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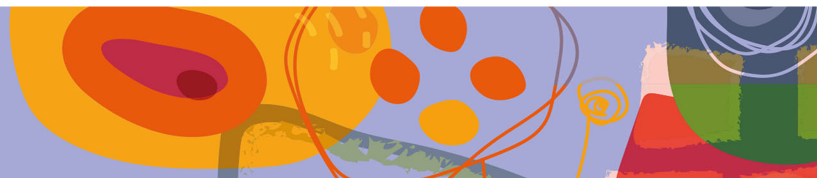

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Towards resilient neighbourhood governance: social tensions in Shanghai's gated communities before and during the pandemic

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Great attention has recently been drawn to the discussion of the resilience of neighbourhood governance as part of the response to threats such as pandemics and climate change. This article conceptualises resilient neighbourhood governance by highlighting the importance of the historical development of collaborative governance in the response mechanism during crises. The social tensions in three typical gated communities in Shanghai before and during the pandemic were empirically investigated through an event system analysis, and the findings suggest that a counterbalance game is co-played by the stakeholders within the triangular state–market–society structure in neighbourhood governance. Whereas state power, represented by the street office and residential committee, held a dominant position in the monitoring of nonstate organisations and mitigated conflicts between society and the market, civic participation, which was less conspicuous in daily management, played a substantial role in maintaining basic order and the supply of life necessities during COVID-19. The market functioned by providing professional services and transmitting information between residents and local governmental agencies. This study helps policymakers, community managers, urban planners, and urban studies researchers to form a more thorough understanding of the resilience of neighbourhood governance in both everyday life and during crisis management.

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Introduction

In the past few decades, urban neighbourhoods around the world have been experiencing a conversion towards privatisation, usually in the form of gated communities or planned neighbourhoods (Blakely and Snyder, 1997; McGuirk and Dowling, 2011; Wu and Zhang, 2022). In Western societies, the prevalence of gated communities is commonly regarded as a result of neoliberal urbanisation (Harvey, 1989) or suburban neoliberalism in more recent years (Peck, 2011). In China, however, the neoliberal approach seemingly does not explain the governance mechanism of gated communities (Wu and Zhang, 2022). Private governance and civic participation in Chinese gated communities are somewhat hypoplastic and may not function similarly to those in Western countries, where the market and citizenship are more influential (Fu and Lin, 2014). Instead, scholars have highlighted the important role of the state (i.e., both local and central governments) in almost every aspect of the development and management of the gated communities in China (Huang, 2006; Lu et al., 2020; Read, 2012; Wu, 2018; Wang and Clarke, 2021; Wu and Zhang, 2022). Unlike the dualistic state–market or state–society relationships common in Western urban governance, Chinese gated communities operate within a more complicated triangular structure of the state–market–society relationship (He and Lin, 2015).

In examining the response to the COVID-19 pandemic, considerable attention has been paid to the neighbourhood-level collaboration of different actors in the gated communities in China (Mei, 2020; Cheng et al., 2020; Liu et al., 2021; Li et al., 2022; He and Zhang, 2022). The state-centred governance system, which incorporates multilevel government and local agents, such as street offices (SOs) and residential committees (RCs), is commonly believed to have played an essential role in the timely response to the COVID-19 outbreak in China (Shaw et al., 2020; He and Zhang, 2022). Notably, this top-down governance system received support and coordination from grassroots social groups as well as private and nonprofit organisations to maintain basic order and access to supplies during the lockdown and quarantine periods (Liu et al., 2021; Li et al., 2022). However, increasing social tensions and complaints from urban residents were experienced during the peak of the COVID-19 pandemic in China (Jin et al., 2022; Kefala, Lan, 2022). Existing and forthcoming studies were then directed towards the pressing but relatively underexplored theme of the resilient governance of gated communities in China and elsewhere related to the uncertainty created by climate change, geopolitical conflicts, economic crises, and public health emergencies in today's world.

Resilience is a concept that has long been developed in ecological studies (Holling, 1973), and it has been widely adopted in social and management studies (King, 1995; Adger, 2000; Folke, 2006; Sanchez et al., 2018; Fahlberg et al., 2020). Resilience refers to the capacity of a system to absorb disturbances and reorganize as it undergoes change while retaining essentially the same functions, structure, identity, and feedback systems (Walker et al., 2004). Based on this perspective, we explored the resilient governance mechanism of gated communities in China when faced with both daily disturbances and sudden shocks (e.g., COVID-19) by tracing their collective responses and interactions, referring specifically to social tensions and conflicts.

The novelty of this study is twofold. First, unlike former studies, in which researchers have tended to separate neighbourhood governance in crisis periods from governance during everyday life before the pandemic, we viewed the responses of gated communities during the pandemic as part of the response mechanisms of the system established before the crisis. COVID-19 presented a serious challenge to the adaptive capacity of gated communities in China, but it also provided an opportunity for scholars to rethink the role of different actors in the state–market–society triad and to retest the resilience of state-centred neighbourhood governance by comparing its original performance with its performance before the pandemic. Second, we particularly focused on the social disputes that arise during everyday governance and the crisis management of gated communities in China. Existing studies of this kind have, in general, been concerned with collaboration behaviours (positive feedback) during crisis management, and may thus ignore the negative feedback of the system. This negative feedback is valuable when identifying the weaknesses and vulnerability of a system, as it makes it possible to fix the unstable factors in the adaptive system (Folke et al., 2005; Rodriguez-Gonzalez et al., 2020).

The rest of the paper is organised as follows: In the second section, we address the concept of resilience and its importance in discussing the governance of gated communities in the context of China. The methodology is introduced in the third section, along with a description of the data collection procedure. In the fourth section, the event system analysis of three typical gated communities in Shanghai is presented by tracing the social disputes in both the pre-pandemic and pandemic periods. The paper ends with a conclusion and some reflections on a future research agenda.

Resilient neighbourhood governance in urban China

The recent literature from various disciplines has considered the concept of resilience but without clarifying its definition or context in most cases. This has largely been due to the complexity and vagueness of the term, which bears varied meanings in different subjects and has changed in scale over space and time (Sanchez et al., 2018). The several typical usages of the term "resilience" include ecological (Holling, 1973), engineering (Pimm, 1991; Holling, 1996), socioecological (Folke, 2006; Walker et al., 2004), and physiological (Sanchez et al., 2018) resilience. Among them, socioecological resilience refers to the self-reorganisation and recovery capacity after a shock while preserving essential functions, structures, identity, and feedback (Folke, 2006; Walker et al., 2004). As an extension of socioecological resilience, Adger (2000) defined social resilience as the ability of human communities to withstand external shocks to their social infrastructure, such as environmental variability or social, economic, and political upheaval. We followed this definition of social resilience and contextualised it within the specific setting of gated communities in urban China.

