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A joint effort: Residents' Committee and sanitation governance practices in Shanghai's Lilong neighbourhoods

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Youcao Ren¹ , Yuhua Wang²  and Nannan Dong³

Abstract

This paper investigates China's ongoing urban sanitation transitions and how the related practices are codeveloped between local Residents' Committees and residents on the ground. China's recent state-initiated reforms to reconceptualise state-society relationships has led to the emerging significance of grassroots self-governing and participatory urban regimes. Within this framework, we use Shanghai as an atypical case to focus on its lilong neighbourhoods where dilapidated sanitation infrastructure, insufficient facilities and high population density and mobility render complexity to everyday sanitation governance. We conduct an in-depth study in three of inner Shanghai's lilong communities to dissect two key practices that support the municipal-initiated sanitation strategy. These are the everyday facilitation of public sanitation rules, and communications with regard to sanitation expectations. Our findings suggest that the nuanced interplay between the state, grassroots organisations and residents revolving around the transitioning sanitation provision vary depending on the design and implementation of local urban programmes. Sustainable sanitation governance requires considerations of the intersecting challenges derived from policies as well as the residents' diverse background.

Keywords

urban sanitation, Residents' Committee, urban governance, everyday practice

Introduction

The right to water and sanitation is recognised as fundamental to attaining all other human rights (United Nations, 2015). Besides the UN's Sustainable Development Goals 6 (SDG) that aims to provide water and sanitation access for all, the integrating nature of SDGs means that this goal has significant impact on other SDGs, including SDG5 (gender equality), SDG10 (reducing inequalities) and SDG11 (sustainable communities). In parallel to the SDGs, multiple other calls have further highlighted the necessity of leaving no one

¹School of Architecture and Landscape, The University of Sheffield, UK

²Business School, Manchester Metropolitan University, UK

³College of Architecture and Urban Planning, Tongji University, China

Corresponding author:

Youcao Ren, School of Architecture and Landscape, The University of Sheffield, Sheffield, S10 2TN, UK.

Email: youcao.ren@sheffield.ac.uk

behind. At the 26th UN Climate Change Conference of the Parties (COP26), governments around the world are called to work jointly in progressing climate resilient water, sanitation, and hygiene (WASH) for all (Andres et al., 2018; De Wit et al., 2024). The Intergovernmental Panel on Climate Change (IPCC) addresses the provision of sanitation services to all as among the most impactful measures for reducing climate change-related vulnerability (Dickin et al., 2020).

The recent decades have seen considerable efforts to improve the water and sanitation provision in the transitioning Global South. China's response to the SDG6 was consolidated by the *Healthy China 2030 Planning Outline* (Chinese: 健康中国2030规划纲要), which speaks for CPC's updated development strategy. The *Outline* indicates the following 15 years as 'an important period of strategic opportunity to promote the construction of a healthy China'. (Central Committee of the Communist Party of China and State Council, 2016). Institutionally, sanitation governance operates through a multi-tiered administrative system anchored by central ministries – principally the Ministry of Water Resources, the Ministry of Housing and Urban-Rural Development and the Ministry of Ecology and Environment – that define regulatory frameworks, quality standards, and strategic policies. Local governments subsequently adapt and implement these within city-level plans, often under conditions of resource constraint and fragmented authority (World Bank and Development Research Center of the State Council, 2018). Large-scale infrasystem governance has been marked by increasing institutional experimentation (Zhong, 2007), and has gradually diversified from a purely state-led model to a hybrid regime integrating public utilities, private operators and community-level participation. These experiments have been uneven and largely constrained by the overarching logic of state dominance (Cheng, 2018). In-depth understanding of local practices and outcomes are few.

Although the central government continues to retain its strong control, China's urban regime at local levels is shifting towards a participatory model following the transitions of its neoliberalism development mechanism and state-society relationships (Wu et al., 2025). Rapid demographic expansion and spatial restructuring since the 1990s generated a hybrid regime that combines administrative dominance with localised discretion and market-oriented experimentations (Cartier, 2015; Zhang and Peck, 2016). The formation of a nuanced state-society interaction that encourages local autonomy and diversity has become particularly evident in the recent decade (Wu, 2008), underscoring how China's urban governance has adapted to the contradictions of market transition while retaining the structural imprint of authoritarian coordination. Experimental, participatory neighbourhood governance that mobilises social participation (Wang et al., 2024) is increasingly considered an effective measure to sustain social satisfaction in response to the post-pandemic economic downturn.

In this paper, we explore everyday governance performed by the Residents' Committee (*juweihui*, Chinese: 居委会) that facilitate on-the-ground sanitation transitions within this urban framework. Specifically, we are interested in the committee-residents engagements that stemmed from the co-existing sanitation needs, challenges, and expectations. The Chinese cities consist of districts. Within each district, Street Offices (*jiedao*, or the subdistrict, Chinese: 街道) constitute the basic urban administrative agency and are assisted by Residents' Committees as the intermediary for policy implementation, community supervision and management (He, 2015; Tang, 2015). Whilst legally defined as autonomous bodies under the *Organic Law of Urban Residents' Committees*, the operations of Residents' Committees are fundamentally under the direct guidance of the Street Office. They serve as the primary interface between the state and urban residents at the most local level (Mok, 1988; Read, 2012). The Chinese community, or *shequ* (Chinese: 社区), commonly conveys characteristics of close social bonds, a common identity and neighbourliness, among others. Residents Committees are supposed to foster all these values, in addition to fulfilling their commitments to the social, political, administrative and policing duties entrusted to them by the state (Bing, 2012). Since its neoliberal turn in the post-reform era, the Chinese state expects Residents' Committees to enhance the responsiveness and efficiency of civic affair management (Nie et al., 2024; Tomba, 2014).

