

# Shaping Healthier and Resilient Communities: Lessons from Participatory Community Micro-regeneration in Beijing, China

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## Introduction

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Urban planning in China is undergoing a transformation – a process of urbanisation that has evolved from planning and design for growth to planning and design for quality. In the past several decades, incremental planning (in Chinese: *zengliang guihua*) has been the primary mode of urban development in China. Then, following the Shenzhen City Master Plan (2010–2020), in which stock-based planning first appeared, the term ‘stock-based planning’ (in Chinese: *cunliang guihua*) has been widely discussed and utilised by practitioners and politicians.

Over the last forty years, Chinese cities’ rapid urbanisation and social transformation have been broadly discussed and researched. The speed of the process and its orientation on the creation of China as a modern, future-oriented urban nation put the historic parts of Chinese cities at the risk of being neglected. As a representative of these cities, Beijing has hundreds of thousands of old residential neighbourhoods, parts of which are replete with history and cannot be demolished. Nevertheless, this rapid urbanisation, which has focused on creating the contemporary urban fabric and brought economic development, has caused questions and controversies. The process has been criticised for leading to inequality, social injustice, and marginalisation of poorer and older strata of Chinese society. To address this situation, practitioners have attempted to introduce participatory design approaches and a ‘micro-regeneration’ strategy as experimental tools aimed at improving the dwelling environment in old neighbourhoods and enhancing community resilience and health.

## Foundation of Community Resilience and Micro-regeneration Practices

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### Understanding community resilience

Resilience is a significant issue in urban development: the global attending to the concept of resilience is part of a more significant move to overcome the notion of sustainability (Davoudi et al., 2012). In the resilience research, community resilience receives significant attention in the context of urban, inner-city spaces, as it is at this level that resilience pathways are implemented on the ground (Walker & Cooper, 2011). Accordingly, resilience should be considered in relation not only to large-scale shocks, but also to everyday life and the problems people encounter (Trogal et al., 2015).

From the perspective of the social-ecological systems analysis, community resilience is rooted in ecological resilience, which is focused on systems’ continuous change and renewal cycles (Berkes & Ross, 2012). A social-ecological system (SES) is one where the ecosystem and people are interdependent and co-evolving. Resilience in an SES highlights not only its biophysical aspects, but also its social elements confronted with disturbances. In this sense, one area of work on ‘community resilience’ is disaster risk reduction and response, which focuses on social learning (Wilson, 2012) and transformability (Folke et al., 2010). Moreover, a resilient process, in social-ecological systemic terms, considers how human communities interact with the environment and pays particular attention to governance (Biggs et al., 2012).

Another understanding of community resilience comes from community development, which originates in mental health and developmental psychology

(Berkes & Ross, 2012). In mental health and psychology, resilience emphasises the internal factors and strengths that help individuals cope with adversity (Buikstra et al., 2011). In this sense, building resilience is understood as a means of identifying and developing the strengths of individuals or communities rather than focusing primarily on identifying and overcoming weaknesses.

There are also integrated concepts of community resilience resulting from the overlap of social-ecological systems and community development. For instance, Berkes and Ross (2012) view community resilience as a function of the strengths or characteristics (i.e., knowledge, social networks, and engaged governance) leading to agency and self-organisation. This concept is concerned with how these community characteristics combine to produce the process of resilience (Berkes & Ross, 2012).

### **Micro-regeneration strategy in China**

As urban construction has moved from incremental planning to stock-based planning, a gradual micro-regeneration strategy has become the primary mode of urban regeneration in China. Two aspects have informed the micro-regeneration concept. Firstly, rapid urbanisation, with demolition and construction as its primary approaches, carries high costs in terms of workforce and material and financial resources. The concept of urban micro-regeneration, which aims to revitalise the building stock and improve land use value, has been helping solve the above problems. Secondly, urbanisation has long entailed the disappearance of old culture and buildings to some extent. A city's unique charm and cultural soul gradually fade away with the newly built urban spaces. Against such challenges, micro-regeneration, aimed at preserving the historical and cultural context, provides strategic and practical support to ensure the continuation and development of urban tradition.