Social resilience in neighbourhood governance. According to Adger (2000), a variety of factors may affect the social resilience of human communities, including shared resources (e.g., local natural resources), legitimacy, social capital, social stability (e.g., crime rate), social exclusion (e.g., displacement), and local knowledge. Among them, social capital is regarded as a key determinant because it can help with distributing resources, such as supplies, financial assistance, and information; and organise different social actors in the face of all types of disturbances (Aldrich 2012; Elliott et al. 2010; Lin et al., 2017; Fahlberg et al., 2020). Social resilience is thus institutionally determined, which means that in the context of communities (e.g., in the state-owned or private form and centralised or decentralised structure), whether it is socially cohesive is important in determining a community's ability to adapt and reorganise. Social resilience is also a scale-sensitive concept, which implies that its substance varies across different levels of entities, from individuals to local communities and to international organisations. Commonly, the family and neighbourhood are regarded as the most important

components in the response to external changes or the occurrence of disasters (Hawkins and Maurer, 2010; Fahlberg et al., 2020). However, the role of the neighbourhood in responding to all kinds of disasters has so far been largely ignored in the recent literature, which leaves an underexplored issue on how different types of neighbourhoods as socially structured communities cope with emergencies with respect to their response mechanism in both pre-disaster and recovery periods (Aldrich, 2012; Vallance and Carlton, 2015).

Currently, two noteworthy strategies have been proposed in prior studies to enhance the social resilience of communities, namely, adaptive co-management and collaborative governance (Folke, 2006; Ansell & Gash, 2008). Adaptive co-management is widely used in environmental management and refers to the effort to establish vertical and horizontal connections for collective learning and self-organisation within the actors in complex management systems (Folke et al., 2005; Laplaza et al., 2017). According to Folke et al. (2005, P448), “adaptive co-management is a process by which institutional arrangements and ecological knowledge are tested and revised in a dynamic, ongoing, self-organised process of learning by doing”. Adaptive co-management systems can be featured by several characteristics. First, they are highly dependent on a flexible structure composed of multilevel entities from grassroots social groups to formal, institutionalised national or international organisations. Notably, the stakeholders in adaptive co-management systems are flexibly organised: too much centralisation or decentralisation may reduce their efficiency in responding to disruptive changes (Steel & Weber, 2001; Young & Tanner, 2022). Second, the collaboration of multiple levels of actors is fundamentally driven by the social networks created in the communities, in which mutual trust and reciprocal relationships play an important role in bridging different stakeholders and relieving tensions (Pretty, 2003; Newman & Dale, 2005; Aldrich, 2012). Third, the presence of key individuals as strong leaders is essential to shape changes and capture opportunities to reorganise in the crisis. Leadership is important to achieve adaptive governance because these people can gather various social resources and create new paths for communities (Leach & Pelkey, 2001; Ernst & Fuchs, 2022). Lastly, the knowledge and social memory from history or other communities can help in dealing with problems once they occur. Thus, resources to efficiently mobilise existing knowledge and experiences are indispensable in adaptive co-management systems (Folke et al., 2005).

As a parallel term to adaptive co-management, collaborative governance has been frequently mentioned in the field of public administration. It refers to “a governing arrangement where one or more public agencies directly engage nonstate stakeholders in a collective decision-making process that is formal, consensus-oriented, and deliberative and that aims to make or implement public policy or manage public programmes or assets” (Ansell & Gash, 2008). Although collaborative governance is not specifically focused on environmental and crisis management, collaborative governance is widely thought to be a critical approach to dealing with public crises in coordinating the actions of state and nonstate agencies (Liu et al., 2021; Russell et al., 2021; Li et al., 2022). Thus, many commonalities exist between adaptive co-management and collaborative governance, and both are important to conceptualise resilient neighbourhood governance. Above all, both terms stress the cooperation and collective participation between different stakeholders from multiple levels of agencies, and a flexible structure consisting of public–private partnerships is important to implement these strategies (Alexander et al., 2003; Zhang et al., 2023). Moreover, both strategies recognise the importance of social capital, mutual-trust relationships, and leadership in the successful implementation of responses to the common problems faced by communities (Folke et al., 2005; Ansell & Gash, 2008). Finally, shared understanding based on collective learning or memory is regarded as the key factor to both strategies because it helps with (re)organising communities and reaching partial consensus or intermediate outcomes through processive negotiations (Huang et al., 2021; Cao et al., 2023).

Based on the above understanding of social resilience and the strategies with which it is achieved, we propose that resilient neighbourhood governance is not only an approach to cope with emergency issues, such as natural disasters and social, economic, or political upheaval (disruptive shocks), but is also a governing arrangement formed in the everyday practice of public affairs (gradual disturbances). The key factors required to implement resilient neighbourhood governance are (1) a flexible structure consisting of both state and nonstate agencies and organisations across different sectors, (2) intensive social capital based on the mutual trust and reciprocal relationships formed through previous cooperation, (3) the presence of key individuals as strong leaders to coordinate various stakeholders, and (4) a shared understanding or memory that can facilitate the process of negotiation and decision-making. Specifically, regarding the COVID-19 crisis, the key to forming resilient neighbourhood governance lies in whether collaborations between public and private agencies and mutually supportive behaviours between community members are increasing to mitigate external shocks such as forced quarantine and shortages of medical and living supplies. In contrast, when an increasing number of social conflict events occur, e.g., violent behaviours, discontinuity of public services, and uncontrolled contagion of fear and anxiety, this may be an indication that the neighbourhood approaching a state of collapse.

Contextualising resilient governance in gated communities in China. The substantial urbanisation and market-oriented reforms in China over the past decades have led to a dramatic transformation of gated communities from work units (collective living spaces) to commodity housing estates (private spaces) (Webster et al., 2006; Wu, 2002). The changes produced a shift in neighbourhood governance, as the former management model involving state control was replaced by a mixture of multilevel stakeholders, representing the state, market, and society. The governance authority of gated communities in urban China is now evidently more diversified and self-governed when dealing with everyday affairs and delivering requests to protect their interests (Huang, 2006; Wu, 2018; Pow, 2009; Lu et al., 2020).

Although the roles of self-governing neighbourhood organisations, such as homeowner associations (HAOs) and property management companies (PMCs), are becoming more important, the governance structure in China’s gated communities is not representative of the more common private governance systems in Western society (Woodman, 2016; Read, 2012; Wu, 2018; Wang and Clarke, 2021; Wu and Zhang, 2022). This might be partly due to a lack of sufficient discipline and civic engagement affecting the willingness of Chinese residents to engage with public affairs in their everyday lives (Zhou, 2014; Wang, 2014; Cheng et al., 2021). More importantly, in China, the state interferes at almost all levels of territory governance, reflecting enhanced state control over grassroots organisations and democracy (Wu and Zhang, 2022; Lu et al., 2020). However, this does not mean that the state acts in a monodrama in the neighbourhood governance in China; instead, this involves a counterbalance game co-played by the state–market–society triad (He and Lin, 2015). During periods of crisis, such as the COVID-19 pandemic, close interactions and collaborations among the