The Toilet Revolution (*cesuo geming*, Chinese: 厕所革命), China's ongoing government campaign that aims to upgrade urban public and rural sanitation, defines sanitation as a 'livelihood issue'. This has significantly extended the state's environmental modernisation agenda into the everyday realm in attempting to rebrand sanitation improvement as both a marker of civilisation and a mechanism of social governance. Infrastructure becomes an instrument of urban biopolitics (Bakker, 2013) that shapes citizens' bodily practices, neighbourhood management and the aesthetics of modernity. Whilst centralised sewage systems and water grids are readily integrated into master plans in China's new urban districts and large-scale developments, infrastructure in older urban neighbourhoods – commonly referred to as *lao jiu xiaoqu* (Chinese: 老旧小区) – is complex, fragmented and socially contentious. This renders the urgency of on-the-ground sanitation maintenance and renewal to supplement the limitation of centralised infrastructural planning and governance. Municipal capacity to enforce upgrades revolving around limited sewage capacities and sanitation access would largely depend on Residents Committee's grassroots intermediaries as they function to mediate between administrative mandates and residents' daily lives (Bray, 2005; Read, 2003). The relationship between urban sanitation governance – including the construction and management of sanitation infrastructure, the treatment of human excreta and information circulation – and the Residents' Committee, therefore, constitutes a crucial perspective for understanding how top-down sanitation governance unfolds at its local levels.

Based on evidence collected in Shanghai's three early 20th-century *lilong* neighbourhoods (lane houses, Chinese: 里弄), we demonstrate two practices that are key to community sanitation governance. These are the everyday negotiations that facilitate public sanitation rules, and communications revolving around the ongoing sanitation transitions. We suggest that the committees embody the hybrid and negotiated character of China's contemporary state-society urban governance, where infrastructural modernisation and community self-governance intersect at the most granular level of the city. The level of the Residents' Committee's intervention, however, varies depending on local urban policies and expectations. Revealing the hidden mechanisms of sanitation governance provides a broader relevance for cities' planning and implementing infrastructural transformation programmes within a participatory urban governance framework.

In the next section, we respond to the burgeoning debate on infrastructure, infra-making and everydayness. We posit community sanitation governance as everyday practices where histories, policies and dynamics between various local actors are interwoven. The second part of the article presents research methods and site selection. In-depth ethnographic studies on community sanitation governance in the inner Shanghai then follow. Our findings demonstrate a nuanced interplay between the state, the municipality, local Residents' Committees and the residents. We suggest that the increasing political and social significance attached to sanitation since the launch of the Toilet Revolution in 2015 has accelerated policy implementations on the ground. Rules and expectations revolve around sanitation manifest the collective imagination of the coming urban future. We argue that the sustainability of a participatory governance model requires the recognition of sanitation transition as lived and unfinished, and that the intersecting sanitation experiences on the ground always need to be attended to.

Approaching grassroots sanitation governance

Urban and geography research in recent decades urged an 'infrastructure turn' (Graham, 2010) in interrogating the complexity and situatedness behind infrastructural solutions to contemporary social problems. Recognising infrastructure as a multidimensional and lived phenomenon (Steele and Legacy, 2017), and that it is often makeshift, hybrid and performative on the ground (Caldeira, 2016), increasingly makes infrastructure the battlefield to accommodate collective conversations on urban futures. These discussions set the premise of infra-making as a critical perspective to examine the interconnected factors and systems that produce and reproduce infrastructure in varied urban contexts (Lancione and McFarlane, 2016). The discursive framing of urban infrastructure is critical to contemporary debates on urban justice and sustainability as

it foregrounds how infrastructural provision and governance manifest differently in plural environments. It enables reflections on the associated consequences and future implications of resource consumption, access and equity (Bulkeley et al., 2010).

To consider how infrastructure might be delivered in a more just way is to attend not only to its seemingly universal material configuration but also to the lively practices (Amin, 2014) that interact with its on-the-ground performativity. Through the continuous becoming of infrastructure, or ‘infrastructuring’, the importance of everyday practices and labour of urban residents in making the city work is evident (Graham and McFarlane, 2014). Shove (2015) proposes to foreground the multiple layering and co-existence of infrastructure and practices, and to approach infrastructures as material and institutional arrangements that allow social practices to emerge and reconfigure at various scales. For some, therefore, a shifted focus on ‘infra-making’ allows the meticulous unpacking of relations between material configurations and the forms of labour, atmospheres and affects that co-compose everyday experience. This extends ‘an invitation to examine what people do and how they do it’ (Lancione and McFarlane, 2016).

Aligning our exploration with these notions, we posit grassroots sanitation governance as an everyday practice that attends to the co-existing, unfinished infrastructure realities in China’s highly urbanised megacities. Investigation into how urban residents live with infrastructure fragility demonstrates failures and breakdowns, as rightfully argued, are beyond isolated incidents but the outcomes of a range of entangled events (Alda-Vidal et al., 2023). In Mumbai, publics materialise hydraulic citizenship that is incremental, intermittent and reversible through social practices of demanding and managing water infrastructure. Pipes become a critical lens through which the relations between the state, public and technics are examined (Anand, 2017). Huang and Yao’s recent work demonstrates toilets as an interface where China’s urban politics intersect with the seemingly silent marginalised tenants. Infrastructure experience manifests profound anxieties over urban rights. It is, however, also the device to capitalise on disadvantages in participating in the wider neoliberal urban transformation (Huang and Yao, 2023). These attempts remind us of infrastructural experiences as relational and embedded.