Micro-regeneration – based on public participation regarding micro-community open spaces and public space facilities (i.e., objects of renovation) and attending to the existing contextual values and use of existing resources (i.e., aims of renovation) – has become mainstream in regeneration of historic districts. In 2018, the Ministry of Housing and Urban and Rural Development put forward the concept of ‘collaborative production’ (in Chinese: *gongtong dizao*) in the field of community regeneration. This action indicates that the micro-regeneration model, which involves the participation of multiple parties, has become a new trend of community renewal governance, with community, market, and third-party organisations playing an increasingly significant role.

A review of the micro-regeneration strategy indicates that the crucial concept of the strategy resonates with the idea of community resilience. At the same time, in the stock-based planning context, the requirements and aims of micro-regeneration are also in line with the definition of community resilience. Resilience emphasises a community's capacities (e.g., its adaptive capacity) to deal with external and internal shocks. Therefore, communities as social-ecological systems need resilient governance to integrate top-down policies and bottom-up strategic initiatives to withstand long-term disturbances.

## Micro-regeneration Practices in Beijing: The Case of Yuyuan Garden in Keyu Community

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### Project overview

The Yuyuan community garden in Keyu community covers an area of 600 sqm and is the pilot project of co-productive micro-regeneration in Beijing (Figure 1). The old urban community with a nearly 60-year history is located in the Zhongguancun sub-district of Haidian District in Beijing (Figure 2). It was built in the 1960s as the courtyard of a family dormitory of the Chinese Academy of Sciences. More precisely, Yuyuan is a public green space between the buildings in the Keyu community and belongs to the collective of owners.

In the 2010s, Keyu started to face the shortage of vibrant public spaces. In the community, there were many places covered by temporary houses, and many sanitary corners have not been cleaned up. The residents were not satisfied with the neglected environment dominating the community. Consequently, the site of Yuyuan became an abandoned corner (Figure 3). Three provisional, colourful steel houses divided the site into north and south parts. The wasteland on the south side was a temporary parking space for residents, and the ground was bare and dry, however, muddy when it rained. The wasteland on the north side was a derelict corner area of the community. Since access to it was controlled by lockable iron gates, few people have entered it in years. Various debris, garbage, overgrown weeds, mosquitoes, and foul odours troubled the surrounding residents, making residents of the community avoid the detour through this area. More importantly, the messy and unkempt state of the site inconvenienced community residents, harming the harmonious development of the community. Therefore, improving the environment of the area has become a community issue needed to be addressed as soon as possible by the Residents' Committee and the individual residents. All these considerations have prompted the site to be chosen as the experimental field of community micro-regeneration.

The mobilisation to redevelop the community started in 2017, when the sub-district office proposed a project aimed at enhancing the landscape of the corners of the old quarters and explore collaboration of the community in building a model. This project, jointly designed by design firm Gaiascape and local residents, has received the largest share of total funding extended by the sub-district. Multiple social and community forces came together to participate so that a 'poetic dwelling', i.e., a traditional Chinese house, was built with the involvement of local users based on the values of public participation, common knowledge and common action. The project took three years to finish, and it applies the concept of sustainable and resilient living on the land (Figure 4).

