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The restructuring of home and sense of home: Examining the socio-spatial outcomes of urban redevelopment in urban China since 2000

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Abstract

Against the backdrop of intensified urban redevelopment with massive displacement across urban China in the early 2000s and a recent policy orientation toward micro-renewal without displacement, this proposed project aims to examine the socio-spatial outcomes of China's urban redevelopment since 2000, as well as the impact of urban renewal on community experiences.

We first employ 2000 and 2010 census data to examine the patterns of gentrification in urban neighborhoods. Then, we conduct survey and ethnographic research in eight neighborhoods to further explore how urban renewal affects local residents' lived experiences, in particular their place attachment and social relations.

The main findings can be summarized as follows:
- Gentrification in Guangzhou during the study period was largely driven by state-led suburbanization of land development, coupled with sporadic inner-city redevelopment.
- The spatial pattern of gentrification is strongly associated with land-driven development policies, such as administrative annexation, new zone development, and urban renewal.
- Displacement at the sub-district level is found only associated with urban redevelopment projects.
- Micro-renewal is more effective than redevelopment in preserving a sense of community.
- It is inconclusive whether micro-renewal without physical displacement can achieve the dual goal of urban renovation and community preservation due to the low degree of community participation in the process as well as its potential long-term gentrification effect.

About the Authors

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Table of Contents

List of Tables and Figures

The restructuring of home and sense of home: Examining the socio-spatial outcomes of urban redevelopment in urban China since 2000

Introduction

Against the backdrop of intensified urban redevelopment with massive displacement across urban China in the early 2000s and a recent policy orientation toward micro-renewal without displacement, this project aims to examine the socio-spatial outcomes of China's urban renewal since 2000, especially the impact of urban (re)development on urban neighborhoods and community experiences. Specifically, using Guangzhou as a case study, we aim to address three interrelated questions – 1) how were the housing and demographic compositions of urban neighborhoods in Guangzhou restructured over time? 2) how did the spatial restructuring destruct and/or reconstruct a sense of home for residents? and 3) can the new initiative of community-oriented micro-renewal without physical displacement achieve the dual goal of urban renovation and community preservation? We will approach these research questions with mixed methods – a quantitative study of gentrification in urban neighborhoods in Guangzhou from 2000 to 2010 using multiple micro-level census datasets and case studies with redeveloped/renovated neighborhoods through survey and ethnographic interviews.

The concept and nature of urban renewal in China have evolved from intensive pro-growth urban redevelopment in the 90s and early 2000s to an emerging trend of "miro-renewal" featuring neighborhood renovation without physical displacement. A series of market reforms in urban housing, land, and fiscal systems since the late 1990s have given rise to a new wave of urbanization in China, characterized by land-centered urban expansion led by the local entrepreneurial state to promote the city as a growth machine (Hsing, 2010; Molotch, 1976). As a result, rampant pro-growth urban redevelopment, accompanied by tremendous gentrification and displacement, swept the country over the past two decades (He, 2019) and led to the dramatic socio-spatial restructuring of Chinese cities. To soothe the social discontent, urban policy orientation concerning urban renewal has shifted from a state-dominated exclusive process toward a more inclusive and transparent process since 2010. The National New-type Urbanization Plan (2014–2020) issued by the national government highlights humanism and community participation as a core aspect of the nascent concept of new-type urbanization, which embarks on a significant transformation in the guiding ideology of urbanization in post-reform China. Land and Housing Acquisition Act issued in 2011 prohibits explicitly forced demolition and stipulates new regulations to safeguard fair compensations and community interests. In 2015, the concept of micro-renewal with the renovation of public/communal space and partial demolition and reconstruction was put forward in the "Guideline of Urban Renewal in Guangzhou," signifying the start of a new type of urban renewal. Given these policy changes, it is now an appropriate juncture to review and assess the social and spatial impacts of urban renewal over the past two decades and inform future policy making. This project differentiates two types of urban renewal: redevelopment with complete demolition and reconstruction and micro-renewal that features built environment upgrading without resettlement or displacement.

Since the 1980s, Guangzhou has gone through multiple waves of urban redevelopment (He, 2019; Wu, 2016), which significantly intensified during the first decade of the 21st century. Local

fiscal constraints resulting from fiscal centralization, coupled with booming real estate demand and land market reform, triggered rampant rent-seeking behaviors of local states across the country through property-led urban redevelopment projects (He & Wu, 2007). Research has shown that between 2008 and 2012, more than 12 million households were affected by urban redevelopment in China (X. Li, Kleinhans, & van Ham, 2018, 2019). A pro-growth coalition was formed between local government and private sectors to make city space for capital accumulation while local communities were largely excluded. In 2009, Guangzhou municipal government launched the "three-old's (old towns, old villages, and old factories) redevelopment plan," with an aim to redevelop all of the 138 urban villages by 2020, which accommodated millions of migrant workers. Forced demolition and unfair compensations at this stage resulted in massive displacement and relocation as well as tremendous grievance and resistance from local communities. The state-led urban renewal is essentially a spatial project of China's neoliberal urbanism, which finds its manifestation in the increasingly differentiated and fragmented urban space. The unequal rights to city space generate persistent spatial inequity between the rich and the poor, the advantaged and the disadvantaged, by compromising the housing rights of the urban poor and those deprived of property rights (S.-M. Li, Hou, Chen, & Zhou, 2010; Ye, Zhu, Yang, & Fu, 2018; Zhu, 2014). Furthermore, urban redevelopment has not only impinged on the urban space of Chinese cities but also transformed long-established social fabrics and social relations that constitute the space, often leading to the destruction of long-existing community social capital and place attachment that is conducive to sustainable community development (Jacobs, 1961; S.-M. Li & Song, 2009; X. Li et al., 2019; Putnam, Leonardi, & Nanetti, 1993). However, as a pro-growth strategy, the government's urban redevelopment agenda has seldom included social outcomes resulting from displacement and relocation.

In response to growing social unrest as well as the policy shift to "new-type urbanization," Guangzhou and many other Chinese cities have adopted a new mode of renewal to achieve a dual goal of social stability and economic growth over the past decade (He, 2019). Specifically, in its recent Urban Renewal Guideline in 2015, Guangzhou municipality promoted micro-renewal as a new mode of urban renewal, which aims to renovate the built environment of a neighborhood without complete demolition and reconstruction. It is believed that micro-renewal will minimize detrimental disruption of local social fabrics (T. Liu, 2018), hence produce less negative impact than complete demolition on the sense of place.

Despite a deepened process of urban redevelopment since 2000 and its recent policy evolution, there has been a lack of a systemic examination of the socio-spatial impacts of China's urban (re)development over time. Inspired by this literature gap, the project will use Guangzhou as a case study: a) to reveal the trajectory of the spatial and social restructuring in Guangzhou between 2000 and 2010 when urbanization intensified; and b) to investigate the impacts of urban renewal, juxtaposing redevelopment and micro renewal, on neighborhood attachment of residents, i.e., the emotional bonds between people and their neighborhoods.

Conceptual Framework: Urban (re)development, Gentrification, and Community Sentiment

The multi-scaler nature of the study warrants a multi-layer conceptual framework to addresses the two-fold objective – understanding the socio-spatial restructuring at the macro level and the community outcomes at the micro-level (Figure 1). At the macro-level, we take on gentrification theories from a political economy perspective to understand the institutional, social, and economic forces that drive the restructuring of urban space. At the micro-level, social capital and place attachment theories lend the conceptual foundation to understand the lived experiences (i.e., neighborhood attachment and social cohesion) ensuing urban redevelopment or micro-renewal. Guided by these theoretical frameworks, the empirical analyses employed different yet complementary datasets and methodologies to provide a holistic understanding of the outcomes of state-led urban development strategies in Guangzhou over the past two decades.
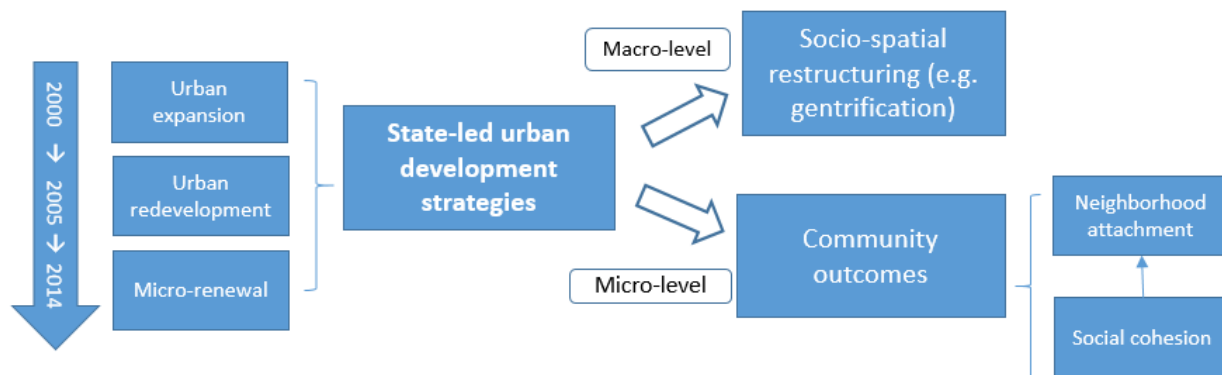
Figure 1 Conceptual framework

Macro-level framework: State-led urban development and gentrification

Defining gentrification

Gentrification as one form of neighborhood upgrading represents an important socio-spatial outcome of (re)urbanization. As the global neoliberal urbanism unfolds, gentrification with mutated forms has gradually become widespread from developed contexts such as Europe and North America to emerging economies that embrace globalization and neoliberalization, such as China, South Africa, India, and Brazil (Lees, Shin, & López Morales, 2016). The concept and debate of gentrification often center on inner-city neighborhood upgrading accompanied by redevelopment and displacement (Lees et al., 2010). Others, however, do not consider central locality or displacement as definitive attributes of gentrification. Clark (2005), for instance, viewed gentrification as "a process involving a change in the population of land-users such that the new users are of a higher socio-economic status than the previous users, together with an associated change in the built environment through a reinvestment in fixed capital" (p 258). He argued for a broader concept that does not involve "the time-space delineation of gentrification" (ibid. p 264). Similarly, Lees et al. (2016, p. 27)call for a more flexible way to conceptualize the role of capital investment in "creating ripe conditions for the class re-making of urban space."

This study also argues that gentrification is not confined by singular centrality as it can occur at any locality where rent gaps exist. Rather than conflating its causes (e.g., redevelopment, suburbanization, residential mobility) and consequences (e.g., displacement), we distinguish gentrification from other urban processes at work by conceptualizing it as generic patterns of neighborhood upgrading and class transformation (Clark, 2015). As Shin et al. (2016) suggested, this conceptualization helps to clarify diverse mechanisms underlying urban restructuring.