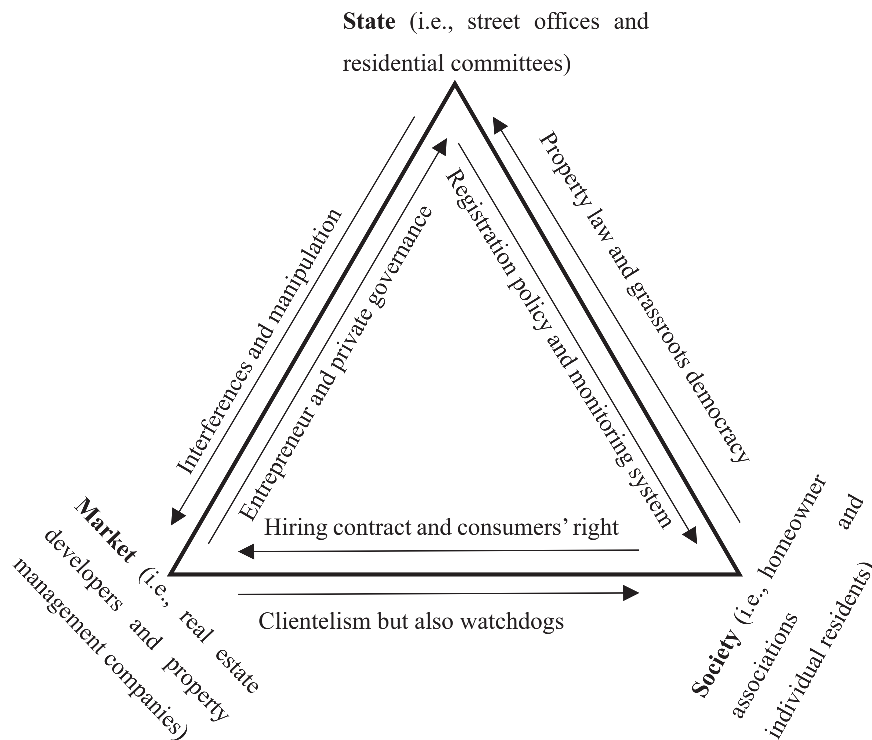

Fig. 1 Governance structure of gated communities in China. Triangular state–market–society structure in the neighbourhood governance in China.

different stakeholders of gated communities are especially needed (Liu et al., 2021). State agencies may find it impossible to cope with the chaos caused by a crisis without collaboration from organisations and residents operating outside the government. In this regard, the previously established coordinating mechanism in a pre-crisis period, which may be immature, is essential to ensure resilient neighbourhood governance. That is, participation from all three sectors (the state, market, and society) is indispensable (see Fig. 1). The absence of any one of them may cause the formation of adaptive co-management or collaborative governance to fail.

First, against a backdrop of the state-centred urban governance in China (Wu and Zhang, 2022), the state could be assumed to hold a dominant position in the resilient governance of gated communities through formulating countermeasures and policies in response to emergencies. Organisationally, both street offices (SOs) and residential committees (RCs) represent the infrastructural power of the state to implement commands from the upper government (Cai et al., 2021). However, they play distinctive roles in resilient neighbourhood governance: the former acts as the agency directly authorised by the district government and completely responsible to the state, with the duty of implementing comprehensive management and coordination and supervision within its jurisdiction; the latter tends to function as the liaison between the government and society (Liu et al., 2021). In other words, residential committees here may play a more important role than the street offices in implementing collaborative governance in times of crisis, because coordinating multiple stakeholders is the priority.

Second, homeowner associations (HAOs), as self-governing organisations, represent the power of grassroots society, through which individual householders are able to preserve their rights and interests through legitimately negotiating with property management companies (the market) and governmental agencies (the state) (Cai et al., 2021). Despite HAOs having a reputation as being dysfunctional in implementing private governance in China (Wu and Zhang, 2022), they retain an indispensable position and may fill a more important role in crisis management than in everyday life. This is not only because they are the only accredited or registered organisations that represent the residents; more importantly, their members comprise diversified professionals and groups that are socially connected, who may mutually support each other and achieve self-organised governance. Thus, HAOs here function as the institutional instrument for grassroots-level social groups to participate in co-management or collaborative governance during crisis periods.

Third, with the end of welfare housing distribution in China, the responsibility of housing and service provision has been shouldered by private companies, namely, real estate developers and property management companies (PMCs). Whereas the former is responsible for constructing houses, the latter is expected to provide professional services to householders, including sanitation, the safeguarding and maintenance of public facilities, etc., through a hiring relationship (He, 2015). PMCs are also expected to manage communal assets, transmit messages between individual residents and RCs, and implement the regulations enacted by the local government. In this sense, PMCs are not merely service providers, representing market forces, but also an alliance of state agencies and extension of state power (Fu and Lin, 2014). This dual identity often makes PMCs a counterforce to HAOs, who tend to anticipate patron-clientelism from PMCs (He, 2015; Cai et al., 2021). In a crisis (e.g., a pandemic period), social tensions and disputes are more likely to arise between HAOs and PMCs, because the latter are seemingly the representative of the market but are strongly manipulated by the state.

However, the relationships between the state, market, and society are not static, and the state's reach into neighbourhood governance is far from evenly influential across the different regions in China. For instance, the Shanghai municipal government is comparatively more tolerant of the existence of HAOs than the governments of other cities (Pow, 2009; Yip, 2012; Zhou,

2014; He, 2015). This implies that Shanghai might be an ideal case for examining resilient neighbourhood governance because a consolidated triangular state–market–society structure has been established. The reach of state power among different neighbourhoods is uneven (Cai et al., 2021). In some gated communities with well-established governmental infrastructure (e.g., communist party branches), the influence of the state on the governance system is evident, whereas, in other gated communities, the state's participation is limited due to, for example, intentional avoidance of the complicated disputes between HAOs and PMCs. When state power retreats, intentionally and temporarily, the power of the market and society fills the void accordingly and vice versa. A counterbalance game is therefore formed within the state–market–society triad. This further suggests that resilient neighbourhood governance can be categorised according to the extent to which each stakeholder in the state–market–society participates in neighbourhood governance: weak-society neighbourhood governance (WSNG), weak-government neighbourhood governance (WGNG), and weak-market neighbourhood governance (WMNG). This categorisation can be regarded as complementing the former neighbourhood classifications based on their ownership attributes or physical features (Blakely and Snyder, 1997; Grant and Mittelsteadt, 2004; Lu et al., 2020; Wang and Clarke, 2021), enabling the re-examination of the roles of the state, market, and society in crisis situations.

Case selection and methodology

This study empirically focused on the social tensions in the neighbourhood governance of gated communities in Shanghai before and during the COVID-19 pandemic to reveal their mechanisms of resilient governance and the interplay of different stakeholders within the triangular state–market–society structure. To achieve this, three representative cases (neighbourhoods) were selected following three basic principles: First, these three cases were chosen to cover the aforementioned categories of gated communities in China, namely, weak-market neighbourhood governance (WMNG), weak-society neighbourhood governance (WSNG), and weak-government neighbourhood governance (WGNG). Second, because social conflicts were of particular concern in this study, the selected communities were more or less problem-oriented, as disputes existed since their establishment. Third, the diversity of the gated communities in terms of the composition of dwellers, environment, and size was also considered in the selection process (see Tab. 1); for instance, neighbourhood-A was a typical community with hybrid residence and commerce, neighbourhood-B was a mega-community newly developed for the middle class in more recent years, and neighbourhood-C was reconstructed from former unit (*danwei*)-based residential structures (Table 1).