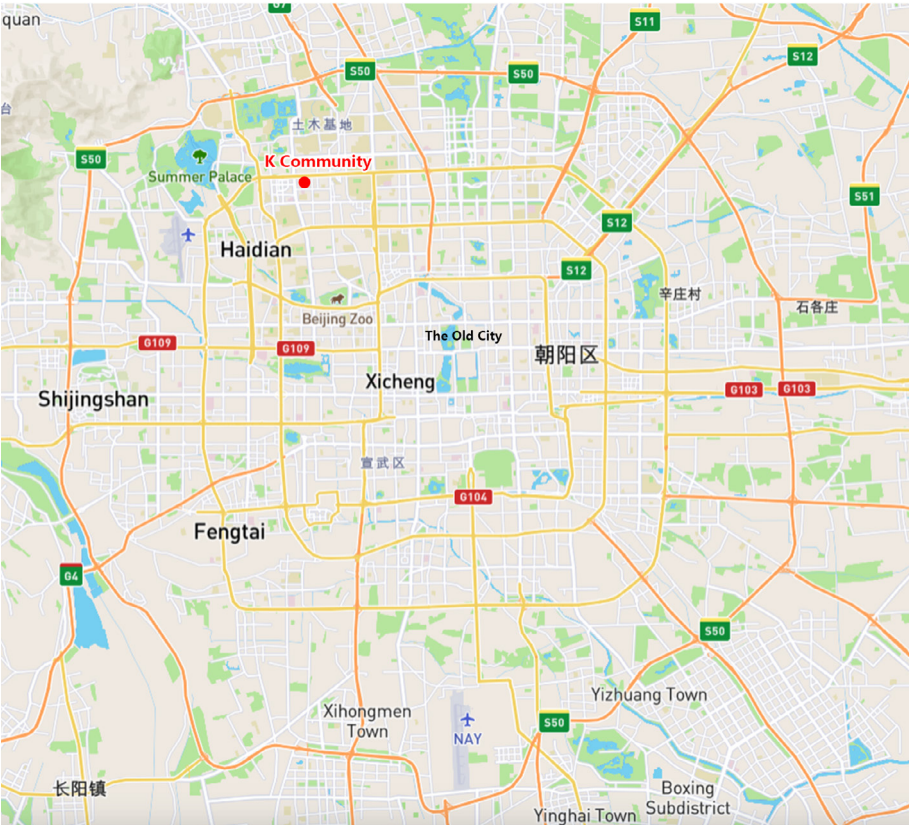


Figure 2. The location of Keyu community. Source: Author

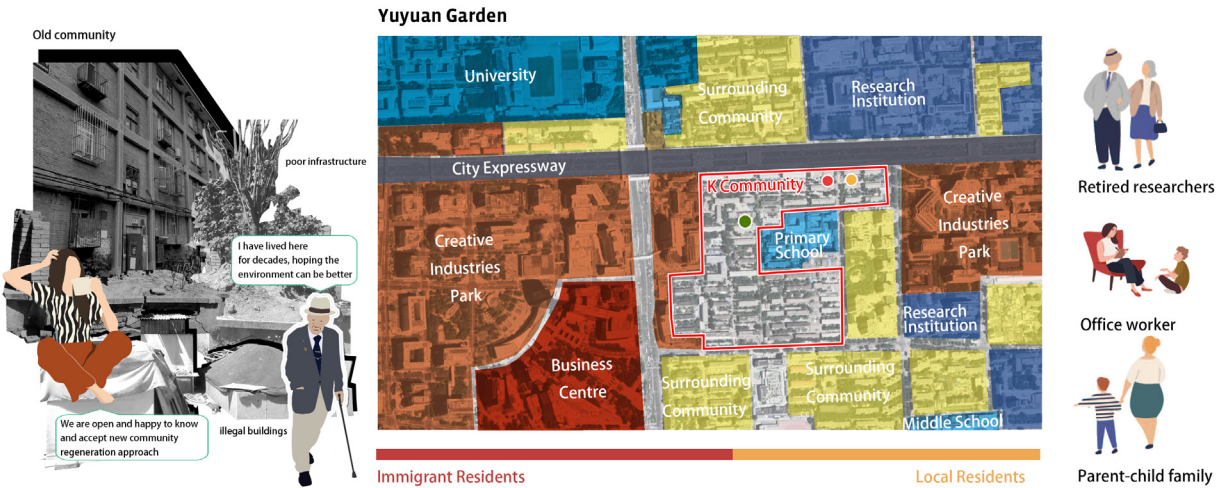
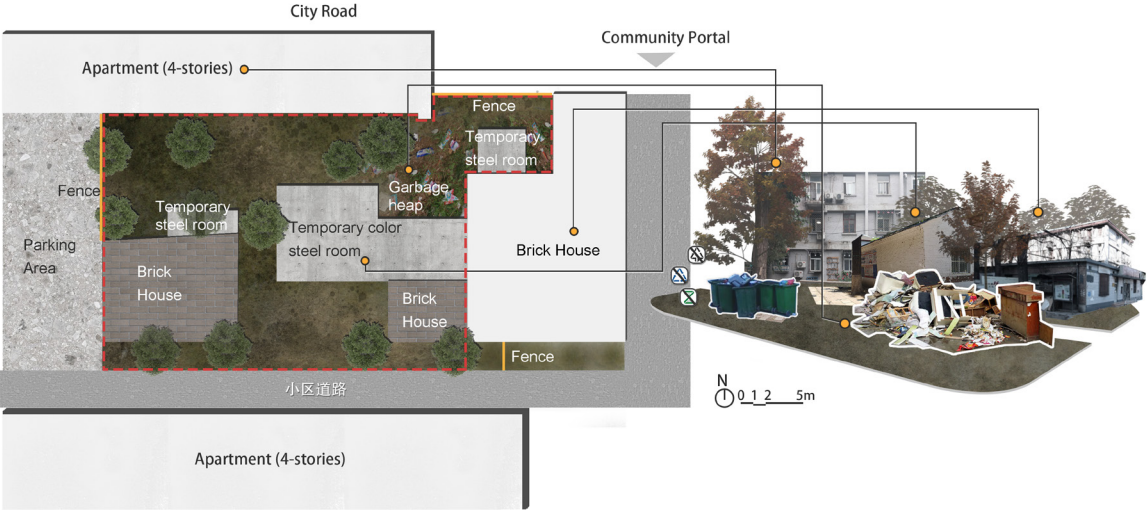