Gentrification is a relatively nascent phenomenon in urban China. It has picked up much policy and scholarly attention since the early 2000s, when China experienced tremendous urbanization and marketization. Comparing the forms of gentrification in China with the western contexts, several points should be highlighted. First, gentrification has been largely discussed in the context of inner-city urban renewal (He, 2010, 2019; Wu, 2016), whereas suburban and rural gentrification has been less explored. However, as the study will reveal, state-led urban development has been an important driving force for suburban gentrification in Guangzhou. Second, gentrifiers in Chinese cities exhibit distinct characteristics. Unlike the liberal democratic context where social and spatial inequality is largely delineated along the socio-economic and democratic lines, post-reform China has featured a hybrid of state power and market forces in shaping Chinese society's social and spatial stratification (Fu, Zhu, & Ren, 2015; S.-m. Li & Zhu, 2014; Zhu, 2014). Hence, affiliation or connection with the state through institutions such as employment and household registration status are key characteristics of gentrifiers in urban China, in addition to socio-economic status (He, 2010; S.-M. Li & Song, 2009). Rights to housing and city space are often conditioned on these ascribed state-associated credentials tied to various urban subsidies and policies (Fu et al., 2015; Zhu, Fu, & Ren, 2014). Finally, new-build gentrification, in the form of developing residential complexes for the consumption of middle classes through demolition and reconstruction or land-use conversion (Davidson, 2007), is a key form of gentrification in urban China. It is sometimes accompanied by neighborhood demolition and displacement in the core areas (He, 2010) and new developments in suburban areas. While infill developments on brownfield sites do not always involve direct displacement (Boddy, 2007; Bourne, 1993), scholars caution that exclusionary displacement could happen through such forms of development by reducing housing affordability and accessibility for lower-income residents of neighborhoods in the immediate vicinity (Davidson & Lees, 2005; Marcuse, 1986; Smith, 1996). Gentrification-induced displacement in urban peripheries may be less visible because informal settlements, i.e., urban villages, can provide affordable, albeit substandard, housing to many displacees. Some contend that displacement does not necessarily happen, and its likelihood is contingent on local relocation and compensation policies (Guo & Li, 2018).

Explaining Gentrification

Underlying the variegated forms of gentrification is a global trend of transforming urban land use to cater to wealthier inhabitants through the secondary circuit of capital accumulation in the built environment(Lees et al., 2016). Pro-growth urban (re)development, as Harvey (2009) puts it, embodies urban restructuring through "accumulation by dispossession," whereby "the poor, the underprivileged, and those marginalized from political power suffer first and foremost from this process" (p.331). Political economists view gentrification, specifically the recent waves of gentrification, as a neoliberal urban strategy of states (Smith, 2002) built on land-centered urban development to maximize exchange values of places (Logan & Molotch, 1987). From this

perspective, neighborhood outcomes are a product of the capitalist relations of production. The capital switching from the first to the second circuit of production, i.e., the built environment, places real estate at the forefront of capital investment and accumulation (Harvey, 2009). By forming a coalition with real estate developers, financial institutes, landlords, and other urban elites, the entrepreneurial state has played an integral part in facilitating or leading the novel form of gentrification and turning the city into a growth machine (Hackworth & Smith, 2001; Logan & Molotch, 1987; Peck & Tickell, 2002).

Market-oriented housing and neighborhood policies are core components in making way for the construction of expensive dwellings and facilitating state-led gentrification. The state-initiated commodification and financialization of housing in the past few decades in most developed countries and some developing countries have created strong demand for private homeownership and housing speculation. Tenure conversions by privatizing public and social housing have been documented in many contexts, such as the right to buy scheme in the UK (Murie, 2016), the housing privatization in transitional China (S.-M. Li, 2005), and the resales of social housing in Canada (Mösgen, Rosol, & Schipper, 2019), turning housing into commodities and private assets. At the neighborhood level, local states are found directly involved in urban (re)development projects that are often disguised "rhetorically and discursively" (Lees, Butler, & Bridge, 2012, p. 1) as social mixing (Hochstenbach, 2017) or "city image building"(Zhu, 2014), to turn undesirable dilapidated neighborhoods of disadvantaged social groups into spaces for the urban new rich. The state-led gentrification often facilitates the expansion of gentrification from profitable locations to economically risky areas such as periphery neighborhoods and protected public housing blocks, which are traditionally considered un-gentrifiable by profit-seeking capital (Hackworth & Smith, 2001). The suburbanization of gentrification points to the surplus capital from the center that is absorbed by and effectively transforms the urban periphery into dispossession outlets (Cox, 1998; Glassman, 2006). The new wave of gentrification tends to follow state-entrepreneurial efforts that seek outlets for surplus capital in pursuit of accumulation (Yong Liu, Yue, Fan, Peng, & Zhang, 2016; Wu & Phelps, 2011).

Alternatively, the sociocultural approach to gentrification views gentrification as a bottom-up process of competition among different social groups/classes for urban spaces. This perspective emphasizes an association between professionalization in post-industrial societies and the spatial restructuring of neighborhoods. Some argued that the shift from a production-focused to a service-focused economy would lead to the professionalization of the occupational structure of society with expanding middle-class professions and shrinking traditional working classes (Butler, Hamnett, & Ramsden, 2008). Others criticize this oversimplified and linear view of professionalization (Davidson & Wyly, 2012; Sassen, 1991). They believe the economic restructuring will intensify, rather than reduce, social inequality with working classes transitioning to industries serving a higher-income clientele or creating urban new poor and new rich. Despite these divergences, the sociocultural approach suggests that gentrification results when the new urban rich classes pursue different urban living experiences and lifestyles and compete for the city space with the less privileged populations (Ley, 2003). In other words, the social space is determined by demographic and life-cycle attributes and housing and amenity demand of different social groups (Ley, 1986). In contrast, the role of the state has been undermined.

The relevance of the sociocultural approach in the Chinese urban context is evidenced by a strengthened market mechanism in housing distribution, enhanced residential mobility, and diversified housing choices for Chinese urbanites. However, the state-led land-financed urban development warrants a critical framework to understanding the fundamental drivers of gentrification in China. China's state-sponsored gentrification resembles many Western counterparts, such as the state-capital coalition in promoting city as a growth machine and the integral role of real estate development. It has been observed that the theater of accumulation from the 1990s to the 2000s in China shifted from industrial production to urban construction (Hsing, 2010) and is characterized as property-led development (He & Wu, 2009). However, the institutional framework has also differentiated China from western countries in important aspects. China's urbanization has been motivated by land finance and land development, following institutional restructuring through a series of market reforms. Unlike western municipalities, which tend to rely on limited instruments (e.g., zoning, taxes, development fees, etc.) to finance urban (re)development, the local state being the sole owner and supplier of urban land has granted the local government a much easier and quicker source of financing (Lin, 2007; Yong Liu et al., 2016). Consequently, land-centered urban policies, such as new zone development, central town development, administrative annexation, and urban renewal, has been one prominent force behind the spectacular expansion of Chinese cities since the mid-1990s (Lin, 2007) and the neighborhood changes brought by the state-led urban (re)development have exceeded the sporadic changes brought by population mobility (Wu, 2016).

Micro-level framework: Urban renewal and community sentiment

The socio-spatial restructuring of urban neighborhoods has significantly impacted the social fabrics and community experiences of Chinese urbanites (S.-M. Li, Zhu, & Li, 2012; Zhu, 2015; Zhu, Breitung, & Li, 2012). Particularly, urban redevelopment, which induces significant changes in both the built and social environment of a neighborhood, often disrupts human-environment affective bonds and leads to considerable impacts on residents' place attachment or sense of home toward their neighborhood (neighborhood attachment thereafter) (Dossa & Golubovic, 2019).

While extensive studies have documented the processes and mechanisms of urban redevelopment, limited research has unveiled inconclusive findings regarding the impact of relocation and displacement on the sense of place or overall residential experiences. International literature on redevelopment has focused on the downsides of displacement caused by forced relocation, worsening living conditions, rising housing rents, etc. (Atkinson, 2000; Freeman & Braconi, 2004; Newman & Wyly, 2006). However, others point out that legally established compensation mechanisms may mitigate the negative experiences of forced relocations (Kleinhans & Kearns, 2013). Residential experiences resulting from relocation are also conditioned upon micro residential mobility factors, such as pre-relocation moving intentions and housing satisfaction (Kleinhans & Bouma-Doff, 2008) and socio-economic status of affected residents (Bolt & Kempen, 2010; Kearns & Mason, 2013; Posthumus & Kleinhans, 2014).

Studies in the Chinese context have revealed both positive and negative outcomes of relocation. While some demonstrated improvements in resettled residents' perceived living conditions and residential satisfaction (S.-M. Li & Song, 2009; Wu, 2004a, 2004b), others revealed negative residential experiences, including decreased satisfaction (Fang & Zhang, 2003), loss of

established social ties and neighborhood cohesion (He & Liu, 2013; Y. Liu, Wu, Liu, & Li, 2017).

Existing literature on urban renewal offers a general understanding of the impact of urban redevelopment on residential experiences. Yet little is known about the underlying mechanisms about how urban renewal, with or without displacement, would (re)shape neighborhood attachment of residents. Are these impacts due to displacement and relocation or due to fundamental changes in the social and physical structures? As one study in Australia (Shaw & Hagemans, 2015) demonstrates, even without physical displacement, neighborhood renovation by transforming neighborhood communal spaces and changing the nature of local social structure could cause a loss of place attachment.

Neighborhood attachment, a neighborhood-oriented sense of place, is a multi-faceted concept. It encompasses both social belonging and attitudes towards the neighborhood physical environment (Hidalgo & Hernandez, 2001; Riger & Lavrakas, 1981). This study proposes two theoretical approaches to examine the changes, or lack thereof, in neighborhood attachment of affected residents – the social capital approach and the place-making approach.

From a social capital perspective, neighborhood serves as a social arena for neighborly interaction and nurturing mutual trust and reciprocity among residents (Hazelzet & Wissink, 2012; Talen, 2002). Although personal social networks are liberated from the neighborhood with growing urbanity and modernity, shared norms and social trust may be fostered through place-related roles such as members of village committee or homeowners' association, or through the articulation of collective interests such as economic value and use-value of the residential space (Tomba, 2005; Yip & Forrest, 2002; Zhu et al., 2012).

However, the place-making perspective suggests that place attachment arises from individualistic meanings attached to the physical environment instead of neighborly ties. As scholars (Mesch and Manor, 1998; Stedman, 2003) argued, when an individual appreciates the neighborhood's physical and social environment, a bond and sentiment develop towards the place regardless of local social embeddedness. In fact, with the trend towards privatism and individualism, the built environment may carry a stronger weight than social intimacy among residents for fostering a sense of home. Studies on China (Zhu, 2015; Zhu et al., 2012) have shown that urban neighborhoods in post-reform China are nowadays perceived less as a source of social support and personal contacts, but the sense of place is often articulated through satisfaction with the physical environment endowed with economic, social or symbolic meanings.

The two inter-related frameworks suggest that urban renewal may affect neighborhood attachment by changing either the pre-established social networks and social cohesion or the built environment of a neighborhood. Hence, neighborhood attachment is conditioned on both social and physical outcomes of the redevelopment. While redevelopment, with or without physical displacement, generally disrupts pre-established social networks by resettlements or imposing new social mixes, subjective perceptions of the disruption in neighborhood social cohesion differ among individuals. Therefore, it is arguable that residents' neighborhood attachment responds to changes in perceived social and physical environment after urban renewal.