To conduct a structured qualitative analysis of a large amount of historical data related to the resilient neighbourhood governance in gated communities in Shanghai, an event-based analysis was adopted, which is also known as event system theory (EST) (Morgeson et al., 2015). EST is commonly used to examine the effect of events on individuals and teams within a single organisation, but researchers are increasingly employing this method to explore the interactions between the multiple levels of urban governance, especially concerning the impacts of COVID-19 over the past few years (Shaw et al., 2020; He and Zhang, 2022). EST is helpful here because it not only provides an analytic tool to measure event attributes, namely, event strength, space, and time but also defines the organisational hierarchy, such as the environment–organisation–team–individual structure of organisational management (Morgeson et al., 2015) and the institution–government–professional groups–citizen structure of urban governance (He and Zhang, 2022). In this study, we recognised the interactions between the following four levels of entities as the organisational hierarchy of neighbourhood governance in China: (1) institutions (policies and bylaws related to the development and management of gated communities); (2) governments (state and local agencies, e.g., SOs and RCs); (3) enterprises (e.g., real estate developers and property management companies, PMs); and (4) homeowner associations (HOAs) and individual residents.

We collected the event data for the three neighbourhoods from multiple sources from February 2013 to December 2022. The basic event information was derived from field-based interviews with a wide range of stakeholders in neighbourhood governance, such as householders, tenants, real estate managers, security staff, RC personnel, SO staff, community workers (in NGOs) and individual volunteers. In total, 37 interviews were conducted covering these three cases. This information was then cross-checked and amended using information other sources, such as reports from public media, records from social media (i.e., WeChat), daily records from community workers and official notifications released by PMCs, RCs and SOs. Eventually, 125 events were identified in the event dataset for these three gated communities, which were further classified into three levels according to their origins in the hierarchy of events for neighbourhood governance: 26 events were RC-based, 27 were PMC-based, 68 were HOA-based and 4 were institution based (see Appendix 1). This classification was not completely accurate, because multiple entities were involved in some events.

Case study

Weak-society neighbourhood governance. Neighbourhood-A was a typical WSNG gated community due to the dysfunction of the HOA. It was initially created for the employees of a large-sized enterprise in the 1990s. After China's reform of housing marketisation, the community experienced an increase in the diversity of owners and became a hybrid neighbourhood with both residences and commerce. Although the daily life services in the community were convenient, the community infrastructure was relatively worn out. In 2005, the original PMC was designated as illegitimate because it was run by an enterprise. The SO therefore required the adjacent RC to place the community within its jurisdiction (R1, see Fig. 2). The government was then able to participate in the management of the community. In 2007, the

Table 1 Information about three selected gated communities in Shanghai.

Name	Governance mode	Occupant social status	Community environment	Size (no. households)	Location
Neighbourhood-A	WSNG	Hybrid of residence and commerce	Limited green space, unsatisfactory facilities, short of maintenance	Small (approx. 500)	Outer ring
Neighbourhood-B	WGNG	Middle class and elites	Rich amenities and above-average facilities	Big (approx. 2000)	Suburban
Neighbourhood-C	WMNG	Original residents and young tenants	Old-fashioned facilities and badly designed house structure	Middle (approx. 1000)	Downtown

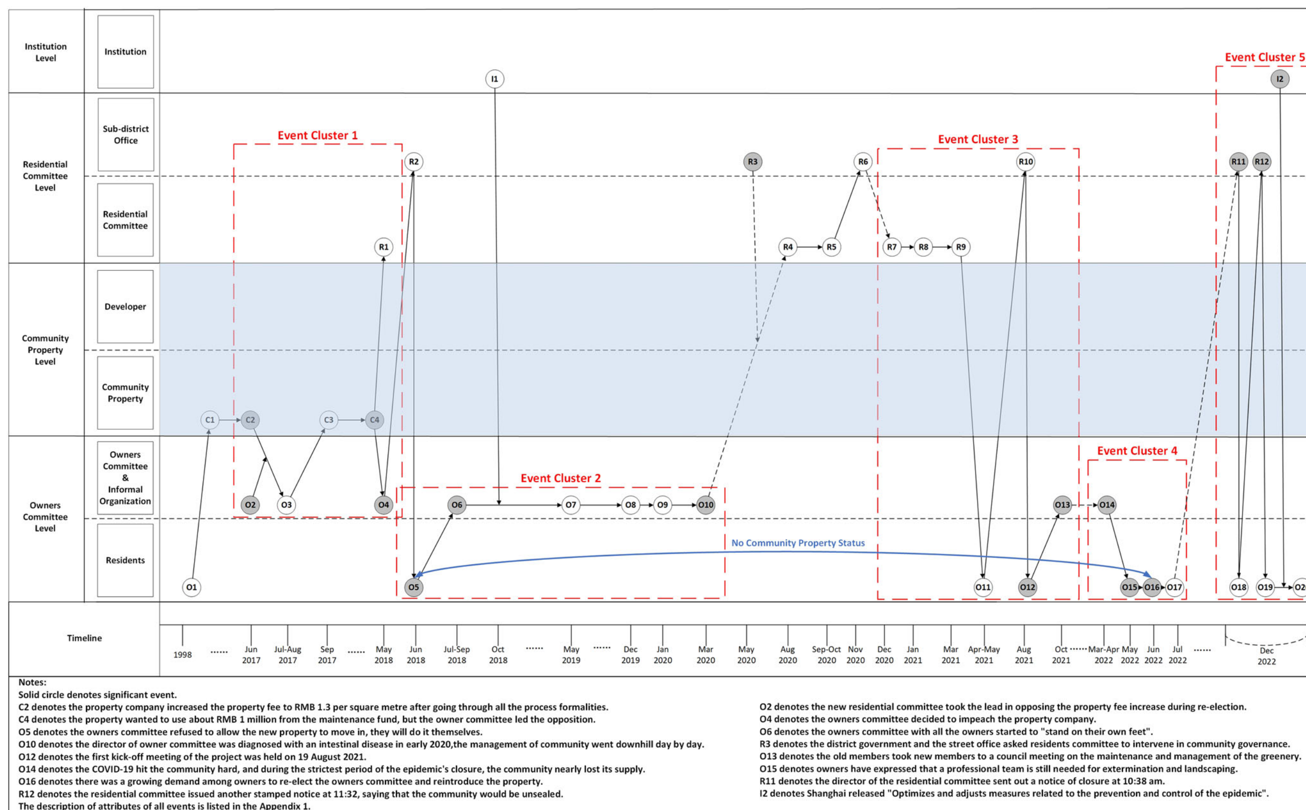

Fig. 2 Neighbourhood-A. Event system analysis of Neighbourhood-A (WSNG).

long-term absence of a PMC in the community ultimately led to increasing problems (e.g., a dirty and messy community environment, unclean exterior building walls and the occasional occurrence of theft in low-rise buildings), which had a serious negative impact on community housing prices. Homeowners became increasingly dissatisfied and urged the introduction of a professional PMC (O1). Four months later, a government-backed PMC[1] was introduced under the joint coordination of the RC and the SO (C1).