Figure 3. The Yuyuan garden within Keyu community. Source: Author

Layout of the site (before regeneration)



Master plan of the Yuyuan garden (after regeneration)

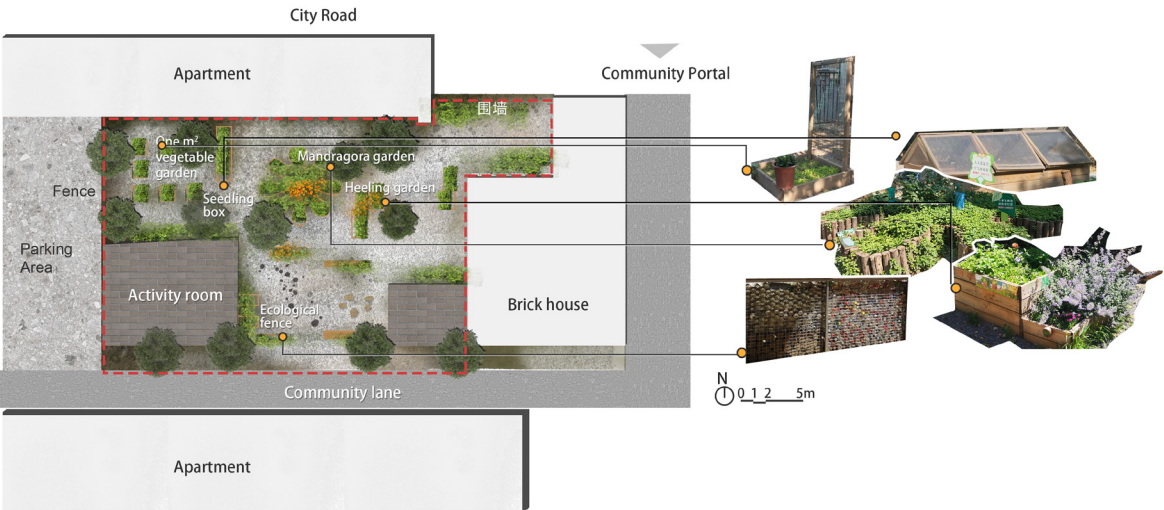


Figure 4. The Yuyuan garden before and after revitalisation. Source: Author

## Actors involved and their integration

Although the project is a small-scale landscape construction effort, it adopted the strategy of multiple actor collaboration by introducing a professional design and management agency, becoming the first co-productive community garden in Beijing.

### Local government: sub-district office

Following the principles of co-production, co-governance and benefit-sharing from the central government, the local government emphasised community revitalisation in managing the issues in old urban community regeneration. The staff of the sub-district office, prompting public engagement in neighbourhoods, were the catalyst for implementing this project. The local government also funded the project design.