<h1 style="text-align:center">Methods and Data</h1>

This study will employ quantitative and qualitative methods using data at both the neighborhood and individual levels to ascertain the socio-spatial impact of urban restructuring. Specific methods and data sources for our research questions are elaborated as follows.

Analysis of census data on gentrification patterns

<u>Data</u>

The analysis of the gentrification patterns in Guangzhou from 2000-2010 draws on Guangzhou's 2000 and 2010 census data at the level of sub-district administrative units, i.e., streets and towns. The analysis covers the ten districts and two county-level cities under the jurisdiction of Guangzhou in 2010. In total, there were 166 streets and towns under the 12 districts/counties in 2010. The sub-district boundaries in 2000 and 2010 do not always agree due to administrative restructuring. For analytical purposes, we used the smallest unit of geography for sub-districts that experienced adjustment of administrative boundaries, and census statistics were adjusted in proportion to the size of the areas. This yields 196 sub-district-level geographical units for our analysis.

We also document urban development policies within the study period, including administrative annexation, new zone development, central town development, and urban renewal. The documents we refer to include *The Master Urban Planning of Guangzhou, 2001-2010* (Guangzhou Municipal Government, 2005b), *The Eleventh Five-Year Plan of Urban Development of Guangzhou 2005-2010* (Guangzhou Municipal Government, 2005a), and *A Review of the History of Guangzhou's Urban Development* (MPNRB and UPSDRI, 2019).

<u>Measures and variables</u>

We define gentrification as the socio-economic upgrading of a sub-district (i.e., streets and townships) in Guangzhou. As the geographical scale of analysis will impact the empirical findings on gentrification patterns (Easton, lees, Hubbard, & Tate, 2020; C. Liu, Deng, Song, & Gong, 2019), our discussion on gentrification and displacement pertains to the sub-district level and may not reflect the patterns at more granular levels.

To account for the population change at the city level, we adopt the change in the Location Quotients (LQ) of the highly-educated and professional occupations to measure gentrification (He, 2010; Yang & Zhou, 2018). The highly-educated include those who have a university degree or above. Professional occupations include three occupational groups classified in the

census: managers and seniors officers, professionals, and associate professionals, and administrative staff.

The LQ. index denotes the concentration of a group in a sub-district relative to the city level. It is computed by the share of the reference group in a sub-district divided by the share of that group across the city. An index greater than 1 suggests a comparative concentration of a particular group and vice versa, and a greater index indicates a stronger concentration.

A composite **gentrification index** (*genindex*) is derived from factor analysis (with varimax rotation) of LQ changes for the highly-educated (*LQ_university*) and professionals (*LQ_professional*), which explains 80% of the variations of the two variables. The median value of *genindex* is -0.025.

Urban development policies between 2000 and 2010 are denoted by four dummy variables. Administrative *annexation* indicates whether the administrative rank of a sub-district was upgraded from *town* to *street*; *newzone* denotes sub-districts where new zone developments were located; *centraltown* is designated locations for central town development; and *renewal* means locations of designated renewal projects.

New-build construction (*new-build*) is measured by percentage point changes in the number of households in dwellings of 10 years old or newer (built in 1999 or later). Concerning new-build gentrification, we also discuss housing tenure and sources. *Purchased commodity* housing is housing units purchased in the private housing market. This mainly includes privately-built commodity housing and privatized work-unit housing that was traded in the private market; *Rented commodity* housing is units rented from the private market, including informal housing units for rental in urban villages; *Reform housing* refers to privatized housing sold by the work unit to employees; *Self-built* housing is housing built by peasants on collectively-owned rural residential land, mostly in urban villages; *Purchased affordable* housing is public-built or public-funded affordable housing for owner-occupation; and *Public rental* housing is government-owned rental housing which is mostly available to local residents.

To examine the profiles of potential displacees, three socio-demographic characteristics are considered – employment sector, household registration status (*hukou*), and age. Concerning the employment sector, we examine percentage point changes of population in the labor-intensive industries, including the primary, manufacturing, construction, and service sectors. The household registration status is classified as local (*hklocal*) and migrant (*hkmigrant*). Finally, we consider seniors (*age65+*) as the age group of potential displacees. Notably, these variables only represent coarse proxies of displacement at the sub-district level, which may not reveal displacement at a more granular level, hence may underestimate the scale of displacement.

Case studies on urban renewal and neighborhood attachment

<u>Case studies with survey and interviews</u>

Understanding the underlying mechanisms of urban renewal and neighborhood attachment requires grounded case studies. The project conducts the case studies through surveys and semi-structured interviews with residents. In selecting neighborhoods, we distinguish between *redevelopment* with complete demolition and resettlement and *micro-renewal* that features built-environment upgrading without resettlement. Specially, we identified eight neighborhoods based on the type of renewal (redevelopment vs. micro-renewal) and location (inner city vs. suburb). As Table 1 shows, three of the eight neighborhood cases experienced full-scale redevelopment with complete demolition and resettlement, and five of them experienced micro-renewal featuring physical upgrading without resettlement.

Between June and December 2020, we worked with Guangzhou Urban Renewal Association, Residents Committees (*juweihui*), and local domain experts to conduct the survey and interviews. In total, the survey solicited information from 639 residents in the case study neighborhoods (Table 1). The survey solicited information on original residents' residential history in the original neighborhood and residential experiences before and after redevelopment or renovation. Multivariate regression models are performed using the survey data to understand the interrelationships between urban redevelopment, social capital, the physical environment, and neighborhood attachment.

Table 1 Case study neighborhoods for survey and interview fieldwork

N'hood	Type of Renewal	Resettlement	Location	Renewal period	Affected hhld[1]	No. of survey respondents	No. Interviews
Pazhou village	Redevelopment	In-situ/ex-situ	Inner city	1998-2011	1,000	96	
Tancun village	Redevelopment	In-situ/ex-situ	Inner city	2012-2017	2,000	78	13
Luogang village	Redevelopment	In-situ	Suburb	2013-2019	981	83	
						Sub-total: 257	13
Yongtai village	Micro-renewal	No resettlement	Suburb	2014-2018	1,000	80	
Pantang n'hood	Micro-renewal	No resettlement	Inner city	2017-2019	1,000	62	14
Dunhe n'hood	Micro-renewal	No resettlement	Inner city	2018-2019	230	73	
Yinggang n'hood	Micro-renewal	No resettlement	Suburb	2018-2020	428	91	20
Jiunanhai n'hood	Micro-renewal	No resettlement	Inner city	2018-2019	400	76	
						Sub-total: 382	34
TOTAL						639	47

Note: 1. These were estimated number of households affected by renewal projects was collected during the fieldwork.

Based on the survey results, we selected four neighborhoods to conduct follow-up qualitative interviews. These neighborhoods include one urban village, Tancun, that went through demolition and redevelopment, and two neighborhoods that experienced micro-renewal, i.e., Pantangwuyue and Yinggang neighborhood. We conducted 13, 14, and 20 interviews in these neighborhoods, respectively, focusing on residents' lived experiences (e.g., social networks, sense of place, and residential satisfaction) before and after redevelopment. The ethnographic research will provide a more nuanced understanding of the underlying mechanisms of urban redevelopment's influence on community life. Ethnographic findings are triangulated into our findings derived from the quantitative survey analyses to gain a holistic understanding of the socio-spatial impact of urban redevelopment.

Measures and variables in survey data analysis

We employed multivariate logistic regression models to analyze the survey data to understand how the perceived change in the physical vs. social environment affects residents' place attachment. Table 2 summarizes the key variables used in the survey data analysis, followed by the key concepts' definitions and measurements.

Table 2 Key variables in survey data analysis

Variable	Definition	Measurement	Min	Max	Mean
neg.abattach	Disruption in neighborhood attachment	dichotomous	0	1	0.14
pre.soc	Perceived social cohesion pre-renewal compared with post-renewal	continuous	1	5	3.14
noacq	Number of acquaintances in the neighborhood	continuous	0	101	39
diff.hsat	Change in housing satisfaction	continuous	-3.0	4.0	0.24
diff.nbsat	Change in satisfaction with neighborhood physical environment	continuous	-2.2	4.0	0.39
microrenewal	Type of renewal	dichotomous (1=micro-renewal; 0=redevelopment)	0	1	0.60
resettlement	Mode of resettlement	Categorical (1=ex-situ; 2=in-situ; 3=no resettlement)	1	3	n/a

Disruption in neighborhood attachment *(neg.nbattach)*. To measure neighborhood attachment, the survey asked respondents whether they agree or disagree (a 5-level Likert scale) with two statements, "Overall, I feel a sense of home in this neighborhood," and "I feel being a part of the community." The same questions were asked regarding the neighborhood pre-renewal and post-renewal. The mean score of the two statements is used as an indicator of place attachment to the neighborhood pre- and post-renewal, respectively. We then calculated the difference in neighborhood attachment by subtracting the before-renewal score from the after-renewal score. A dummy variable (*neg.nbattach*) was created to indicate the disruption in neighborhood attachment, with 1 indicating negative difference and weakened neighborhood sentiment and 0

indicating positive difference and unchanged or strengthened neighborhood attachment. Overall, about 14% of the respondents experienced disruption in their neighborhood attachment.

Perceived social cohesion in pre-renewal neighborhood *(pre.soc)*. To gauge the perceived change in social cohesion within a neighborhood, we asked respondents whether they agree or disagree (a 5-level Likert scale) with four statements assessing pre-renewal social cohesion compared with post-renewal relations. These four statements are, "Residents in the pre-renewal neighborhood were more willing to help one another before the renewal," "Residents in the pre-renewal neighborhood had more interactions," "Residents in the pre-renewal neighborhood were more solidary," and "Residents in the pre-renewal neighborhood had a stronger sense of mutual trust." The Cronbach's Alpha of these statements is 0.88, suggesting a strong internal consistency. We, therefore, use the mean score of the four items to indicate perceived change in social cohesion in the neighborhood before and after the renewal. A higher score indicates more positive perception of social cohesion before the renewal.

Personal social network *(noacq)*. To account for the effect of personal social networks within a neighborhood, we asked respondents to report the number of residents they know by name, i.e., acquaintances.

Change in housing satisfaction *(diff.hsat)*. Satisfaction with the physical living environment is assessed regarding satisfaction with housing conditions and the neighborhood physical environment. We asked respondents to rate their satisfaction at a 5-level Likert scale with the living space and indoor housing condition, e.g., lighting, kitchen, utilities, etc. The Cronbach's Alpha of the two questions is 0.7 for post-renewal satisfaction and 0.77 for pre-renewal satisfaction. Housing satisfaction was measured by taking the mean scores of the two questions. Change in housing satisfaction is indicated by the difference in the satisfaction scores before and after renewal. The average change in housing satisfaction is 0.24, indicating overall, the respondents are slightly more satisfied with their housing condition after urban renewal. About 17 percent of the respondents felt less satisfied with their dwelling after renewal. Nearly half felt no change in their housing condition.

