.78	0.84	0.68
4	I have had better education resources after moving here.	Mean	3.45	3.15	3.27	3.32
		Std. Dev.	0.95	0.85	0.93	0.73
5	I have neighbors who are my friends.	Mean	3.43	3.31	3.33	3.53
		Std. Dev.	0.90	0.90	0.88	0.99
6	I have neighbors whom I see or talk to every week.	Mean	3.30	3.28	3.28	3.32
		Std. Dev.	0.94	0.99	0.92	1.20
7	If I had an emergency, my neighbors would be willing to help.	Mean	3.64	3.69	3.65	3.74
		Std. Dev.	0.82	0.71	0.74	0.86
8	I have felt accepted by my neighbors.	Mean	3.66	3.61	3.64	3.56
		Std. Dev.	0.71	0.73	0.67	0.93
9	My thoughts and opinions are valued in the neighborhood discussions and decision-making process.	Mean	3.14	2.91	3.05	2.74
		Std. Dev.	0.89	0.91	0.91	0.86
10	I have learned something about my neighbors with different social backgrounds.	Mean	3.46	3.41	3.43	3.44
		Std. Dev.	0.78	0.82	0.76	1.02
11	I have been involved in a group, club, or organization for people in this neighborhood.	Mean	2.76	2.65	2.74	2.47
		Std. Dev.	0.98	0.86	0.91	0.93
12	I always attend social events or organizational activities within the neighborhood.	Mean	2.89	2.71	2.84	2.47
		Std. Dev.	1.01	0.79	0.90	0.79
13		Mean	3.53	3.29	3.47	2.97

	People who live in this neighborhood get along well.	Std. Dev.	0.78	0.71	0.71	0.83
14	I have felt safe in this neighborhood.	Mean	3.67	3.35	3.50	3.41
		Std. Dev.	0.79	0.79	0.80	0.82
15	I have felt free to express my beliefs (e.g., political or religious beliefs).	Mean	3.45	3.16	3.33	3.03
		Std. Dev.	0.83	0.84	0.82	0.97
16	I have felt my living situation is insecure and unstable.*	Mean	3.17	3.12	3.20	2.79
		Std. Dev.	0.97	0.91	0.94	0.81
17	I regularly do a sport, game, or physical exercise within the neighborhood.	Mean	3.22	3.07	3.22	2.68
		Std. Dev.	0.98	0.83	0.85	1.01
18	I have a strong feeling that I belong to a community.	Mean	3.45	3.24	3.42	2.82
		Std. Dev.	0.72	0.85	0.75	0.90
19	I have felt relaxed and comfortable in the neighborhood.	Mean	3.56	3.35	3.50	3.12
		Std. Dev.	0.75	0.76	0.75	0.77
20	I have had conflicts with my neighbors.*	Mean	3.58	3.57	3.56	3.65
		Std. Dev.	0.97	0.91	0.94	0.95
21	If there is a problem in this neighborhood, people here could get together to solve it.	Mean	3.31	3.41	3.40	3.18
		Std. Dev.	0.73	0.88	0.78	1.00
22	I have done some voluntary work in this neighborhood.	Mean	3.13	3.05	3.10	2.97
		Std. Dev.	0.93	0.86	0.85	1.09

* Items are reverse-scored.

Appendix D Pearson Correlation Analysis Among Variables

Appendix Table D-1. Pearson correlation analysis among variables.

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Neighborhood planning	1.00										
2. Building construction	0.58	1.00									
3. Property management	0.64	0.56	1.00								
4. Neighborhood facilities	0.65	0.59	0.76	1.00							
5. Community culture and identity	0.51	0.49	0.61	0.60	1.00						
6. Community events and activities	0.52	0.54	0.63	0.77	0.64	1.00					
7. Shared values with neighbors	0.42	0.45	0.42	0.48	0.57	0.44	1.00				
8. Community participation	0.51	0.52	0.61	0.60	0.77	0.64	0.55	1.00			
9. Unit design	0.43	0.48	0.45	0.45	0.45	0.32	0.41	0.39	1.00		
10. Utilities	0.47	0.42	0.52	0.53	0.49	0.39	0.40	0.48	0.52	1.00	
11. Neighborhood surroundings	0.55	0.50	0.62	0.72	0.62	0.68	0.45	0.62	0.40	0.41	1.00

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