A burgeoning body of studies, including radical debates and ethnographic findings from southern urbanisms, have been conceptualising infrastructure as both political and biopolitical. The debates over critical infrastructure systems such as water supply and sanitation are considered debates over development, urbanisation and citizenship more generally (Bakker, 2013; Seppälä, 2002). The Chinese governance of large-scale urban infrastructure, including sanitation, water supply and waste treatment, has evolved as a central arena in which the state experiments with new forms of spatial management, multi-scalar coordination and socio-technical control. Whilst municipal governments remain responsible for the planning, construction and operation of infrastructure, they have increasingly become dependent on marketised financing mechanisms, public–private partnerships and land-based revenues to fund such projects (Cartier, 2015; Wu, 2022b). Scholars treat these infrastructures as sites where the state’s developmental logic, bureaucratic reconfiguration and grassroots mediation intersect (Hsing, 2010; Wu, 2022a; Wu and Zhang, 2024). We approach grassroots sanitation governance with this in mind, but meanwhile we adapt an ethnographic methodology to approach the otherwise silent, messy and ‘insignificant’ practices on the ground.

Methodology and site selection

This paper adopts an atypical case study approach (Flyvbjerg, 2006) to investigate Shanghai’s sanitation governance on the ground. The city’s extremely urbanised environment and prompt policy implementation accommodate the co-existence of varied sanitation infrastructure systems and programmes. Findings from Shanghai serve as a critical lens through which the otherwise obscure needs and challenges in sanitation transitions could be revealed.

To dissect how sanitation is (co)governed in the everyday, we conducted a total of six months of field study in three of Shanghai’s lilong neighbourhoods in late 2019 and 2021 respectively. This started with

observations of local sanitation programmes that operated under varied policy and socio-economic resources. Subsequently, semi-structured interviews were conducted with local residents and members of local Residents' Committees, in addition to two focus group sessions. Our questions predominately revolved around three aspects: first, sanitation policies and rules that affect local practices; second, community responsibilities and rights; and third, communications and interactions between residents and the Residents' Committees. All interviews were conducted in Mandarin or local dialect and later transcribed into English. They were subsequently analysed and coded using NVivo.

Through its neoliberal experiment with the active participation of private developers (Wu, 2003, 2015), Shanghai municipality's reliance on land-leasing revenues and the entrepreneurial pursuit of global city status has produced a redevelopment regime that was characterised by demolition and relocation (He, 2019; He and Wu, 2009). This has transformed vast swathes of pre-socialist housing and lilong neighbourhoods into high-rise residential and commercial zones. The demolition-led urban regeneration model reached its limits, however, when the availability of centrally located land diminished and the fiscal costs of displacement mounted (Shin, 2013). Rising compensation demands, persistent conflicts over relocation, and growing public resistance to demolition – particularly in long-established lilong neighbourhoods – rendered large-scale clearance increasingly unsustainable both politically and economically. The city's urban regeneration consequently shifted towards community-based renovation and infrastructural retrofitting that emphasised the improvement of in-situ living conditions rather than spatial replacement (Shih, 2017; Wang, 2020; Wang and Wu, 2019; Wu et al., 2022). This early- to mid-20th-century lilong housing is commonly characterised by deteriorating infrastructure and ageing populations that pose acute challenges for sanitation, accessibility and the wider spatial equity. Sanitation improvement constitutes a central component of this strategy.

In alignment with an ethical research agenda, as we have touched base on a range of sensitive topics including gender, income and sanitation practices, all participants have been anonymised to protect their personal information. We referred to the sites using code names. These are: Cheng Community (1920s), Qi Community (1920s) and Yu Community (1920s) (Figure 1). Qi and Yu Community would both be classified as typical 'new-style lilong' (*xinshi lilong*, Chinese: 新式里弄), which developed under the late 1920s' semi-colonial municipal governance. The two communities contained mid-density semi-detached and terraced houses that connected individual households to centralised water and sanitation supply. Local population density increased as the majority of the houses were divided either by floors or into smaller units to accommodate the influx of migrants. By the end of the 20th century, each dwelling would commonly contain multiple households, with indoor sanitation and water facilities being shared among them. Cheng community is a mixture of the 'old-style lilong' (*jiushi lilong*, Chinese: 旧式里弄) of the late Qing period and the new-style lilong, making it a hybridity that reflects the layered evolution of Shanghai's residential fabric where the imported terraced housing was first adapted to local brick-and-wood structures and narrow alleyways (Lü et al., 2001). Dwellings were developed with limited access to centralised sanitation and water systems, relying instead on communal taps, shared toilets and rudimentary drainage channels (Lu, 2004). Each terraced house averagely accommodates seven households (Xu and Tang, 2021).