Change in neighborhood satisfaction *(diff.nbsat)*. Satisfaction with the neighborhood physical environment is assessed at a 5-level Likert scale from three aspects: the built environment (e.g., cleanliness, greening, and low-cost recreation amenities), sense of safety, and accessibility to public transit, health care services, and recreational amenities such as stores and parks. The Cronbach's Alpha of these questions is 0.84 for post-renewal satisfaction and 0.86 for pre-renewal satisfaction. We use the mean scores of these questions to indicate respondents' satisfaction with pre-renewal neighborhood environment and post-renewal neighborhood environment. The difference in the satisfaction scores indicates the change in neighborhood satisfaction before and after renewal.

Type of urban renewal *(micro.renewal)*. This dummy variable indicates whether the neighborhood had full-scale redevelopment (*micro.renewal*=1) or micro-renewal (*micro.renewal*=0) with built-environment upgrading only.

Mode of resettlement (*resettlement*). This is a categorical variable to differentiate different modes of resettlement. In the three neighborhoods of redevelopment, 31 percent of the

respondents were relocated from another neighborhood, i.e., ex-situ resettlement (coded as 1), and 62% were relocated on-site, i.e., in-situ resettlement (coded as 2). In the micro-renewal neighborhoods, the great majority of respondents (97%) did not report any resettlement.

Socio-demographic control variables. In the survey data analysis, we also account for various socio-demographic variables that may affect post-renewal residential experiences. These variables include age (6 age groups), gender (1= female; 0 = male), income level (5 groups), migrant (1 = non-local *hukou*; 0= local *hukou*); education (1 = college and above; 0 = below college); housing tenure (1 = owner; 0 = other); and years of residence in current neighborhood (number of years).

Census Data Findings: State-Led Gentrification 2000-2010

Spatial patterns of gentrification

We distinguish gentrification and de-gentrification (downgrading of the socio-economic status) and classify the sub-districts into six categories based on the gentrification index (*genindex*) and changes in LQs of education (*LQ_university*) and professional occupations (*LQ_professional*).
- *Gentrified*: sub-districts with a positive *genindex*, low *LQ_university* and low *LQ_professional* (LQ <1) in 2000, and high *LQ_university* or high *LQ_professional* (LQ >=1) in 2010;
- *Gentrifying*: sub-districts with a positive *genindex*, low LQs for both education and occupation in 2000, and the LQs remain low in 2010;
- *Deepened gentrification*: sub-districts with a positive *genindex*, high *LQ_university* or high *LQ_professional* in 2000, and high *LQ_university* or *high LQ_professional* in 2010;
- *De-gentrified*: sub-districts with *genindex* lower than the median (-0.025), high *LQ_university* or high *LQ_professional* in 2000 and low LQs for both education and occupation in 2010;
- *De-gentrifying*: sub-districts with *genindex* lower than the median value, high *LQ_university* or *LQ_professional* in 2000 and *high LQ_university* or *LQ_professional* in 2010;
- *Deepened de-gentrification*: sub-districts with *genindex* lower than the median value, low LQs for education and occupation in both 2000 and 2010;
- *No change*: all other sub-districts.

As Table 3 shows, 48% of Guangzhou sub-districts experienced different degrees of gentrification, and 50% experienced de-gentrification. There is an evident pattern of suburban gentrification. The inner-city core has a negative mean score of gentrification (-0.287), whereas the inner suburb has the highest score (0.631), followed by the outer suburb (0.171). The outskirts' mean gentrification index is marginal, indicating little change in the socio-economic status at the urban fringe.

Statistics of the gentrification categories reveal a pattern of a de-gentrifying city core, gentrifying suburbs, and stable outskirts of Guangzhou between 2000 and 2010 (Table 3 and Figure 2). 49% of inner-city streets were de-gentrifying, that is, these areas had witnessed a decreased concentration of the highly-educated or professional occupations, although the LQs remain high (>=1). In contrast, the majority of sub-districts in the inner suburb were either gentrified (24%) or gentrifying (56%); the gentrified and gentrifying sub-districts also accounted for 64% in the outer suburb. Among the 12 sub-districts in the outskirts, six experienced deepened de-gentrification, while the rest were gentrifying (4), gentrified (1), or unchanged (1).

Table 3 Gentrification index by urban areas in Guangzhou, 2000-2010

Gentrification	City core	Inner suburb	Outer suburb	Outskirts	Total
Means	-0.287	0.631	0.171	0.007	0.00
Gentrified	13	8	4	1	26
	13%	24%	9%	8%	13%
Gentrifying	9	19	26	4	58

	9%	56%	55%	33%	30%
Deepened gentrification	10	0	0	0	10
	10%	0%	0%	0%	5%
De-gentrified	9	0	0	0	9
	9%	0%	0%	0%	5%
De-gentrifying	50	1	1	0	52
	49%	3%	2%	0%	27%
Deepened de-gentrification	10	5	15	6	36
	10%	15%	32%	50%	18%
No change	2	1	1	1	5
	2%	3%	2%	8%	3%
Total	103	34	47	12	196
	100%	100%	100%	100%	100%
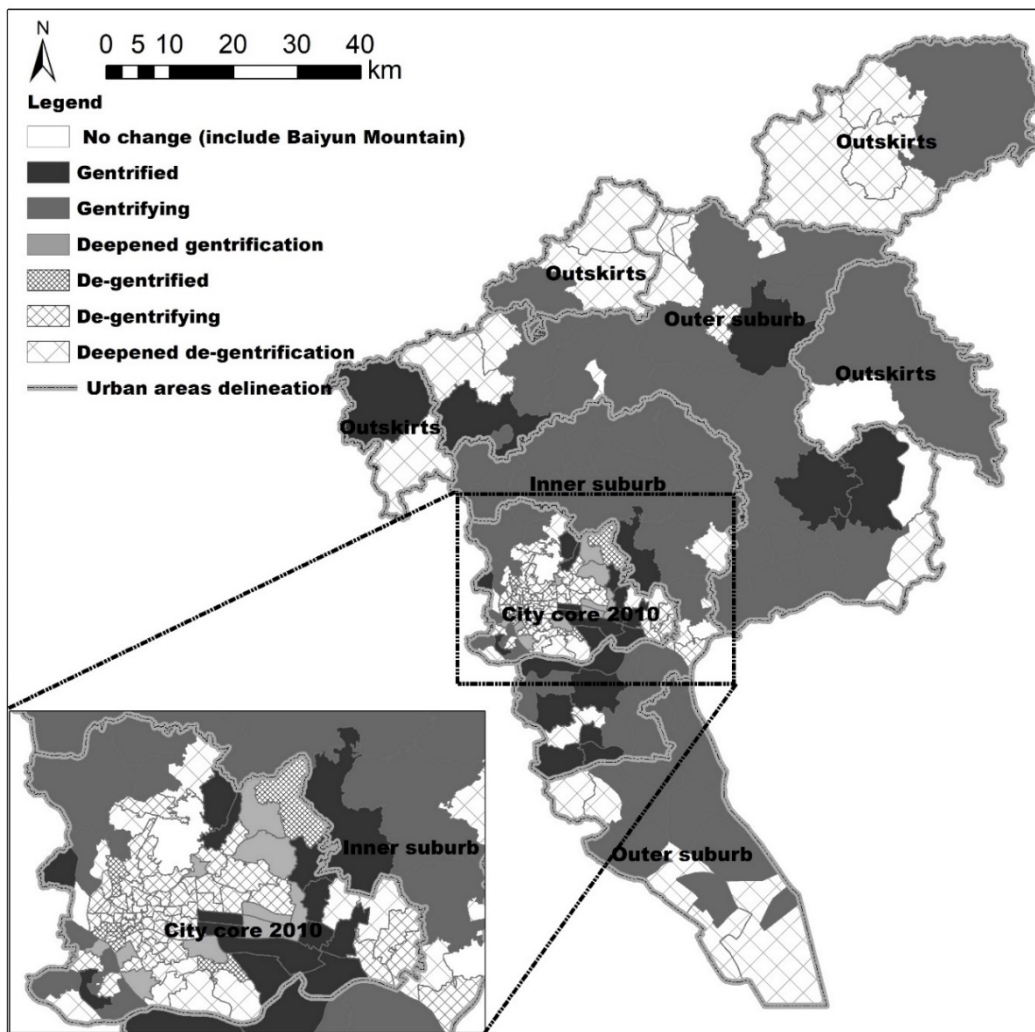
Figure 2 Spatial pattern of gentrification

State-led urban development and gentrification

Between 2000 and 2010, the municipal government of Guangzhou launched 16 new zone projects, covering 29 streets/towns with 60% located in the suburbs. These projects mainly were positioned as financial centers, knowledge economy zones, transportation hubs, or simply high-end residential areas. The best-known projects include the new CBD in Tianhe, the university town and high-speed rail station in Panyu, and the Baiyun international airport. Over the same period, 19% of the towns in Guangzhou were turned into city streets through administrative annexation. To further integrate suburban and rural areas, the government launched a "central town" development scheme, with 16 towns designated between 2003 and 2005 with priority for development.

Figure 3 Areas of administrative annexation, new town/zone development, urban renewal, and central town development, Guangzhou 2000-2010

Since 2006, redevelopment has become a strategic approach for urban development in Guangzhou. Between 2000 and 2010, urban redevelopment projects mainly focused on six 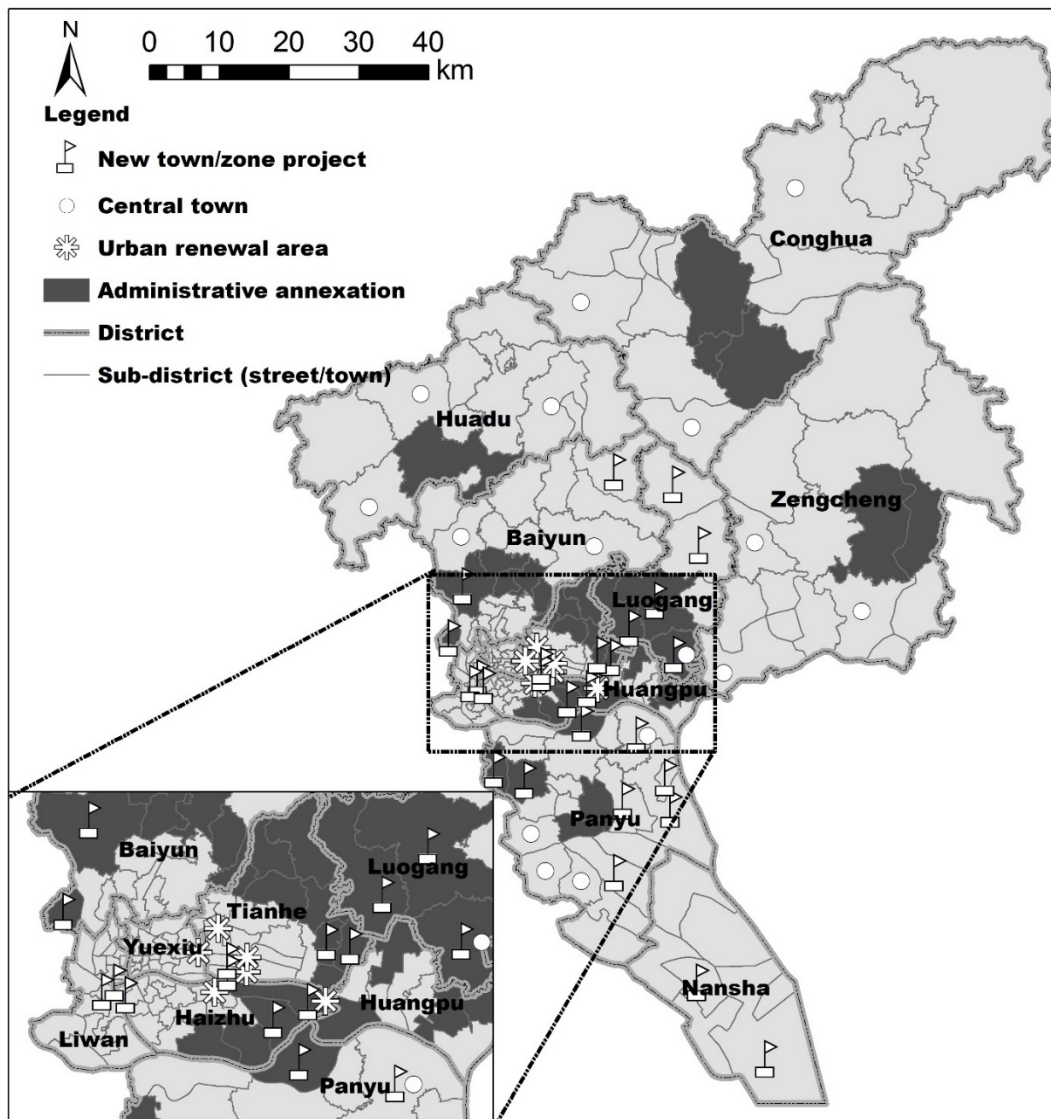streets – Chigang, Liede, Linhe, Meihuacun, Xiancun, and Pazhou, all located in the inner city and were concentrations of urban villages that hosted millions of migrant workers. By 2010, the only completed redevelopment project was Liede village, whereas the other projects were underway.