By 2010, the community had become a mixed residential/commercial community, with many households being rented out as office spaces by enterprises. The mixture of residential and commercial usage aggravated conflicts between residents and the homeowners who leased their houses to commercial tenants, as residents and commercial tenants had different timetables (O2). However, the property management fees for office spaces were higher than those for ordinary households, so the PMC and the RC often ignored these disagreements. By mid-2015, the number of commercial tenants had gradually fallen due to poor management, which resulted in an increase in the number of residents. This seriously exacerbated parking limitations in the community. The inability of the PMC and the RC to improve the situation caused frequent disputes between homeowners, as well as offensive events such as the intentional puncturing of the tyres of private cars. A deteriorated community environment and governance have been observed since that time (O3).

In addition to the parking difficulties, the failure of a building elevator was also a pain point for the community. Given the age of the equipment and the lack of professionalism shown by the PMC responsible for routine maintenance, homeowners occasionally became trapped in elevators after 2015 (C2). To solve this problem, some owners requested the PMC to fully renovate and upgrade the building's elevator system at the beginning of 2016 (O4); however, the PMC did not take immediate action. As a response, many owners claimed that they would refuse to pay property management fees until the repairs were completed (O5). Finally, in July of that year, an elderly owner of a high-rise residence fainted while trapped. In addition to a compensation claim filed by the elderly owner's family with the PMC, this incident also triggered strong dissatisfaction from other owners, who urged the PMC to start elevator renovations and upgrades immediately (O6). The SO asked the RC to intervene. After an internal consultation, they decided to start the elevator renovation quickly using the maintenance fund (R2). However, the community did not yet have an HOA, so the PMC had to obtain the consent of more than 60% of the owners before using that fund. However, consensus was not achieved, because some low-rise owners argued that using the maintenance fund would violate their rights and interests (O7, O8). In the following year, the elevator issue remained unsettled, which led to a serious deterioration of mutual-trust relationship within the group of owners (O10). While community governance became increasingly chaotic, payments of property management fees dropped sharply. To avoid further deterioration, the SO applied for a special fund and promised thorough elevator maintenance (R3). At that point, the elevator renovation issue ended.

Soon after, another argument broke out between the owners and the PMC. Some owners began to question the PMC's disorderly and non-transparent ledger and requested that it disclose its financial information to the RC (O11, R4). The PMC did not respond for a period of time (C3). The chaos in community governance further intensified (O12). In 2019, several owners asked the RC to replace the PMC (O13). However, due to disagreement among the owners and a lack of leadership, an HOA (O14) could not be established to initiate the removal procedure (R5). After Shanghai's COVID-19 outbreak in March 2022, the community was subject to closed management according to the COVID-19 prevention measures implemented

in Shanghai. The absence of social organisations such as an HOA and the accumulated tensions among homeowners hindered collaboration at the grassroots level in dealing with the frequent occurrence of problems such as the delayed transfer of elderly patients and shortages of medical and food supplies (O15). During this emergency, a community self-governance organisation was established primarily due to the efforts of a volunteer, Mr X, a university teacher, who took the initiative to lead COVID-19 prevention work in the community (O16) and set up a working group that consisted of a dozen homeowners (O17). Later, by leveraging his personal social connections, the volunteers implemented a series of effective countermeasures to address the pandemic, such as preparing letters calling for help and distributing them through social media and the internet (O18), organising exchanges of goods among community members (O19), coordinating and obtaining financial support from the PMC, collecting donations from other owners and purchasing disinfectant and sterilisation equipment, as well as other pandemic prevention supplies (O20).

After two months of engaging in leadership volunteer work, Mr X had developed a good reputation in the community and was recommended by the owners and the RC to lead the establishment of an HOA (O21, R7), which Mr X declined to do (O22). Although temporary self-governance in the WSNG was successfully activated during the COVID-19 crisis, it proved to be unsustainable because of a strong dependence on the volunteers' personal abilities and social resources, as well as a lack of sustained enthusiasm to deal with the deteriorated social relationships and worsening conflicts of interest. This case therefore indicates that WSNG is an inefficient mode for resilient neighbourhood governance that often requires a long period of time to achieve consensus and is largely dependent on a few volunteer leaders. The absence of an HOA aggravates the chaos of community governance and tensions between stakeholders, which results in the deterioration of the governance structure.

Weak-government neighbourhood governance. Neighbourhood-B was a typical WGNG community due to disputes regarding property rights since its establishment in 2013, in which local government tended not to become involved. In 2014, when the homeowners were about to apply for a property ownership certificate, the developer demanded an additional payment of 3% of the total house price, as the house prices in Shanghai had increased during the sales period (C1, see Fig. 3). This created strong dissatisfaction among the owners, which were apparent in a series of resisting events, such as when a large group of homeowners tried to safeguard their rights at the housing exhibitions (O1), hundreds of homeowners surrounded the sales office and caused a traffic jam in the city (O2) and even blocked the arterial road to declare their requests (O3, O4). These events occurred frequently over the course of half a year, had a serious social impact and were extensively covered by many media outlets, including official media (R1).

At the end of 2014, the developer, to withdraw funds, prepared to sell parking spaces[2] (C3). They requested homeowners to remove all cars from the underground parking lot within three days and erected several stone walls to stop owners from parking their cars there. This provoked another large-scale protest by the owners, who refused to buy garage spaces (C5). The developer asked the owners to park in the surrounding areas outside the neighbourhood (C6); however, with the traffic management systems becoming increasingly strict in public spaces in Shanghai (I1), problems with parking in the community escalated, which resulted in an explosion of arguments between the owners. Two factions arose: one that supported the developer selling garage spaces and began to purchase them, and one that opposed the sales and reported that they intended to fight the decision through judicial channels (O10, O11).

During the same period, many owners signed loan contracts with banks, but the release of funds was delayed for a long time. The developer required owners to pay for liquidated damages before house delivery. However, the developer was the one to cause the loan to become overdue, as they did not cancel the mortgages, which prevented the banks from handling advance-notice registrations (C4, C7). At the beginning of 2017, the owners leveraged their personal social connections to obtain the support and coverage of several authoritative media outlets. The developer proposed a solution of "one case and three parties for one household" (developer, owner and bank) for negotiation, which, however, proved infeasible (O5). One owner, employed as a lawyer, then accepted all such cases in the community and won the case against the developer (O6). After the successful settlement of the cases, the lawyer's fee was collected, and the refunds were distributed based on housing area (O9). The owners were successful in this instance.