Whilst all three sites are connected to municipal, centralised infrasytem to some extent, they demonstrate different extent of infrastructure incapacity due to infrastructural decay and uneven socio-economic resources. The three communities are representatives of lilong communities that are being put under the spotlight concerning municipal-led retrofitting and sanitation upgrading, although progresses differ. Previous studies in Beijing and Shanghai have addressed Residents' Committees' roles in organising collective clean-ups, monitoring public toilet maintenance, assisting in coordinating renovation funds, among others (Audin, 2015; Iossifova, 2015). In comparison, the mixture of long-term inhabitants, mostly local retirees, and transient populations in our studied areas continues to render the complexity of sanitation programme implementation. The Residents Committee theoretically has the function of defending the residents and their interests (Di, 2013). This largely translates to the maintenance and supervision of public infrastructure, as

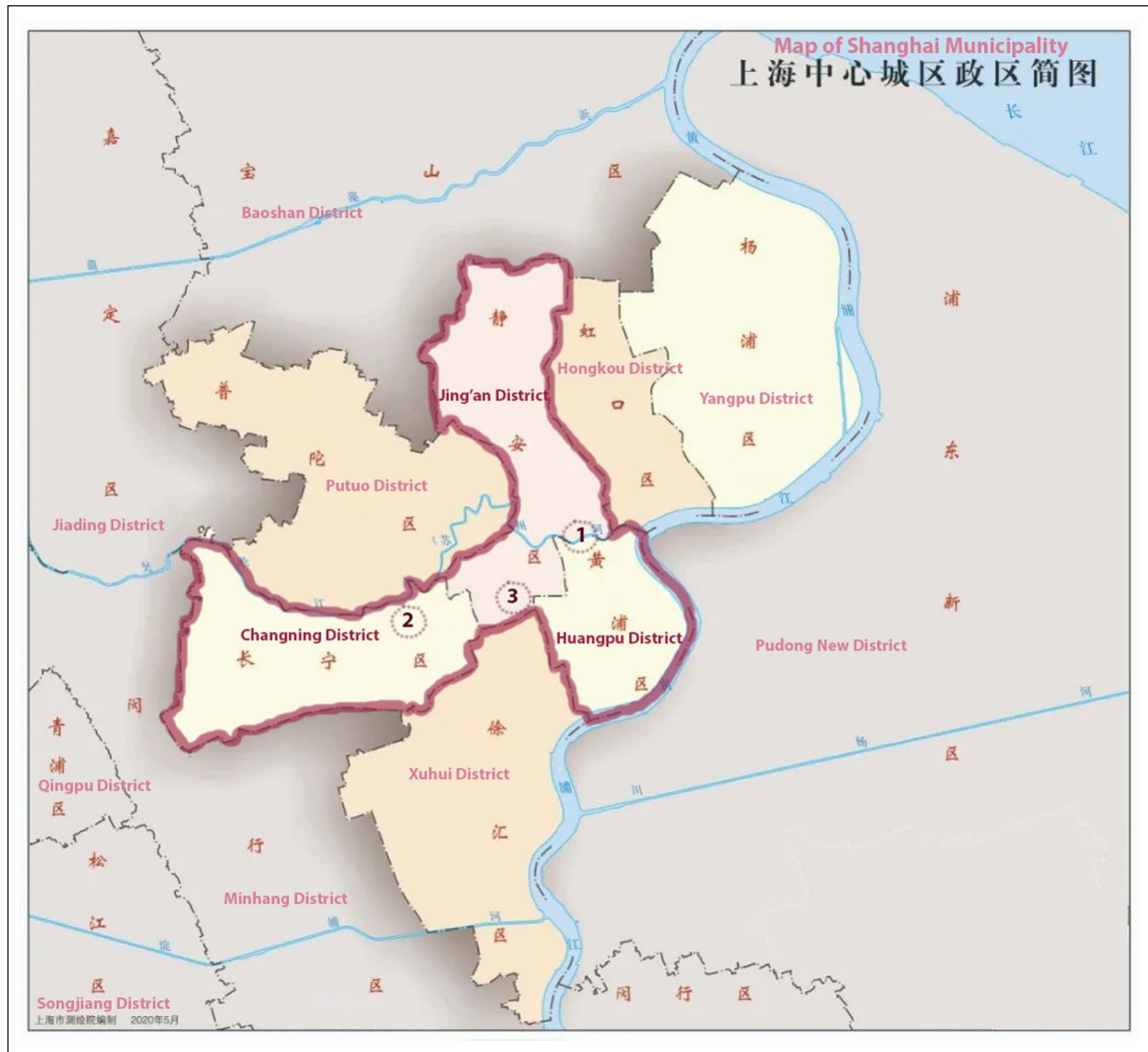


Figure 1. Map of inner Shanghai districts, with approximate locations of the visited lilong neighbourhoods highlighted: 1, Cheng Community; 2, Qi Community; 3, Yu Community. (Image: Adapted from Shanghai Municipality Map 2020, Shanghai Institute of Surveying and Mapping.)

well as to assisting the Street Office in implementing new programmes in light of the municipality's ongoing sanitation strategies. Additionally, factors related to age and length of residency, and the distinct hukou status, or the house registration that decides one's belonging and urban rights (Chan and Buckingham, 2008) form the core considerations in Residents' Committee's everyday sanitation governance.

Findings

Facilitate public rules

Following the decline of Shanghai's inner-city manufacturing sector since the 1990s, Cheng community has become home primarily to local retirees, many of whom had once been factory employees, and low- to



Figure 2. One of the three community excrement stations by the entrance of Cheng Community. (Image: The first author.)

middle-income migrant households engaged in informal or service-sector employment. During the past decades, the community remains one of the most popular destinations for migrant households due to its central location and affordability. In this specific community, sanitation transition is of considerable political and social importance as the site was visited by President Xi Jinping in 2007. Progress to regenerate the area has, however, been stagnant due to financial restraints. By 2021, two rows of houses within the community were rebuilt as a pilot retrofitting programme, yet the other hundreds of houses remained unchanged.