These state-led (re)urbanization strategies have reshaped the social areas of the city. As Table 4 shows, the gentrification index is conditioned by these land-centered urban policies. The biggest gap in *genindex* is between the urban renewal areas and the rest of the city. The average gentrification index for the redevelopment destinations is at 0.957 compared to -0.03 for others. However, the gap significantly diminished when the area of completed redevelopment, Liede, was removed, making the average *genindex* for urban redevelopment areas 0.34.

Sub-districts where new zone projects were located experienced gentrification with an average index of 0.793, in contrast to -0.127 for other areas. The gentrification index of sub-districts that were transformed from towns to urban districts averaged at 0.748, while the rest have an average of -0.18. However, the central town development did not seem to be associated with strong gentrification – the designated central towns in the early 2000s only experienced a modest degree of gentrification overall.

Table 4 Gentrification index by urban development policies

	Gentrification index (Means)
Urban redevelopment	
-Designated areas	0.957
-Other	-0.030
New zone projects	
-New zones	0.793
-Other	-0.127
Annexation	
- Annexed sub-districts	0.748
- Other	-0.180
Central town	
- Central towns	0.117
- Other	-0.111

New-build gentrification and displacement

New-build gentrification was widespread across the city (Table 5). Housing units constructed in and after 1999 accounted for 76% of the total households in Guangzhou in 2010, increased from 26% in 2000. New-build gentrification spread from the inner city to the outskirts, with the inner suburb experiencing the fastest growth of new housing units at 196%.

The growth of newly-built housing has been mainly driven by new commodity housing constructions for ownership or rental. Over the ten years, households living in purchased or rented commodity housing increased by 308% and 391%, respectively. Only a small proportion of this growth is attributable to reform housing being traded or rented in the private market – reform housing units dropped only slightly by 32%. Self-built housing units, primarily informal housing in (peri-) urban villages, have seen a significant drop of 32% in the city core and an increase of 6% and 11% in the inner and outer suburbs. This finding suggests that the demolition and redevelopment of urban villages in the inner city may have pushed low-income households to adjacent suburban areas to seek affordable housing, which encouraged more informal housing. The two forms of social housing, i.e., purchased affordable housing and public rental housing, have also seen significant drops overall. Public rental housing has decreased drastically in the city center by 74%, although new supply was added in the suburbs.

New-build gentrification was a key form of gentrification – the growth of new-build housing in gentrified or gentrifying sub-districts (*genindex*> 0) accounted for nearly 60% of the total new-build growth in the city. These neighborhoods also experienced fast growth of owner-occupied commodity housing (329%). Particularly, sub-districts that experienced administrative annexation and locations of new zone projects have seen the most rapid growth of new buildings compared with areas of other policies.

Gentrified or gentrifying sub-districts have seen an increase of self-built housing (0.4%); this may be attributed to gentrifying central towns, which have seen a new supply (9%) of informal housing during the study period. Notably, central towns have had exponential growth of rental commodity housing by nearly ten-fold. This could be due to the influx of low-income population into the suburbs seeking jobs and cheap rental housing, especially the informal self-built housing rented out in the private market. In contrast, urban redevelopment areas and annexed sub-districts have seen drops in self-built housing and public rental housing. Urban redevelopment projects are particularly relevant for the drastic decrease in self-built housing (-74%) and public rental housing (-86%).

Table 5 Growth/decrease of households by housing types and new-build housing, 2000-2010

	New-build	Purchased commodity	Rented Commodity	Reform housing	Self-built	Purchased affordable	Public rental
Total	1,635,720 (137%)	663,450 (308%)	1,061,220 (391%)	-178,550 (-32%)	-25,850 (-3%)	-10,250 (-17%)	-180,970 (-57%)
Urban areas							
- City center	954,960 (134%)	462,830 (380%)	730,950 (351%)	-153,650 (-31%)	-73,260 (-32%)	1,460 (4%)	-199,110 (-74%)
- Inner suburb	386,926 (196%)	96,499 (228%)	233,213 (636%)	-11,966 (-52%)	12,580 (6%)	-2,430 (-42%)	10,222 (51%)
- Outer suburb	270,489 (108%)	103,088 (214%)	94,786 (371%)	-12,909 (45%)	34,992 (11%)	-8,700 (-64%)	11,197 (51%)
- Outskirts	23,345 (67%)	1,033 (38%)	2,271 (284%)	-26 (-5%)	-162 (0.2%)	-580 (-46%)	-3,279 (-64%)
Urban development							
- genindex>0	971,324 (166%)	354,839 (329%)	500,976 (393%)	-47,478 (-36%)	2,522 (0.4%)	-8,150 (-30%)	-17,164 (-18%)
- Redevelopment	33,714 (66%)	30,837 (198%)	4,376 (23%)	-12,588 (-34%)	-9,865 (-74%)	-947 (-21%)	-12,686 (-86%)

- Annexation	545,841 (195%)	159,778 (283%)	337,539 (344%)	-17,999 (-39%)	-33,588 (-16%)	-3,758 (-22%)	-4,593 (-11%)
- New zone	225,421 (194%)	38,198 (215%)	132,494 (346%)	-9,008 (-46%)	-399 (-0.3%)	1,861 (33%)	-2,413 (-10%)
- Central town	128,750 (145%)	20,715 (292%)	69,371 (982%)	-3,987 (-61%)	13,251 (9%)	-3,765 (-84%)	1,139 (11%)

Note: The numbers were estimated based on a 10% census sample of the households.

Gentrification was not necessarily accompanied by displacement (Table 6). The presumed vulnerable groups of gentrification-induced displacement, such as the less-educated, labor-intensive industry workers, migrants, and elderly, have all seen population growth in gentrified or gentrifying sub-districts. This pattern is also true for annexed areas, new zone locations, and central towns. The industrialization and new developments in these areas may have attracted the working classes with job opportunities and cheap housing. The only sub-districts that have seen a decrease in these populations are the urban redevelopment areas, suggesting that displacement is most likely to be driven by urban redevelopment.

Table 6 Population change by gentrification and urban policies, 2000-2010

	High-school degree	Labor-intensive industry	Migrants	Seniors (65+)
genindex>0	805,306	442,299	975,621	133,279
renewal=1	-53,960	-23,469	-32,108	14,398
annexation=1	466,965	368,863	732,876	46,469
newzone=1	148,314	66,474	220,182	21,717
centraltown=1	148,435	85,294	177,813	14,786
City total	1,165,353	1,008,490	1,739,307	241,371

Note: The numbers were estimated based on a 10% census sample of the households.

Patterns of gentrification summary

Our analysis of the census data revealed that, between 2000 and 2010, Guangzhou had experienced substantial socio-spatial restructuring featuring suburban gentrification and inner-city de-gentrification. There is a strong association between gentrification and land-driven development policies, such as administrative annexation, new zone development, and urban renewal, which aim to promote industrial upgrading and economic growth through land expropriation and commodification. The prevalent new-build gentrification points to a market mechanism underlying gentrification, whereby the highly-educated and professionals relocate to follow the residential real estate market. Gentrification is associated with decreased proportions of working classes in labor-intensive sectors. However, sub-district displacement was only associated with urban renewal.

Case Studies Findings: Urban Renewal and Neighborhood Attachment

Profiles of survey respondents

Overall, the survey covers mixed age groups, with 55 years and above accounting for less than 50% of the respondents (Table 7). About one-third of the respondents received higher education overall. Over half of the respondents are women. The majority of the respondents are homeowners (85%) are homeowners with local hukou (88%). However, the population tends to be low-income, with only about 70% reporting an annual income of 60 thousand CNY or below.

Among the three redeveloped urban villages, Pazhou has relatively young and educated residents and more male respondents. The income level of the respondents is also the highest among all neighborhoods. Respondents in Tancun tend to be seniors, less educated, low-income, and women. Respondents in Luogang tend to be young, highly educated, yet low-income population, while there is a good mix of men and women respondents.

Among the five micro-renewal neighborhoods, respondents in Yongtai tend to be young, women, less wealthy, and less educated compared to the overall respondent profile. Pantang has more seniors, homeowners, men, and low-income groups among the respondents. Respondents in Dunhe have a mix of different age groups, educational levels, and genders; this neighborhood also has a lower percentage of low-income individuals. Yinggang's respondents are relatively young, educated, although less wealthy. Respondents in Jiunanhai tend to be seniors, while there are good mixes of different educational levels, age groups, and income levels.

Table 7 Profiles of respondents by neighborhoods

Neighborhood	Mode of renewal	Age (% 55 or older)	Education (% college and above)	Gender (% women)	Housing tenure (%owners)	Individual income (% 60k CNY or below)	Hukou (% local)
Pazhou	Redevelopment	41.6	34.4	29.2	94.8	42%	88.6
Tancun		70.5	5.1	82.1	97.4	76%	96.1
Luogang		12.0	49.4	56.6	60.2	87%	100.0
Yongtai	Micro-renewal	23.8	21.2	60.0	63.7	90%	72.4
Pantang		61.3	14.5	40.3	80.6	83%	85.5
Dunhe		50.7	35.6	54.8	72.6	56%	86.3
Yinggang		48.4	36.3	51.6	84.6	71%	85.7
Jiunanhai		60.5	28.9	55.3	72.4	62%	89.5
Overall		45.3	29.0	53.4	85.0	70%	88.1

Descriptive survey results

Overall, 14% of the respondents experienced disruption in the sense of belonging to their neighborhood, and 86% reported either no change or improvement in neighborhood attachment (Table 8). The perceived change in neighborhood seems strongly associated with the type of renewal and resettlement mode. Twenty percent of the respondents in the redeveloped neighborhoods reported disruption in neighborhood, in contrast to nine percent in the micro-renewal neighborhoods. As expected, residents who are relocated from a different neighborhood (i.e., ex-situ resettlement) have a higher percentage (23%) who perceived disrupted neighborhood attachment, compared with those who were resettled on-site (15%) and those who experienced no resettlement at all (11%). However, because the two variables of renewal type

and resettlement mode overlap with each other– no-resettlement almost happens exclusively in micro-renewal projects – it is inconclusive at this point which factor, renewal or resettlement, has induced the disruption in neighborhood attachment. We will examine this in subsequent regression analysis.