In the second half of the same year, because the occupancy rate of the community exceeded 50%, the government prepared to establish an HOA for Neighbourhood-B (R2). Some owners socially related to the developer showed enthusiasm for being on committees in the newly established HOA, citing concern for public interest, and were selected as HOA committee members (O7). After the establishment of the HOA, PMC-A, backed by the developer, was officially hired by the HOA (O8). Two months later, however, it was found that the actual operation had followed the process of selection by agreement, which violated the public bidding clause that the PMC had established in the procedural rules. After being questioned by the owners and the local RC, the HOA committee members admitted their mistake, and the director of the HOA resigned (O12). Finally, the government became involved and invalidated the former hiring agreement (R3).

In May 2018, the HOA initiated public bidding for the PMC (O13), which was revised over the course of several rounds as the policy for public bidding in Shanghai had changed (I2). After one and a half years of bidding, PMC-B succeeded (C10). Once they started governance, this PMC immediately focused on the management of the underground parking lot (C11), registering and listing private parking spaces and advising the owners renting parking spaces. PMC-B also promoted the gradual reform of the parking fees in the community (C12). The proportion of owners paying property management fees rose to 90% in the first year after the entry of PMC-B (O15), which suggests improvements were occurring.

At the beginning of 2022, the community was closed for pandemic prevention (R8). Due to the limited available human resources, a volunteer team was established in the community to help limit the spread of COVID-19. However, due to the unreasonable scheduling of the RC, inadequate pandemic prevention supplies procured by the PMC, problematic communication between organisations and the unreasonable arrangements for testing established by the PMC, frequent conflicts arose between the HOA, RC and PMC (O22). Several self-governed organisations in the community, including public welfare groups, group-buying groups and community group leaders, were therefore established. Relying on these organisations, the owners voluntarily organised and called for the funding and purchasing of pandemic prevention and everyday supplies (O23). As diverse informal organisations were established, the HOA ceased to engage in its role. Community group-buying organisers (i.e., group leaders) undertook the responsibility for coordinating and managing emergency community governance, with the support of

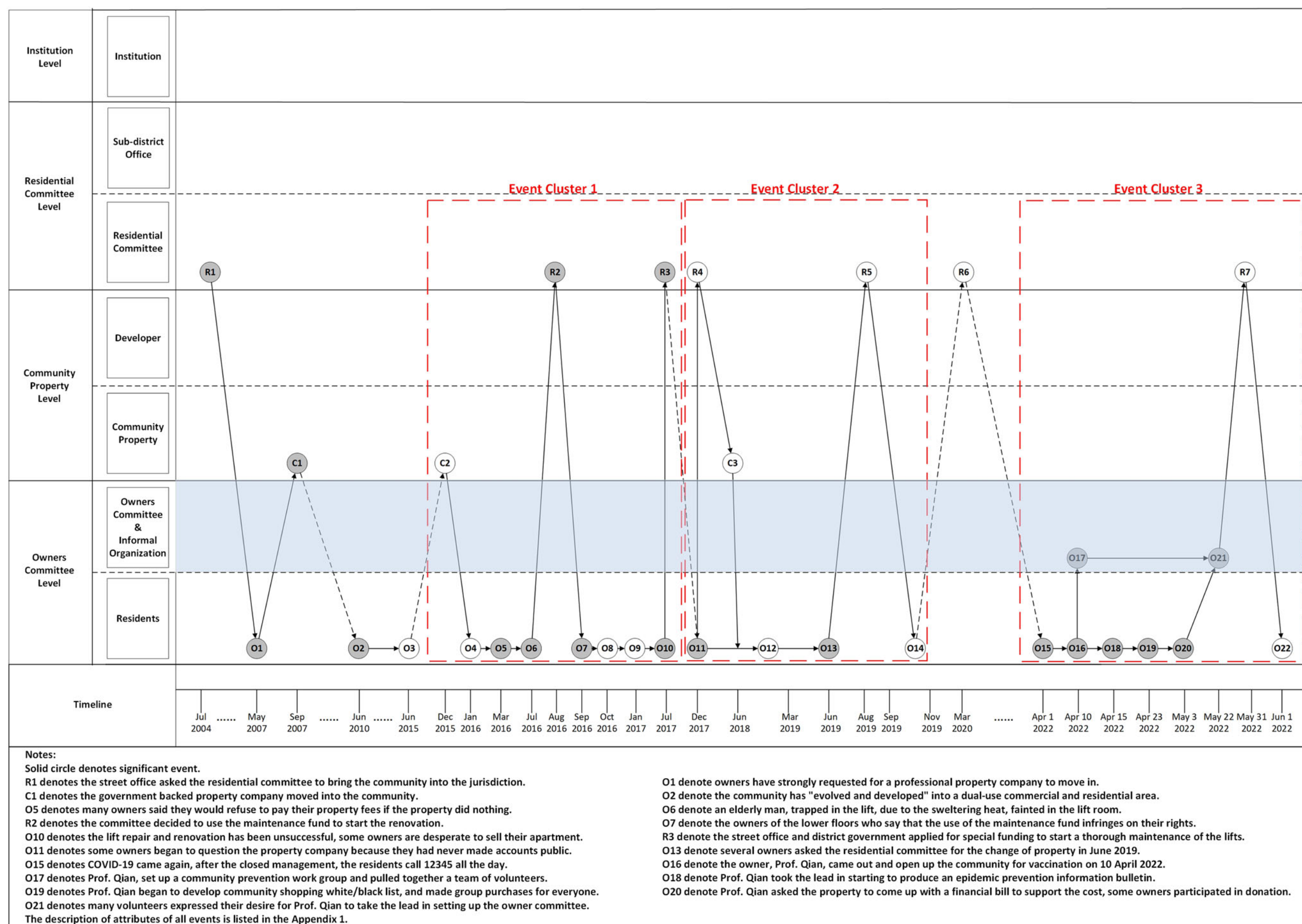

Fig. 3 Neighbhourhood-B. Event system analysis of Neighbourhood-B (WGNG).

many owners (O24). When the employees of PMC-B and external cleaning workers in the community were all infected with COVID-19 (C17), these organisations successfully alleviated the problems regarding access to pandemic prevention supplies (O25). However, after the employees of the PMC returned from the hospital, some owners refused their services (O26), and the developer would not allow them to temporarily stay in unsold model rooms (C19). Due to inaction on the part of the owners and RCs (C18), the employees of PMC-B had to temporarily live in the community lobby (C20).

This case clearly demonstrates that participation at the RC level was weak in the WGNG model. Due to the absence of an RC, many events were formed through alternative channels and evolved between the PMC and HOA levels. Based on the event system analysis of Neighbourhood-B, WGNG was found to have weak governance resilience overall and limited co-management ability. Lacking participation from the government in coordinating and mitigating disputes between the market (e.g., the developer and PMC) and HOA, gated communities are often prone to governance chaos or even to the collapse of the governance system under the impact of external shocks such as COVID-19. The lack of adequate self-restoration ability often also leads to frequent changes of PMCs, frequent conflicts of interest between multiple levels of entities and under-established negotiation mechanisms between multiple community members, which all lead to continuous declines in owner satisfaction and mutual trust.