Dwellings in Cheng Community are designed without indoor sanitation facilities, with water pipes connected to combined sewage systems. Officially, sanitation practices would rely on night pot and community excrement stations (Figure 2) in addition to the nearby public toilets. Residents have to defecate into night pots, which are usually affordable red plastic buckets with a lid. A full night pot would then need to be carried to the community excrement station to be emptied. Residents either clean the night pot using the shared taps next to the excrement stations, or at home using the shared domestic facilities. The inadequate conditions pose chronic health and environmental challenges to all, but especially women, older people and migrants who have particularly limited socio-economic resources. Just as failures are expected in challenging contexts (Alda-Vidal et al., 2023), changes and transitions are also perceived as the norm. The Residents' Committee's role in fostering public rules is therefore particularly important.

Here, changing practices of community excrement stations are induced by different daily routines, age, cultures and familiarity to local infrastructure. Perceptions and understandings of sanitation norms are believed to have reflected differentiated identities, and most importantly, settlement status. Older residents tend to associate sanitation with community identities and values. For instance, the memories of the Patriotic Health Campaign (*Aiguo Weisheng Yundong*, Chinese: 爱国卫生运动, 1950s–1960s) that highlight cleanliness as an indicator of modernity and the nation's political strength have provided a social ground for collective actions towards sanitation. Although influences of the Patriotic Health Campaign in contemporary urban communities have drastically decreased, the Committees remain responsible for maintaining the communal environment. Mr Liang's family, for instance, has resided in the community for over six decades. Having lived experience of community clean-ups that used to be organised by the Committee, the family is among many native residents that repeatedly reach out to the Committee in the hope of effective mediations, despite current members of the Committee predominantly consisting of younger staff with limited connections to local histories. The Committee attends to disputes revolving around the everyday usage of public facilities as an important part of daily sanitation supervision. Whilst most measures are not administrative to align with their role as a grassroots organisation, active coordinations that ensure effective solutions are evident.



Figure 3. Mrs Ye's neighbour's half-completed bathroom is a manifesto of the emerging rules and regulations revolving around local sanitation governance. (Image: The first author.)

We frequently receive calls and complaints about blocked excrement stations, mostly from older residents. We signpost any related requests to the cleaners. Visits to the sites to remind those who don't care for the facilities are not uncommon either. (Interview with Residents' Committee representative, Cheng Community)

These approaches taken by the Committee cautiously intervene on issues directly relevant to the 'public' sphere. The complex local conditions in Cheng Community, however, reinforce sanitation as a matter that implicates both public and domestic issues. Mrs Ye, from the corner of the road, a decade-long resident native to Shanghai, was able to improvise household sanitation using the space between her house and the adjacent road. Her bathroom is developed as a small outbuilding that contains a flush toilet as well as a compact shower space. The building also contains space for cooking. The family was able to connect the flush toilet and shower to the combined sewage system by the road. To Mrs Ye, the completion of the toilet improves her living standard by ending the decades-long practice of using and carrying the night pot. They were considered fortunate as the construction was completed before the Residents' Committee had passed formal prohibition from the municipality in order to maintain a satisfactory community appearance. During our fieldwork, this seemed to be a rare case where the Committee liaised directly with administrative departments for a strong strategy implementation. It serves, however, as a clear demonstration of the Committee's role in fostering municipal regulations and policies. The neighbour's half-built toilet was thereafter used as a storage (Figure 3). Over time, the building reminds residents to plan their sanitation actions carefully. Mrs Ye explained:

We connected the pipes to the municipal pipes underneath this road because those pipes are thick enough to guarantee a good flow. It was many years ago when these things were still allowed. For that household over there, their construction was stopped by the Residents' Committee. . . . After their case, people could only build indoor toilets. (Ye, 76)

The interplay between public rules and norms, and often what is considered *public*, forms a constant dynamic that accommodates subtle tensions between the Committee and residents. Whilst local households are generally active in negotiating with the Committee, as the need for adequate sanitation access is naturally associated with health and basic welfare, direct committee-residents negotiations are far less frequent among migrant households. As most migrants have to engage with long-hour work commitments, the Committee largely relies on community volunteers, who are often from migrant backgrounds themselves, to convey rules and information. Over time, this has developed implicit communications between the Committee and migrant residents.

We rely on the volunteers to send out information. It is easier to communicate things less officially with the newcomers as most of them are not at home during the daytime. (Interview with Residents' Committee representative, Cheng Community)

I have two shifts a day, that's 12 hours in total. I use the excrement station twice a day at the most. Whatever the Residents' Committee advises (would be fine). Speaking for myself, it's really not worth the fuss (to make communications). (Mr Wei, 33)

Residents' understandings of appropriate sanitation, whether native or migrants, are, however, not always divided. Expectations of appropriate public rules could also be co-defined or aligned for the same interests. Emptying night pots or disposing waste by roadside gutters, for instance, is widely considered a lack of etiquette. Whilst migrant households rarely speak up about sanitation issues in an open manner, intriguing responses from them were observed. For instance, strong signs are put up on the walls of where the roadside pipes converge to remind people that inappropriate sanitation practices are not welcome (Figure 4). These actions have been predominantly resident-led, with a subtle interaction with the Committee present. Ms Lu, who arrived in the community two years ago for work, explained the way that migrants skillfully negotiated rules with the Committee: the volunteers of the Committee who patrol the area have always tolerated the signs' existence. With the subtle permission in place, it is understood that the residents obtain a certain level of autonomy in voicing and promoting community values. In these cases, the Committee's involvement in facilitating rule-making is considered passive, yet remains present.

Communicate sanitation expectations

Both Qi and Yu Community have kept their original morphology and infrastructural systems under contemporary western-impacted planning. The quiet neighbourhoods sit within the historic territory of Shanghai's International Settlement (Autonomous British and American territories in inner Shanghai, 1863–1943), and are surrounded by Shanghai's enchanting touristic streets, which have been widely considered as an indication for westernised lifestyle since the late modern era. Life without individual toilets is, however, the diametric opposite of this. Residents of the two communities consist of local retirees and young to middle-aged tenants of freelancers, independent business owners and nearby employees.