Perceived disruption in neighborhood attachment also seems associated with the perceived change in the physical and social environment after the renewal. Compare those reporting decreased neighborhood attachment and their counterparts, we find the former group tends to report, on average, a lower level of improvement in their satisfaction with post-renewal housing conditions and neighborhood physical environment. The former group also reports knowing a slightly larger average number of residents they know by name in the current neighborhood (45 vs. 39). The group that perceived neighborhood attachment disruption tends to stay in the neighborhood for a longer period.

Residents with local *hukou* and homeowners are more likely to report disrupted post-renewal neighborhood attachment. However, we do not find significant gender, education, or income differences.

Table 8 Descriptive statistics of survey data

	Disruption in neighborhood attachment (*neg.nbattach* = 1)	No disruption in neighborhood attachment (*neg.nbattach*=0)
Total (n=639)	**14%**	**86%**
Type of renewal		
-Redevelopment	20%	80%
-Micro-renewal	9%	91%
Mode of resettlement		
-Ex-situ relocation	23%	77%
-In-situ relocation	15%	85%
-No resettlement	11%	89%
Mean change in housing satisfaction (s.d.)	0.0 (0.9)	0.3 (0.9)
Mean change in n'hood satisfaction (s.d.)	0.2 (0.8)	0.4 (0.8)
Mean perceived social cohesion pre-renewal (s.d.)	3.5 (0.8)	3.1 (0.8)
Mean number of acquaintance (s.d)	45 (39)	39 (37)
Mean years of residence (s.d.)	31 (24)	23 (19)
Housing tenure		
-Homeowner	15%	85%
-Renter	8%	92%
Hukou status		
-Migrant	8%	92%
-Local	14%	86%
Gender		
-Female	11%	89%
-Male	16%	84%
Education		
-College or above	14%	86%
-Below college	13%	87%
Individual income		
-Below 60,000 CNY	13%	87%
-60,000 CNY or above	14%	86%

Regression model results

Table 9 presents the Logistic regression model results with the dummy variable, *neg.nbattach*, as the outcome variable to indicate whether or not a respondent experienced disrupted neighborhood attachment (*neg.nbattach* = 1). In order to discern how our key variables of interest affect neighborhood attachment, we entered the variables concerning resettlement, type of renewal, and perceived change in the neighborhood physical and social environment in three separate models, accounting for household characteristics and socio-economic status.

Among the control variables, years of residence is the only variable significantly associated with the dependent variable in all three models. Residents with a longer residential history are more likely to report disruption in neighborhood attachment. Such a relationship holds for all three models. This result may be because residents rooted in the neighborhood are more sensitive to the change in their neighborhood sentiment. It suggests these residents are more vulnerable to the disruption of neighborhood attachment.

Model 1 adds the variable of resettlement on top of the control variables. Compared with in-situ resettlement, residents who did not experience any resettlement are significantly less likely to experience disruption in neighborhood attachment. In contrast, ex-situ resettlement shows no significant difference with in-situ resettlement. Because the majority of the non-resettled residents are in the micro-renewal neighborhoods, the difference we observe between no-resettlement and in-situ resettlement may reflect the difference between the two renewal modes. When the renewal variable is entered in Model 2, the effect of the resettlement factor becomes non-significant. The resettlement effect on neighborhood attachment is explained by the type of renewal – residents in micro-renewal neighborhoods are much more likely to experience disrupted neighborhood attachment than those in the redeveloped neighborhoods.

Model 3 examines to what extent the change in neighborhood attachment is due to a perceived change in the neighborhood's physical and social environment. As the results show, perceived improvement in housing conditions is negatively associated with the likelihood of perceived disruption in neighborhood attachment. Moreover, when residents feel stronger social cohesion in pre-renewal neighborhoods, they are more likely to report a disruption in neighborhood attachment. In other words, the perceived change in neighborhood attachment is associated with a perceived change in neighborhood social cohesion.

Table 9 Logistic regression results

Dependent variable:	Model 1	Model 2	Model 3
Disruption in neighborhood attachment (ref: *neg.nbattach*)		Coefficients (Robust SE.)	
Constant	0.112	0.138	-0.059
	(0.074)	(0.074)	(0.084)
Years of residence	0.003***	0.003***	0.002**
	(0.001)	(0.001)	(0.001)
Housing tenure (owner = 1)	0.014	-0.011	0.008
	(0.042)	(0.042)	(0.038)
Hukou status (migrant = 1)	-0.018	-0.021	-0.010
	(0.045)	(0.044)	(0.042)
Higher educational attainment	0.014	0.012	0.016

(above college = 1)	(0.038)	(0.038)	(0.038)
Low income **(below 6k CNY = 1)**	0.022 (0.034)	0.027 (0.034)	0.013 (0.034)
Female **(female == 1)**	-0.028 (0.027)	-0.023 (0.027)	-0.028 (0.027)
Age group	-0.005 (0.010)	-0.004 (0.010)	0.003 (0.011)
Mode of resettlement (ref: in-situ resettlement)			
- Ex-situ resettlement	0.053 (0.054)	0.053 (0.054)	0.053 (0.056)
- No resettlement	-0.077* (0.035)	0.125 (0.084)	0.103 (0.083)
Type of renewal **(micro renewal = 1)**		-0.229** (0.085)	-0.192* (0.085)
Change in housing satisfaction			-0.042* (0.021)
Change in neighborhood satisfaction			-0.004 (0.024)
Perceived social cohesion pre-renewal			0.051** (0.017)
Num. of acquaintance			0.001 (0.0004)
Model statistics			
Observations	639	639	627
Log Likelihood	-208.659	-202.143	-190.700
Akaike Information Criteria (AIC)	437.317	426.286	411.400

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

Semi-structured interviews

Sense of belonging

Generally speaking, respondents in the three case neighborhoods expressed an improved sense of belonging to the neighborhood after the renewal. However, confirming the survey findings, more residents in the two micro-renewal neighborhoods expressed improved neighborhood attachment than the redeveloped neighborhood Tancun. Moreover, interviews in all three neighborhoods echo the survey findings that improved physical environment and social cohesion are important contributors to the preservation or improvement of neighborhood attachment.

Most interviewees in the micro-renewal neighborhoods, Pantang and Yinggang, felt a stronger sense of belonging to the neighborhood after the micro-renewal. Many attributed this to improved neighborhood environment and sense of security through the built environment upgrading. In the meantime, these interviewees suggested that micro-renewal does not disrupt the pre-existing social relations among residents. Further, some felt that micro-renewal positively affects neighborly interaction because the environment upgrading, e.g., adding recreational facilities, provided more space and opportunities for interactions. As some respondents suggested, "I am more willing to come out since the community is so clean now. I appreciate that we have a community stage where the neighbors can enjoy Cantonese opera."

In comparison, Tancun residents believed that the redevelopment project has little impact on their neighborhood sentiment. Most interviewees consider this the post-redevelopment neighborhood as a home. It should be noted that most interviewees in this neighborhood had lived in the neighborhood for a long time and experienced no ex-situ resettlement. To some extent, their sense of belonging may be derived from a sense of rootedness in the place due to long years of residence. Others also pointed out that there was little change in the neighborhood population and social fabric in the neighborhood, which they believed had helped preserve their neighborhood attachment. A few residents felt a stronger attachment post-redevelopment, and they cited improved neighborhood environment and quality of life and improved income (through rents and compensations) as the main contributors. As some respondents put, "I feel a stronger sense of home now. It was dirty before. And I don't have to work now;" "I feel more attached now because my income increased. And the village was dirty and wet before, and trash was everywhere. I feel a stronger sense of belonging now." However, some interviewees feel that the influx of migrants is associated with a decrease in neighborly interactions. For instance, one respondent suggested that the number of renters increases after the redevelopment. As a result, they do not know everyone lives in the building, and the frequency of neighborly activities is generally declining. The disruption in social relations may have explained weaker neighborhood attachment post-redevelopment for some residents.

Overall benefits and challenges of urban renewal

Despite some dissatisfactions, it was widely felt across the case neighborhoods that the benefits of redevelopment and micro-renewal projects outweigh the disadvantages. Our interviews highlighted several benefits associated with these renewal projects:
- Improved residents' quality of life, particularly the housing conditions and sense of security in the neighborhood;
- The upgraded neighborhood's environment, such as the increase of recreational facilities and green space; and
- Economic benefits, e.g., compensations received due to redevelopment and increased property values, and rental income.

However, these renewal projects are not without challenges. In Tancun, our interviewees indicated **a low level of participation** in the redevelopment process. Our interviews suggested a lack of awareness and a lack of opportunities are the major factors contributing to the limited level of residents' participation. For the micro-renewal projects, our interviewees expressed dissatisfaction with the government's role in the process, low participation opportunities, as well as the planning of the micro-renewal project.

Regarding **the role of government**, respondents felt that the government's criteria for selecting houses for renovation and restoration were not clear. For instance, some residents in Yinggang said that most residents didn't know about the micro-renewal project until the construction started, "There was no consultation, no information session, and no public engagement. The whole project is a face project." Others, however, pointed out that the government put up the project information on the community's bulletin board and collect feedback through WeChat chat group, but there was a lack of interest from the residents. Respondents in the micro-renewal

neighborhoods also complained about the **lack of opportunities to offer feedback** on the project. For instance, some residents in Pantang said that they had trouble finding effective ways to provide feedback on the micro-renewal project. Moreover, they felt that the local government tried to ignore their requests, "They (officials) think the micro-renewal project benefits the neighborhood, and it's free, why do you have so many requirements?" Similarly, most interviewees in Yinggang felt they fulfill the responsibility by offering feedback on the micro-renewal project, but the government did not take it seriously. Finally, the majority of interviewees in the micro-renewal projects questioned **the goals and objectives** of the micro-renewal project. Many felt that the micro-renewal project promotes an unrealistic vision instead of fulfilling residents' needs. Our survey results suggest that respondents in Pantang tend to be a low-income population, with only about 3.2% reporting an annual income of 100 thousand CNY or above. Yet, our interviewees felt that the state-sponsored urban renewal planning is motivated by the pursuit of economic growth, saying, "how on earth can we afford to sit in the coffee shop?" (Ms. Cai). In Yinggang, over 50% of the interviewees feel that the micro-renewal project takes a piecemeal approach instead of focusing on the long-term benefits. Particularly, they feel that some aspects of the micro-renewal project, such as repainting the exterior walls, have a limited impact on improving the neighborhood environment as a whole. "It will become dirty again in two years"(Mr. Zhang). As Mr. Zhang concludes, the micro-renewal project neglects the residents' needs and "treats the head when the headaches, treats the foot when the foot hurts."