Weak-market neighbourhood governance. In our third case, the WMNG model in a relatively old gated community (Neighbourhood-C) was selected for a case study. The owners of the community had long-standing dissatisfaction with PMC services, and an increasing number of them were refusing to pay property management fees (O1). Over time, due to their failure to collect property management fees, the PMC was unable to adequately sustain its services. Despite their willingness to render assistance, the RC was helpless. As a result, community governance entered a vicious circle (C1). In June 2017, the PMC doubled the property management fees (C2). This came at a time when a new HOA was about to be elected, and they strongly opposed this plan (O2). In the following month, the HOA accused the RC of negligence of duty and criticised the idleness of PMC employees (O3). Despite criticisms, the PMC believed its markup procedure to be reasonable and legitimate, so they required owners to pay the new property management fees in full. The HOA defended their rights and refrained from paying. Consequently, the arguments between the owners/HOA and the PMC continued to intensify (C3).

In May of the following year, the PMC had to use about CNY 1 million from the community maintenance fund to repair the damaged and leaking exterior façades of the buildings. This was opposed by the HOA (C4). The RC immediately met with the parties concerned to find a solution, but they failed, which led to the HOA successfully impeaching the PMC (O4). In the following month, the HOA rejected the new PMC arranged by the SO (R2).

The community then implemented an owners' self-governance model under the leadership of the HOA (O5). Residents took turns collecting property management fees, while security guards and cleaning workers were recruited from a labour service company (O6). In 2018, Shanghai vigorously promoted the

classification of domestic waste (I1) in communities. The residents of the community also actively participated in community environmental governance as practitioners, volunteers, supervisors and so forth (O7). Although no formal PMC was in place, the community operated in good order under the voluntary organisation and management of the owners. At the end of 2019, retired financial workers in the community joined the HOA, and the property management fee accounts were fully disclosed. The payment rate of property management fees rose to 94.5% that same year (O8). By New Year's Day in 2020, an HOA composed of three unpaid managers had formed in the community and achieved the creation of an effective, high-quality plan for community governance that covered greening, parking and coordination of property management fees. It received general satisfaction from the owners (O9).

Nevertheless, the accord did not last long. Only two months later, the director of the HOA quit due to personal health problems, after which the management of the community gradually declined (O10). This coincided with an application for a National Civilised Urban District, a government-launched programme. The district government and the SO required the RC to intervene in community governance (R3). Three months later, three social workers appointed by the RC entered the community (R4); at the request of the SO and the RC, they further sorted and optimised the management regulations (R6). Neighbourhood-C then entered a co-governance phase that involved the RC and the HOA. After fully exploiting the resources within the jurisdiction, the RC discovered two peepul trees and one craftsperson in the community (R7). In follow-up community activities, the craftsperson was invited to teach the owners to make handmade and essential oil soaps, which were popular, especially among retirees. The RC and the HOA called on the owners to build a miniature community garden with waste goods; this idea drew a positive response and active participation amongst the owners (O11, R10, O12). At this stage, communications were frequent between the RC and the homeowners, which enhanced their mutual trust and the negotiation mechanism, as well as the grassroots democracy (O12, O13).

However, the self-governance of Neighbourhood-C was challenged in March 2022, when the most serious wave of COVID-19 occurred in Shanghai. The community faced a shortage of supplies during the period with the strictest quarantine policy implemented by the local government. Due to the absence of a PMC, the public services—including supply distribution, resource allocation, security, cleaning and maintenance—were all performed by owner-volunteers. As an increasing number of volunteers were infected due to inadequate protection, there were insufficient human resources to provide basic services and maintain order. Some owners began to blame the HOA and claimed that the emergency response issues faced by the community were caused by the HOA's determination to drive away the PMC. As a result, disagreements between owners, as well as between owners and members of the HOA, rapidly arose and intensified (O14).

With the ending of this wave of COVID-19, the owners generally believed that a professional team (O15) was still needed for disinfection, sterilisation and greening, and that resilient governance in a crisis could not rely entirely on the owners' voluntary self-governance. The owners then called for the re-selection of the HOA and the introduction of a PMC (O16). The re-selection of the HOA started (O17), and the RC assisted with initiating the bidding for the PMC. At the end of 2022, before the new PMC and the new HOA assumed office, an argument again arose between the owners and the RC over the closed-off management of the community (R11, O18, R12, O19). Fortunately, this conflict was mitigated after Shanghai released its Notice of Shanghai Municipality on Optimising and Adjusting Measures Related to COVID-19 Prevention and Control (I2). The peaceful neighbourhood self-governance and mutual assistance practices resumed (O20).

The above WMNG case suggests that self-governance in the absence of a PMC may work well during normal times. However, when faced with a sudden shock—such as that due to COVID-19—it could be vulnerable due to a lack of professional service providers. This finding echoes the former argument that disruptive changes such as COVID-19 provide an opportunity to retest the resilience of a governance system, which cannot be achieved under normal conditions. In addition, as shown in Fig. 4, the absence of participation from the PMC level in WMNG was apparent, which caused a communication gap between the RC and the HOA. Without the support of the market, the self-governed organisations in the gated community faced challenges in efficiently distributing relief supplies and information.

Conclusions and discussion

Resilient neighbourhood governance, which is a smart governing strategy for both daily management and emergence responses, is guaranteed by a flexible structure consisting of both state and nonstate agencies, in which social capital, leadership and a common understanding and memory are prerequisites (Adger, 2000; Folke, 2006; Ansell and Gash, 2008). In other words, the prior development of social capital and mutual-trust relationships between community members before a crisis is essential to achieve resilient neighbourhood governance when faced with public emergencies such as COVID-19. Communities with a pre-existing mechanism for collaboration or co-governance are more resilient to crises than those with accumulated social tensions, as the former are more likely to reach consensus and reciprocity among different stakeholders. Informed by this resilience-based perspective, this study aimed to elucidate the neighbourhood governance mechanisms in gated communities in China by establishing a triangular state–market–society structure. This framing was categorised according to the weakest component of the triad: weak society (WSNG), weak government (WGNG) and weak market (WMNG).

Our empirical findings suggest that dramatic interactions and social tensions exist between the state, market and society in gated communities in Shanghai, which differ from the state-centred governance model proposed in the literature on Chinese urban governance (Wang and Clarke, 2021; Wu and Zhang, 2022). The counterbalancing game played by the stakeholders in the state–market–society structure was particularly critical to reaching a state of collaborative governance before and during the pandemic, as the absence of any part would lead to increasing confusion and conflicts. Interactions between participants provided an opportunity to rethink the roles played by the stakeholders from the state, market and society in resilient neighbourhood governance in China.