Resonating with local land prices and historical background, current regeneration strategy for the two communities moves away from the demolition-relocation model that offers technocratically managed infrastructural modernity to encourage micro-regeneration approaches. Since the late 2010s, the Shanghai Municipal Government has pursued a systematic renewal strategy targeting old urban neighbourhoods, with the dense, pre-1949 residential communities that historically lacked individual indoor sanitation and piped



Figure 4. ‘NO LITTERING’. Volunteers of the Residents’ Committee allowed the presence of strong signs that demand appropriate hygiene and sanitation practices. (Image: The first author.)

water being the main focus. Subdistricts especially give attention to house retrofitting as part of the local livelihood programme and highlight sanitation as a critical affair that urges the development of individual toilets. Central to this effort is the ‘one square metre toilet’ (*yi pingmi cesuo*, Chinese: 一平米厕所) programme, launched in 2018 to retrofit shared or outdoor sanitation facilities into compact, indoor bathrooms within each household. Fiscal support to these programmes may vary depending on district planning and urgency for regeneration. In both communities visited, sanitation upgrading is identified as an essential livelihood programme and is funded through district and municipality revenue.

These intended upgrades exemplify the hybrid governance of contemporary Shanghai – technocratically planned, yet reliant on community negotiation and resident consent. Versatile policy implementation has facilitated the emergence of a ‘one size does not fit all’ approach that encourages improvisations with regard to how sanitation facilities could potentially be provided, and in what format (Ren et al., 2022). Specifically, all individual toilet developments require household consents. Whilst the overarching regeneration plan is issued by the Street Office and municipal housing bureau, programme implementation would rely on finessed on-the-ground coordinations carried out by the local Residents’ Committees. The committees are obligated to respond to new demands and injunctions from the municipality as they have been placed under the direction of the Street Office. In the meanwhile, they are confronted with expectations on the part of community residents (Di, 2013). A range of issues in relation to sanitation proposals, most of which directly related to critical livelihoods, are therefore central to Committee-residents communications in order to proceed with household consents. These include limited floor areas for sanitation renovation, potential damages to house

structures and concerns revolving around future housing schemes. Additionally, the increased renting costs after sanitation renovation triggers constant concerns among tenants.

For Residents' Committees in Qi and Yu communities, conversations with long-term residents who perceive individual toilets as both an infrastructural and ideological marker of urban modernity provide opportunities for potential interventions.

We do not decide the can's and cant's, we follow the Street Office's guidance. But on the ground, do we try nudging localised strategies and approaches? We certainly do. I suppose our edge is that we know absolutely everyone – their needs, complaints, concerns, everything. A lot of things here could only be made possible when there are connections and trust. (Ms. Hu, Residents' Committee, Qi Community)

Mrs Ji From the Qi Community is one of many residents that entrusted the Committee to proceed with sanitation programmes. For her, mundane requirements accommodated by the Committee indicate the possibility of some kind of consistency being guaranteed in the process of transitioning.

They arrange things for us. What I appreciated the most is that they would always make sure the septic tanks are emptied before the Chinese New Year. This is a bit of tradition within our community, and we have made sure the committee respected that. (Mrs Ji, 63)

Like Mrs Ji, residents in Qi Community commonly communicate their expectations through the Committee in the hope that these will be incorporated in day-to-day management, despite the fact that the Committee bears no administrative authority. This is critical to sustain the ground for any conversations. The communication process serves to unpack, translate and discuss the context of sanitation retrofitting, affirming the Committee's role as a local proxy of the bureaucracy. In this sense, the state and its centralised policies are far away in the everyday context, yet the Committee is reachable.

An instance of the Committee's pivotal role to facilitate conversations towards retrofitting is demonstrated by Yu Community's micro-regeneration programme. Although the majority of the residents here have access to shared indoor facilities, approximately 120 residents' everyday sanitation practices were supported by a public toilet by the entrance of the lane – a facility considered also as the vivid representation of local struggles. In 2017, the Residents' Committee acquired an outbuilding not far from the community from a local institute. The acquisition was made possible through the coordination of the Street Office. This has subsequently allowed the development of 39 individual toilets for household usage (Figure 5). The toilets are of identical size of 1.2×0.9 metres, with 38 of these distributed to local households respectively and one being a shared toilet in case of emergency. Each contains a flush toilet, and often could be used as a limited storage space at the same time (Figure 6).

Mrs Qin was one of the representatives that negotiated the development plan with the Committee. Her household contains four generations. The family's complex sanitation needs were communicated to the Committee as a simple request of a toilet door. The persistent struggles triggered by inadequate sanitation means that any transitions could potentially generate noticeable impact. As a result, collective discussions towards future sanitation often reveal lilong residents' awareness of their living environment and identities. Mrs Qion's request was later reflected in the delivered programme – each newly developed toilet is equipped with a key that is assigned to the owner household. Although it is difficult to conclude that the design was directly informed by residents, the Committee has included the case into all subsequent communications.