Case studies summary

By comparing community experiences in redevelopment neighborhoods and micro-renewal neighborhoods, we find that micro-renewal is less likely than redevelopment to disrupt neighborhood attachment due to improved housing and neighborhood environment and the preservation of pre-existing social relations among the original residents. While residents in the redeveloped neighborhoods also perceived improved built environment, they are more likely to perceive a negative change in community social cohesion post-redevelopment due to the influx of newcomers. Respondents in both redevelopment and micro-renewal projects tend to believe that the overall benefits of urban renewal outweigh many disadvantages. However, the two groups also share concerns about the low participation in the renewal projects. Residents in micro-renewal neighborhoods also suggest that the residents' interests have not been seriously taken into account in the renewal process.

Conclusions and Discussion

Chinese cities have experienced tremendous social and spatial restructuring, especially since the early 2000s when urbanization became largely driven by state-led land-centered development, ensuing a series of market reforms. This study aims to understand the socio-spatial outcomes of China's state-led urban (re)development. Using Guangzhou as a case study, we demonstrate that this city experienced extensive gentrification between 2000 and 2010. We also discuss the relationships between urban renewal and community experiences at the neighborhood level in recent years.

In contrast to the West where gentrification started from and is mainly observed in the dilapidating city center, gentrification in Guangzhou during the study period was concentrated in suburban areas. Most gentrified or gentrifying areas are located in the suburbs, whereas many inner-city neighborhoods experienced de-gentrification. While some argue that the expansion of the state-facilitated gentrification to the suburb (e.g. Hackworth & Smith, 2001) is to follow surplus capital to pursue capital accumulation, the suburbanization of gentrification in China seems to follow a different logic. Lack of fiscal capacity and territorial constraints at the early stage of urbanization, coupled with the monopoly of state power over land, motivated the local state to strategize land development and territorial expansion to fuel urbanization and economic growth.

This study reveals that the spatial pattern of gentrification in Guangzhou between 2000 and 2010 is strongly associated with land-driven urban development policies, such as administrative annexation, zone development, and urban renewal, which aimed to promote industrial upgrading and economic growth through land expropriation and commodification. Rather than following capital surplus, state-led suburbanization in China is a strategy to overcome capital and land shortage for development.

As in the western context, new-build gentrification is prevalent in the process of gentrification in Guangzhou. It implies that a market mechanism may be at work in driving the gentrification whereby the highly-educated and professionals relocate to follow the residential real estate market. Areas of growth-oriented development policies are more likely to see strong growth of new residential constructions and attract population in knowledge-oriented sectors, including the government, the FIRE sector, and the education/media sector. In contrast, gentrification is strongly associated with decreased proportions of those who work in labor-intensive primary, manufacturing, construction, and service industries, especially in the areas of urban renewal and zone development.

This study does not find a strong association between gentrification with displacement at the sub-district level between 2000 and 2010. The decreased proportion of the working class in gentrified/gentrifying areas is more likely to be due to much faster growth of gentrifiers rather than displacement of the working class. A reduction in the number of disadvantaged groups was only found in the few designated areas for urban redevelopment. This result may not be surprising as 2000- 2010 was when urban development was largely driven by state-led urban expansion encroaching on the cultivated land, and urban renewal was only sporadic and had just begun in Guangzhou. Further, the cheap, although substandard, informal housing in the peri-

urban areas may have cushioned or delayed the displacement outcome for those who otherwise could not afford to stay put due to gentrification. However, the absence of extensive displacement at the sub-district level does not preclude possible displacement that may occur within sub-districts, which may have intensified post-2010.

Since 2010, urban renewal has been a renewed spatial strategy for urban development in Guangzhou with a fastened pace of redevelopment. Guangzhou's official statistics (GZUR & GZPI, 2015) reveal that about 40% of new construction land and two-thirds of land-conveyance revenues in 2013 came from "three-old" redevelopment projects. The shift from suburbanization to city-center redevelopment also responded to China's National New-type Urbanization Plan 2014–2020 (NNUP) (Chen, Liu, Chen, & Ye, 2018), which discouraged urban expansion and aims to improve the land-use efficiency of built-up areas (GZUR & GZPI, 2015). Since the NNUP also highlights humanism and community participation as core aspects of urbanization, Guangzhou and many others have adopted micro-renewal to achieve the dual goal of social stability and economic growth (He, 2019). In case studies, we compared pre- and post-renewal residential experiences in redeveloped neighborhoods and micro-renewal neighborhoods. The findings reveal that micro-renewal is less likely than redevelopment to disrupt residents' neighborhood attachment. In contrast, the mode of resettlement does not have a significant effect on community sentiment. This is likely because micro-renewal can preserve pre-existing social cohesion and relations while redevelopment tends to change the original social milieu in a community because of new residents and resettlement. As our survey analysis demonstrates, perceived change in neighborhood attachment is found strongly associated with a perceived change in social cohesion after urban renewal. Our in-depth interviews show that although residents in both the micro-renewal and redevelopment neighborhoods are satisfied with the improved neighborhood built environment, residents in the redevelopment neighborhoods are more likely to feel changing demographics and social relations, contributing to a weakened sense of belonging post-renewal.

Despite the relative success of the micro-renewal projects, it is inconclusive from the case studies whether micro-renewal will achieve the dual goal of urban renovation and community preservation. As discussed above, residents in micro-renewal neighborhoods share concerns about the weak community participation in the process as well as the long-term outcomes of micro-renewal projects. As some respondents rightly pointed out, the effect of the built environment upgrades may not sustain without continued government support. Further, long-term gentrification may take place as the neighborhoods become more attractive to business and high-income populations.

Overall, this study suggests a strong association between state-led urban development and gentrification at a macro level and calls for further attention to the actually existing gentrifications in the Global South. Our findings substantiate Lees et al. (2015)'s observation that "gentrification in the Global South often works in tandem with state projects that involve the production of particular state spaces and the establishment of state legitimacy" (p.449). We also illustrate some key features of Guangzhou's state-led gentrification. First, economic growth, industrial upgrading, and urban (re)development in Guangzhou mutually inform and reinforce one another, in contrast to capital switching and the retreat from industrial production during state-led gentrification in other post-industrial societies. Further, compared with other developing

economies experiencing mega displacement in rural or suburban areas, informal settlements and job opportunities during suburban gentrification in Guangzhou have somewhat accommodated the housing and living needs of disadvantaged groups. At the micro-level, our findings substantiate existing theories that social cohesion is a strong predictor for neighborhood attachment, such that residents in micro-renewal tend to fare better than those in the redeveloped neighborhoods. However, the long-term impact of micro-renewal remains to be seen due to the issues discussed above.

We acknowledge several limitations of the study. First, we used the census data in 2000 and 2010 to examine the gentrification patterns in Guangzhou. The post-2010 development of the socio-spatial structures warrants future studies with more recent data. Second, our analysis of gentrification is restricted to the sub-district level due to data unavailability, which may not represent the dynamics at a more micro level. Third, our case studies over cover eight selected neighborhoods. Although the selection of these cases considers various key attributes of interest, the findings may not be generalized to the city as a whole. Finally, respondents in our case studies are primarily with local *hukou*, while migrants may be under-represented. This was because migrants are less likely to stay in the neighborhood before and after renewal. Particularly in redeveloped neighborhoods, many migrants could have been displaced, which made it challenging to keep track of this group. Hence our case studies' findings do not speak to the experiences of migrants who may have experienced more significant disruption in their community life.

References

Atkinson, R. (2000). The hidden costs of gentrification: Displacement in central London. *Journal of Housing and the Built Environment, 15*(14), 302-326.

Boddy, M. (2007). Designer neighbourhoods: New-build residential development in nonmetropolitan UK cities—The case of Bristol. *Environment and Planning A, 39*(1), 86-105. doi: 10.1068/a39144

Bolt, G., & Kempen, R. V. (2010). Dispersal Patterns of Households Who are Forced to Move: Desegregation by Demolition: A Case Study of Dutch Cities. *Housing Studies, 25*(2), 159-180.

Bourne, L. S. (1993). The Myth and Reality of Gentrification: A Commentary on Emerging Urban Forms. *Urban Studies, 30*(1), 183-189. doi: 10.1080/00420989320080111

Butler, T., Hamnett, C., & Ramsden, M. (2008). Inward and upward: Marking out social class change in London, 1981-2001. *Urban Studies, 45*(1), 67-88. doi: 10.1177/0042098007085102

Chen, M., Liu, W., Chen, H., & Ye, C. (2018). Progress of China's new-type urbanization construction since 2014: A preliminary assessment. *Cities, 78*, 180-193.

Clark, E. (2005). The order and simplicity of gentrification: A political challenge. In R. Atkinson & G. Bridge (Eds.), *Gentrification in a global context: the new urban colonialism* (pp. 271-279): Routledge.

Clark, E. (2015). Afterword: The adventure of generic gentrification. In L. Lees, H. B. Shin, & E. López-Morales (Eds.), *Global Gentrifications* (1st ed., pp. 453–456). Bristol University Press.

Cox, K. R. (1998). Spaces of dependence, spaces of engagement and the politics of scale, or: looking for local politics. *Political Geography, 17*(1), 1-23. doi: 10.1016/S0962-6298(97)00048-6

Davidson, M. (2007). Gentrification as global habitat: a process of class formation or corporate creation? *Transactions of the Institute of British Geographers, 32*(4), 490-506. doi: 10.1111/j.1475-5661.2007.00269.x

Davidson, M., & Lees, L. (2005). New-build 'gentrification' and London's riverside renaissance. *Environment and Planning A: Economy and Space, 37*(7), 1165-1190. doi: 10.1068/a3739

Davidson, M., & Wyly, E. (2012). Class-ifying London: Questioning social division and space claims in the post-industrial metropolis. *City, 16*(4), 395-421. doi: 10.1080/13604813.2012.696888

Dossa, P., & Golubovic, J. (2019). Reimagining Home in the Wake of Displacement. *Studies in Social Justice, 13*(1), 171-186.

Easton, S., lees, L., Hubbard, P., & Tate, N. (2020). Measuring and mapping displacement: The problem of quantification in the battle against gentrification. *Urban Studies, 57*(2), 286-306.

Fang, K., & Zhang, Y. (2003). Plan and Market Mismatch: Urban Redevelopment in Beijing during a Period of Transition. *Asia Pacific Viewpoint, 44*(2), 149-162.

Freeman, L., & Braconi, F. (2004). Gentrification and displacement New York city in the 1990s. *Journal of the American Planning Association, 70*(1), 39-52.

Fu, Q., Zhu, Y., & Ren, Q. (2015). The downside of marketization: A multilevel analysis of housing tenure and types in reform-era urban China. *Social Science Research, 49*, 126-140.