First, as illustrated by all three cases, the role of civic participation is essential for both everyday life and crisis management. In the WSNG model, as the first case indicated, the disorder of daily management in Neighbourhood-A primarily resulted from the lack of an HOA; without HOA authorisation, the PMC found it was unable to employ public funds to maintain the basic facilities in the community. Notably, the governance system of Neighbourhood-A did not collapse during the COVID-19 pandemic, owing to spontaneous organisation by volunteer leadership from among the householders. Such spontaneous organisation and mutual assistance also appeared in the other two cases when responding to COVID-19, which suggests that mutual support behaviours and self-organisation at the grassroots level

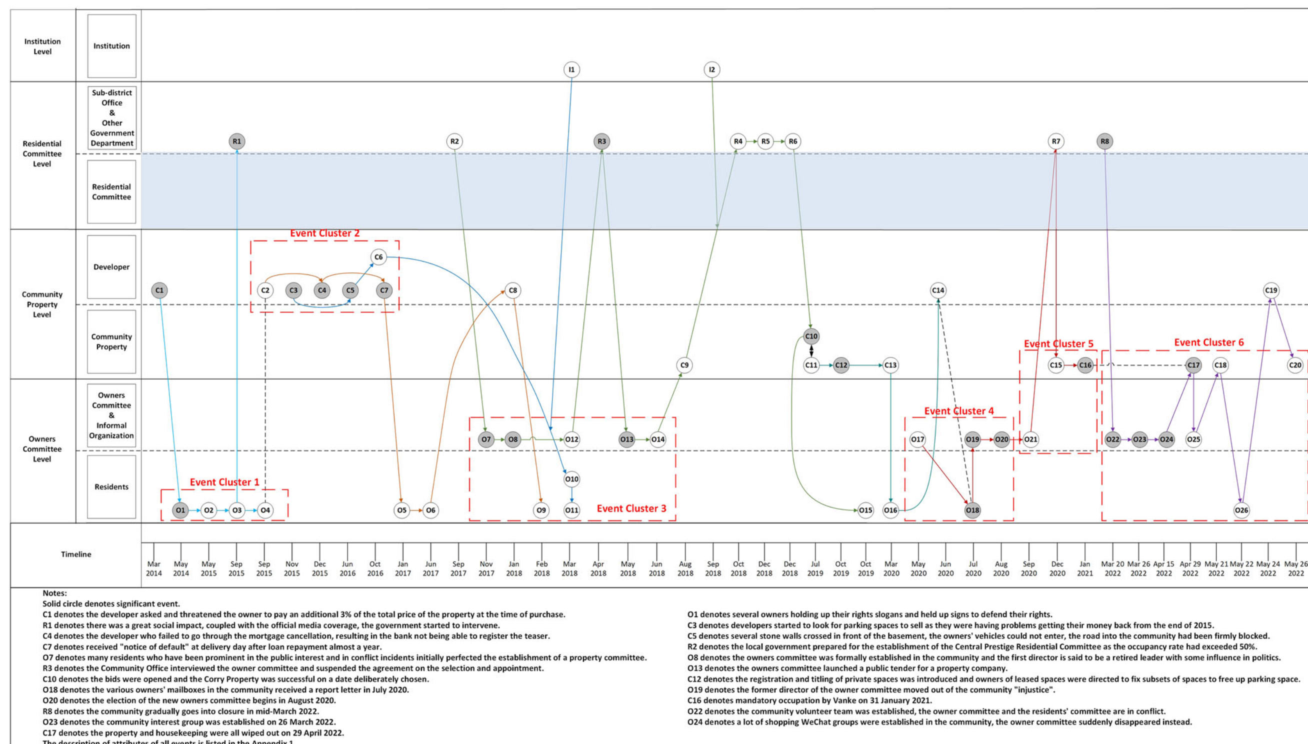

Fig. 4 Neighbhourhood-C. Event system analysis of Neighbourhood-C (WMNG).

are more likely to be activated in a public crisis such as COVID-19 as the last line of defence in resilient neighbourhood governance.

Second, our empirical findings indicate that the participation of the local government is indispensable for achieving resilient neighbourhood governance. This was demonstrated by gated communities with a history of property disputes (e.g., disputes over ownership of the parking places in Neighbourhood-B), where the retreat of RCs from conflict led to a compounding accumulation of distrust between householders and PMCs. This previously formed confrontation hindered collaboration between the multiple stakeholder levels during the crisis. The state not only plays a role in monitoring the implementation of various laws and regulations related to community management but also acts as a mediator in confrontations between society and the market. Notably, however, strong interference by the state—namely, state-centred governance—does not necessarily guarantee the establishment of resilient neighbourhood governance. As illustrated by the other two cases, collaborative governance was not achieved in the WSNG model (i.e., Neighbourhood-A) or the WMNG model (i.e., Neighbourhood-B), where state power remained dominant, owing to the absence of participation from grassroots social groups and professional service providers.

Third, the market, represented by the PMCs, helped to promote the ability of a neighbourhood to cope during COVID-19 by providing professional services and transmitting information between residents and local governmental agencies. As the third case indicated, the daily management in Neighbourhood-C was effective without the participation of PMCs. This model proved to be highly vulnerable in a crisis, however, as deficiencies in the delivery of daily necessities to isolated residents caused chaos, and new conflicts arose among householders. The results supported the hypothesis that the collaboration between the state, nonprofit organisations and private organisations is a key factor that helps to efficiently distribute resources and information during periods of crisis.

Finally, in summary, this study contributes to the current discourse on neighbourhood resilience and crisis management by helping to conceptualise resilient neighbourhood governance from the perspectives of social resilience and collaborative governance. We argued that the hierarchy of resilient neighbourhood governance under disruptive shocks is formed and consolidated during the period before the crisis; the crisis governance system cannot be separated from the management framework of everyday life. Thus, the key policy to increase neighbourhood resilience and avoid damage during a crisis lies in a long-standing practice of collaborative governance in the pre-crisis period by establishing a balanced negotiation mechanism for the participants at the state, market and societal levels. Admittedly, this study has some limitations regarding the discussion, notably the specific urban context of China, which is different from the market-led communities in Western society. Additionally, the frequency of other sorts of disasters such as flooding and hurricanes caused by climate change is increasing, which might present challenges and threats to human neighbourhoods that differ from those posed to public health by the emergence of COVID-19. Therefore, more empirical studies are needed on resilient neighbourhood governance that considers different social contexts and crisis events.

Data availability

The datasets analysed during the current study are available in the Dataverse repository: https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/E94X2M.

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Notes

1 A government-backed PMC is a state-owned PMC designated by the grassroots government for a community for which no PMC can be selected via a market-based approach. Generally, PMCs of this type have poor management and weak resource integration abilities.

2 Although the ownership of parking places in gated communities in China is clearly defined legally, the developers can intentionally hide this information before the deal, which then results in disputes between owners and developers.

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Author contributions

JH: conceptualisation, data collection, data analysis, writing—original draft, preparation, writing—review editing. YZ: writing—original draft, mapping, writing—review editing, result analysis. ZY: writing—original draft, data collection, result analysis, review, and resources.

Competing interests

The authors declare no competing interests.

Ethical approval

This study was conducted in accordance with the Declaration of Helsinki. Ethical approval was granted by the research ethics review committee of the College of Social Science and Humanities of East China Normal University (No. 2013051708).

Informed consent

All participants of this study were recruited based on interest and oral informed consent was obtained to allow audio recording. Audio recordings were anonymised as indicated in the consent form and used for research purposes only.

Additional information

Supplementary information The online version contains supplementary material available at https://doi.org/10.1057/s41599-023-02085-z.

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