Forty years I have been living here. Forty years I have been queuing outside of that public toilet. . . . (When the sanitation programme was first being proposed), we told the Committee we just wanted a toilet that could lock the door. The door is not for privacy. It is for ownership. (Mrs Qin, 64)

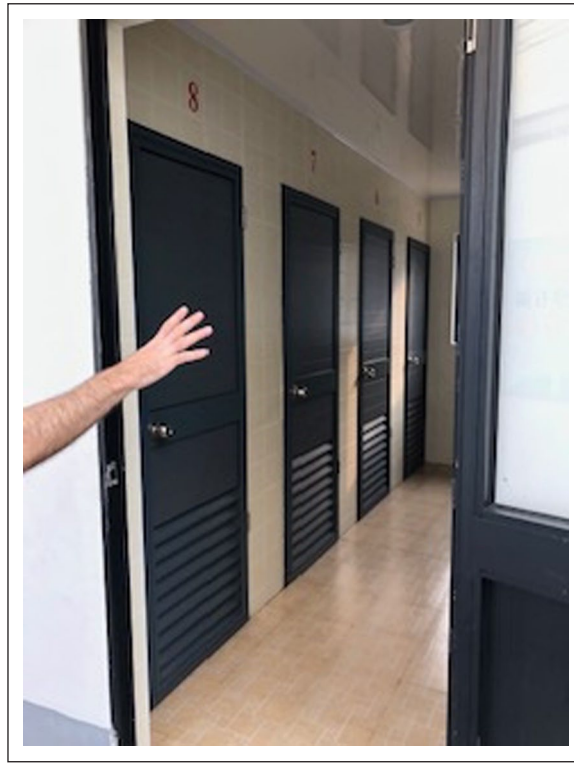


Figure 5. An acquired outbuilding has allowed Yu Community to develop 39 individual toilets to provide to the residents. (Image: The first author.)

It is easy on the paper, of course. You would think everyone wants a toilet – especially a free one, the residents don't have to pay. In reality, however, you can't just approach someone and say they will have a toilet installed by their dining table. It simply won't work. Policy tells you the expected outcomes. Yet they can't tell you how to achieve that, can they? (Ms Gao, Residents' Committee, Yu Community)

The increasing number of sanitation programmes reflects the municipality's commitment to practise post-2010 urban regeneration strategy that minimise chances of large-scale demolition and relocation. For many, sanitation transitions and policy implementation potentially determine where one eventually settles. Discussions of sanitation programmes constitute the ongoing visioning of urban homes. The Committee's duties on sanitation, therefore, always indicate something much more significant. A considerable number of long-term residents in Qi Community consented to sanitation upgrading, partially as an implicit expression of their rejection to relocation. For them, this is to grasp the opportunity:

I would never move. Everything is within a stone throw, where could you be better located? We were reassured that once households are offered new toilets, there wouldn't be any discussions about demolition. They (the Residents' Committee) hold this information accountable. (Mr Qi, 72)

For others, changes to sanitation imply a persistent underlying insecurity as urban residents, and what will potentially be offered as new residency. Through this lens, residents position themselves within the city's changing urban strategies. Communications of sanitation upgrading led by the Committee as a bureaucracy proxy often carry uncertainties, as these are widely perceived as indications of the municipality's coming



Figure 6. Improvisations of space usage within a 1.2×0.9 metres toilet by Mrs Qin. (Image: The first author.)

housing strategy. The progress of sanitation programmes often urges residents to adjust their expectations of the future: the promise of providing a new toilet often hints at the faded possibility of demolition, which was historically considered an opportunity for a newer, larger residency, although often in less desired locations. On the other hand, rent increases after the completion of sanitation programmes would be considerable for tenants, ranging often from a few hundred to a thousand Chinese yuan a month. This constitutes the primary reason for relocation, particularly among young to middle-aged migrants that engage with light labour works. The associated implications to the local labour market as a result of sanitation upgrading are yet to be fully understood.

The government has recently retrofitted some houses in the community to add in individual kitchens and toilets. That means those houses will not get demolished. For better or for worse, they stay put. We are a different story. Things are hanging in the air for us. . . . The Residents Committee does not make us promises. (Mrs Jiang, 64)

Once the homes are retrofitted, the landlord will raise the rent. I'm hoping these houses here stay how they are so we could continue to afford living here. Otherwise, we will have to move. I don't know where though, maybe somewhere further, maybe another city. (Mr Chen, 23)

Discussion

Whilst the politically significant Toilet Revolution and urban livelihood schemes highlight in-situ infrastructural upgrading, current studies largely focus on policy making, planning and design protocol code, and

fiscal strategy. Few are able to explore grassroots governance despite the increasing expectation of their contributions in day-to-day urban governance. In lilong neighbourhoods, Residents' Committees work as a local proxy to situate and communicate the otherwise ambiguous sanitation policies, expectations and needs. Our investigations particularly focus on the grounded approaches fostered by the Committees that respond to local conditions. These involve infrastructure systems, facilities and the entangling social needs in Shanghai's complex urban environment. In practice, Residents' Committees in all three neighbourhoods are endowed with quasi-administrative responsibilities, particularly in the domains of infrastructure maintenance and the communications of coming retrofitting programmes. While the central state maintains its strong control, the involvement of Residents' Committees is introducing a layer of local agency that is expected to enhance the adaptability of urban governance. This fits with China's intended participatory urban governance framework. The Committees' intimate knowledge of their communities generates nuanced responses and tailored interventions.

Negotiating public rules and norms that fit with local contexts remains one of the Residents' Committee's key responsibilities. In Shanghai's transforming lilong, sanitation actions recognise the persistent infrastructural inadequacy, and are increasingly shaped by the residents' intersecting identities. Factors of age and length of residency, as well as the distinct hukou status, shape the residents' varying sanitation practices. In Cheng Community, the Committee takes cautious approaches to focus on the coordination of public activities and rules. Older residents who are native to the community tend to take local histories, policies, and urban rights as references for rule negotiations. In comparison, migrant residents vocalise their needs and preferences subtly. It is, however, not rare that interests and actions are aligned among the residents, and these have been tolerated by the Committee in everyday governance. Through this, the complex infrastructural needs are recognised, although often only to a limited extent.