Glassman, J. (2006). Primitive accumulation, accumulation by dispossession, accumulation by 'extra-economic' means. *Progress in Human Geography, 30*(5), 608-625. doi: 10.1177/0309132506070172

GZUR, & GZPI. (2015). *Guangzhou Urban Renewal Master Plan 2015-2020 (in Chinese).* (Guangzhou Urban Renewal Office (GZUR), Guangzhou City Planning and Design Institute (GZPI)).

Hackworth, J., & Smith, N. (2001). The changing state of gentrification. *Tijdschrift Voor Economische En Sociale Geografie, 92*(4), 464-477. doi: 10.1111/1467-9663.00172

Harvey, D. (2009). *Social justice and the city* (Rev. ed.). Athens: University of Georgia Press.

Hazelzet, A., & Wissink, B. (2012). Neighborhoods, social networks, and trust in post-reform China: The case of Guangzhou. *Urban Geography, 33*(2), 204-220.

He, S. (2010). New-build gentrification in central Shanghai: Demographic changes and socioeconomic implications. *Population Space and Place, 16*(5), 345-361. doi: Doi 10.1002/Psp.548

He, S. (2019). Three waves of state‐led gentrification in China. *Journal of Social and Economic Geography, 110*(1), 26-34.

He, S., & Liu, Z. (2013). A Follow-On Study on the Impact of Urban Redevelopment on Local Residents Induced by the Asian Games: An Investigation in the Three Affected Communities in Guangzhou (in Chinese). *Geographical Research, 32*(3), 243-275.

He, S., & Wu, F. (2007). Socio-spatial impacts of property-led redevelopment on China's urban neighbourhoods. *Cities, 24*(3), 194-208.

He, S., & Wu, F. (2009). China's emerging neoliberal urbanism: Perspectives from urban redevelopment. *Antipode, 41*(2), 282-304. doi: 10.1111/j.1467-8330.2009.00673.x

Hidalgo, M. C., & Hernandez, B. (2001). Place attachment: conceptual and empirical questions. *Journal of Environmental Psychology, 21*, 273-281.

Hochstenbach, C. (2017). State-led gentrification and the changing geography of market-oriented housing policies. *Housing, Theory and Society, 34*(4), 399-419. doi: 10.1080/14036096.2016.1271825

Hsing, Y.-T. (2010). *The Great Urban Transformation: Politics and Property in China*. New York: Oxford University Press Inc.

Jacobs, J. (1961). *The death and life of great American cities*. New York: Random House.

Kearns, A., & Mason, P. (2013). Defining and Measuring Displacement: Is Relocation from Restructured Neighbourhoods Always Unwelcome and Disruptive? *Housing Studies, 28*(2), 177-204.

Kleinhans, R., & Bouma-Doff, W. V. d. L. (2008). On Priority and Progress: Forced Residential Relocation and Housing Chances in Haaglanden, the Netherlands. *Housing Studies, 23*(4), 565-587.

Kleinhans, R., & Kearns, A. (2013). Neighbourhood Restructuring and Residential Relocation: Towards a Balanced Perspective on Relocation Processes and Outcomes. *Housing Studies, 28*(2), 163-176.

Lees, L., Butler, T., & Bridge, G. (2012). Introduction: Gentrification, social mixing and mixed communities. In G. Bridge, T. Butler & L. Lees (Eds.), *Mixed communities: gentrification by stealth?* (pp. 1-14). Bristol, UK;Chicago, IL;: Policy Press.

Lees, L., Shin, H. B., & López Morales, E. (2016). *Planetary gentrification*. Bristol, UK: Polity Press.

Lees, L., Slater, T., & Wyly, E. K. (2010). *The Gentrification Reader*. Routledge.

Ley, D. (1986). Alternative Explanations for Inner-City Gentrification: A Canadian Assessment. *Annals of the Association of American Geographers, 76*(4), 521-535. doi: 10.1111/j.1467-8306.1986.tb00134.x

Ley, D. (2003). Artists, aestheticisation and the field of gentrification. *Urban Studies, 40*(12), 2527-2544. doi: 10.1080/0042098032000136192

Li, S.-M. (2005). Residential mobility and urban change in China. In L. J.C.Ma & F. Wu (Eds.), *Restructuring the Chinese City: Changing society, economy and space* (pp. 157-171). London and New York: Routledge.

Li, S.-M., Hou, Q., Chen, S., & Zhou, C. (2010). Work, home and market: The social transformation of housing space in Guangzhou, China. *Urban Geography, 31*(4), 434-452.

Li, S.-M., & Song, Y.-l. (2009). Redevelopment, displacement, housingn conditions and residential satisfaction: A study of Shanghai. *Environment and Planning A, 41*, 1090-1108.

Li, S.-m., & Zhu, Y. (2014). Residential mobility within Guangzhou city, China, 1990-2010: Local residents versus migrants. *Eurasian Geography and Economics, 55*(4), 313-332.

Li, S.-M., Zhu, Y., & Li, L. (2012). Community type, gateness and neighbourhood experiences: A study of Guangzhou, China. *Urban Geography, 33*(2), 237–255.

Li, X., Kleinhans, R., & van Ham, M. (2018). Shantytown redevelopment projects: State-led redevelopment of declining neighbourhoods under market transition in Shenyang, China. *Cities, 73*, 106-116. doi: https://doi.org/10.1016/j.cities.2017.10.016

Li, X., Kleinhans, R., & van Ham, M. (2019). Ambivalence in place attachment: the lived experiences of residents in danwei communities facing demolition in Shenyang, China. *Housing Studies, 34*(6), 997-1020. doi: 10.1080/02673037.2018.1509948

Lin, G. C. S. (2007). Reproducing spaces of chinese urbanisation: New city-based and land-centred urban transformation. *Urban Studies, 44*(9), 1827-1855. doi: Doi 10.1080/00420980701426673

Liu, C., Deng, Y., Song, W., & Gong, J. (2019). A comparison of the approaches for gentrification identification. *Cities, 95*. doi: 10.1016/j.cities.2019.102482

Liu, T. (2018). *The pattern and methods concerning the micro-renewal of the urban environment.* Paper presented at the The Learning Network on Sustainability.

Liu, Y., Wu, F., Liu, Y., & Li, Z. (2017). Changing Neighbourhood Cohesion under the Impact of Urban Redevelopment: A Case Study of Guangzhou, China. *Urban Geography, 38*(2), 266-290.

Liu, Y., Yue, W., Fan, P., Peng, Y., & Zhang, Z. (2016). Financing China's suburbanization: Capital accumulation through suburban land development in Hangzhou. *International Journal of Urban and Regional Research, 40*(6), 1112-1133. doi: 10.1111/1468-2427.12454

Logan, J. R., & Molotch, H. L. (1987). *Urban fortunes: the political economy of place.* Berkeley, CA: University of California Press.

Marcuse, P. (1986). Abandonment, gentrification, and displacement: the linkages in New York City. In N. Smith & P. Williams (Eds.), *Gentrification of the City* (Vol. 153−177, pp. 169-193). London: Unwin and Hyman.

Molotch, H. (1976). The City as a Growth Machine: Toward a Political Economy of Place. *American Journal of Sociology, 82*(2), 309-332.

Mösgen, A., Rosol, M., & Schipper, S. (2019). State-led gentrification in previously 'un-gentrifiable' areas: Examples from Vancouver/Canada and Frankfurt/Germany. *European Urban and Regional Studies, 26*(4), 419-433. doi: 10.1177/0969776418763010

Murie, A. (2016). *The right to buy?: selling off public and social housing* (1 ed.). Bristol, U.K: Policy Press.

Newman, K., & Wyly, E. K. (2006). The Right to Stay Put, Revisited: Gentrification and Resistance to Displacement in New York City. *Urban Studies, 43*(1), 23-57.

Peck, J., & Tickell, A. (2002). Neoliberalizing space. *Antipode, 34*(3), 380-404.

Posthumus, H., & Kleinhans, R. (2014). Choice widthin Limits: How the Institutional Context of Forced Relocation Affects Tenants' Housing Searches and Choice Strategies. *Journal of Housing and the Built Environment, 29*(1), 105-122.

Putnam, R. D., Leonardi, R., & Nanetti, R. (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton, N.J.: Princeton University Press.

Riger, S., & Lavrakas, P. J. (1981). Community ties: patterns of attachment and social interaction in urban neighborhoods. *American Journal of Community Psychology, 9*(1), 55-66.

Sassen, S. (1991). *The global city: New York, London, Tokyo*. Princeton, N.J: Princeton University Press.

Shaw, K. S., & Hagemans, I. W. (2015). Gentrification without displacement' and the consequent loss of place: The effects of class transition on low-income residents of secure housing in gentrifying areas. *International Journal of Urban and Regional Research, 39*(2), 323-341.

Smith, N. (1996). *The new urban frontier: gentrification and the revanchist city*. London;New York;: Routledge.

Smith, N. (2002). New globalism, new urbanism: Gentrification as global urban strategy. *Antipode, 34*(3), 427-450. doi: 10.1111/1467-8330.00249

Talen, E. (2002). The social goals of new urbanism. *Housing Policy Debate, 13*(1), 165-188.

Tomba, L. (2005). Residential space and collective interest formation in Beijing's housing disputes. *The China Quarterly*(184), 934-951.

Wu, F. (2004a). Intraurban residential relocation in Shanghai: modes and stratification. *Environment and Planning A, 36*, 7-25.

Wu, F. (2004b). Residential relocation under market-oriented redevelopment: the process and outcomes in urban China. *Geoforum, 35*(4), 453-470.

Wu, F. (2016). State dominance in urban redevelopment: Beyond gentrification in urban China. *Urban Affairs Review, 52*(5), 631-658.

Wu, F., & Phelps, N. A. (2011). (Post)suburban development and state entrepreneurialism in Beijing's outer suburbs. *Environment and Planning A, 43*(2), 410-430. doi: 10.1068/a43125

Yang, Q., & Zhou, M. (2018). Interpreting gentrification in Chengdu in the post-socialist transition of China: A sociocultural perspective. *Geoforum, 93*, 120-132. doi: 10.1016/j.geoforum.2018.05.014

Ye, C., Zhu, Y., Yang, J., & Fu, Q. (2018). Spatial equity in accessing secondary education: Evidence from a gravity-based model. *The Canadian Geographer/Le Géographe Canadien, 62*(4), 452-469.

Yip, N. M., & Forrest, R. (2002). Property owning democracies? Home owner corporations in Hong Kong. *Housing Studies, 17*(5), 703-720. doi: Doi 10.1080/0267303022000009763

Zhu, Y. (2014). Spatiality of China's market-oriented urbanism: The unequal right of rural migrants to city space. *Territory, Politics, Governance, 2*(2), 194-217.

Zhu, Y. (2015). Toward community engagement: Can the built environment help? Grassroots participation and communal space in Chinese urban communities. *Habitat International, 46*, 44-53.

Zhu, Y., Breitung, W., & Li, S.-M. (2012). The changing meaning of neighbourhood attachment in Chinese commodity housing estates: Evidence from Guangzhou. *Urban Studies, 49*(11), 2439-2457.

Zhu, Y., Fu, Q., & Ren, Q. (2014). Cross-city variations in housing outcomes in post-reform China: An analysis of 2005 micro census data. *Chinese Sociological Review, 46*(3), 26-54.