For lilong residents, sanitation programmes are widely perceived as an indication of the city's wider urban strategy. In urban neighbourhoods where progress has been rapid and large-scale, this affirms the critical role of Residents' Committees in facilitating conversations as they are considered as an extension of bureaucracy. The intention to retrofit local infrastructure demonstrates the municipality's determination to practise in-situ regeneration. Potential outcomes are closely associated with livelihood and modernity in official narratives. On the other hand, residents' discussions revolve around sanitation manifest the constant hope, co-imagining, as well as concerns of the coming urban future. The persistent anxiety of housing through the infrapolitics of toilets (Huang and Yao, 2023) is manifested as a sense of uncertainty. In the context of transforming lilong, in particular, the engagement with Residents' Committee-led sanitation discourse encourages the residents to either grasp opportunities to probe municipality strategy, or to adjust their expectations.

Conclusion

China's post-growth era marks the transition from its previous accumulation-through-displacement approach to a collaborative urban regime. The contemporary Chinese sanitation transition at local levels reveals the state's evolving logic of urban governance in response to the changing development mechanism, that is, imperatives of social stability and urban conservation. The secondary role of grassroots organisations from the early socialist to post-reform era has shifted (Shieh and Friedmann, 2008) to foster policy implementation at neighbourhood levels. Despite its capacity and perceptions varying across different institutional and political periods, the evolving roles of Residents' Committees reflect the adaptability of China's governance structures in addressing the challenges of its rapid urbanisation.

Our study experiments with an in-depth investigation of community sanitation rules and expectations, including those relevant to the Toilet Revolution. This is of significance in old urban neighbourhoods where dilapidated infrastructure, insufficient sanitation facilities and high population density render daily urban management especially complex. We suggest that everyday urban sanitation governance increasingly relies

on the on-the-ground collaborations that the Committees coordinate at the most local level. In this capacity, the committees are observed to translate state directives into grounded plans that respond to specific community contexts. The level of support and intervention that the Committees could provide, however, largely depends on the broader municipal strategy.

Interactions with the Committees provide residents with a possible channel to participate in local sanitation programmes. Negotiations revolve around rules, norms and expectations of appropriate urban sanitation provide opportunities to explore tailored solutions and interventions. Despite the nature of these committees as autonomous self-governing bodies that have limited administrative authority and financial capacity, these interactions presents noticeable importance in sustaining the intended infrastructural outcomes. In the meanwhile, the unequal access to negotiate for sanitation rights due to uneven community resources and intersecting residents' identities remains clear. Wider participation in urban sanitation transition is yet to be achieved in the ambitious Toilet Revolution and beyond.

Within this context, grassroots interventions performed through Residents' Committees reveals both the strength and fragility of its contemporary urban regime (Wu and Zhang, 2022) – strong in its reach, yet reliant on localised voluntarism and negotiations. In this sense, sanitation infrastructures are deeply political assemblages that reveal how the Chinese state carefully restructures its urban governance framework in light of a changed development model. Our exploration speaks to the notion of infra-bio-urbanism (Huang and Yao, 2023) as well as southern discourse that focuses on the interactions between infrastructure, urban governance, and biopolitics (Bakker, 2013). Conversations on China's urban sanitation, we argue, not only serve as a carrier of both the state's will and residents' everlasting expectations but also narrate a collective imagination of the changing urban futures. Policy and design need to address the joint effort that recreates day-to-day infrastructural experiences, in order to consider how the fundamental needs for sanitation equality and wellbeing could be further incorporated in advancing a just urban discourse.

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ORCID iDs

Youcao Ren  <https://orcid.org/0000-0003-2625-4984>

Yuhua Wang  <https://orcid.org/0000-0003-2089-039X>

Ethical considerations

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Consent to participate

All participants provided written informed consent prior to their participation in the study.

Consent for publication

Informed consent for publication was obtained from all participants involved in the study, including their agreement to share anonymised data and findings.

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Author biographies

Youcao Ren is a Lecturer in Urban Design at the University of Sheffield. She holds a Ph.D. in Landscape Architecture from the University of Sheffield. Her research focuses on sustainable urban transformation in the Global South and East in response to UN Sustainable Development Goals. Her work has been published in *URBAN DESIGN International*, *Architecture and Culture*, *Architecture*, among others. Her recent ethnographic research examines everyday sanitation and water practices through an intersectionality lens, with a particular focus on understanding and (re)interpreting infrastructural informality.

Yuhua Wang is a Lecturer in Information Systems at Manchester Metropolitan University. She holds a Ph.D. in Information Studies from the University of Sheffield. Her research examines the digitalisation of everyday life and its social, cultural, ethical, and technical dimensions. Her work explores everyday practices, informal learning, sustainable digital engagement, and resilience in community-led initiatives for social and digital inclusion. Her research has been published in *International Journal of Human-Computer Studies*.

Nannan Dong holds a PhD in Engineering from the Department of Urban and Landscape Planning at the University of Kassel, Germany. He is an Associate Professor and Doctoral Supervisor in the Department of Landscape Architecture, College of Architecture and Urban Planning, Tongji University, and the Executive Deputy Director of the Sino-German Joint Research Center for Sustainable Cities. He is also an international consultant expert for the Urban Climate Future Lab (UCFL) in Lower Saxony, Germany, and an editorial board member of the Royal Institute of British Architects' Journal of Architecture.