### Residents' committee

The Residents' Committee (RC) is the basic grassroots-level unit that promotes self-governance in urban residential areas. The RC aims to assist residents in managing their own day-to-day affairs whilst at the same time being entrusted with the provision of public services by the sub-district. In the case of the Yuyuan garden, the RC played an integral part in coordinating and informing the residents about the project as well as in mobilising resident engagement. The RC was requested by the Zhongguancun sub-district office to assist with construction of the community garden and facilitate community revitalisation. As the members of the RC knew very well who might be interested in the gardening project, they mobilised public participation using a hybrid method, i.e., the RC officially announced the project but then held private consultations with each resident.

The RC director played a crucial role in funding support and collaborative governance after the construction. When the sub-district office could not approve construction expenditure, the RC director proposed to apply for the building funds of the Communist Party of China community representatives. This suggestion finally helped to solve the funding dilemma: the party provided the funds at the initiative of the director. The director also assisted in organising the residents' self-governance team and encouraging RC members to join in maintaining the garden.

### The design team

The professional design agency Gaiascope was selected as the design team for the Yuyuan garden. It built a cooperative relationship with the Zhongguancun sub-district office at the beginning of the project. Gaiascope established a platform for internal communication and discussion with the sub-district office, RC, and residents to break down information barriers. Divided into two parts – the online Keyu Community Volunteer Group and the offline Community Garden Construction and Maintenance Team – the platform also coordinated communication and information exchange between the various parties.

In the project's early days, the Gaiascope team investigated and surveyed the site, communicated with the RC to understand the site's basic information, and developed the community garden construction plan. The team held community garden training for staff of the sub-district office and invited the community to come up with a consensually agreed concept for the garden in question. Designers facilitated community green map workshops where local residents draw green maps, which allowed laymen to understand and describe the social and ecological aspects of the site and jointly reveal the green elements around the community. Activities and workshops organised by the design team further encouraged local

residents to discover the extraordinary beauty of the area. In this way, it helped the residents to increase their awareness of the ‘think big, act small’, begin to care about the neighbourhood, and strengthen community cohesion.

### **Residents**

Residents were the main participants in revitalising the Yuyuan garden. During the three years of the implementation, 18 garden-building activities have been attended by 600 people. Residents participated all stages of the project, including scheme design, voting for the name, garden construction, and post-construction maintenance.

### **Other parties**

The construction stage involved participants from outside the neighbourhood. For example, students from the Primary School no. 1 of Zhongguancun joined the construction of part of the garden, and the Yuyuan garden became the base for nature observation and education. Businesses and non-governmental organisations such as Mercedes-Benz Auto Finance Ltd. and BoKang Foundation also took part in constructing the garden. The publicity delivered by the media also inspired the involvement of other parties and gave rise to several revitalisation practices in other communities.

As presented, various participants played different roles in this project, and the multiple participatory and transdisciplinary approaches enhanced the implementation and impact of the project. The local government initiated and funded the effort, the design team was the organiser, whilst the RC played the role of coordinator and mediator. More importantly, the project involved the voluntary participation of many organisations based nearby, which facilitated the establishment of a local network.

## **Participatory design and post-construction maintenance**

Gaiascape engaged in garden building in the community with the philosophy of ‘everyone is a designer’ and ‘local users are the main design subjects’. The design panel mobilised the RC and community activists to carry out participatory design workshops, empowering the residents of the community to express their requirements and visions for garden construction, making up for the absence of knowledge of the designer’s professional perspective on community life. Participants were divided into groups of children, young people, and the elderly.

Participatory design involved community garden building training, a participatory site survey performed by the residents, discussion of the results of participatory design, and design plan consensus meetings. Training took the form of co-learning lectures on environmental community planning and design principles and community garden cases. This allowed the residents to have a preliminary understanding of the environmental aspects of the community, permitting them to master the methods of community investigation and observation and the concept of creating sustainable communities. It also boosted the confidence of residents for transforming the rundown sites into shared co-productive community gardens. After the training, local residents participated in site surveys. Participants took a drawing of the current situation of the site to experience and observe the environment to find out the advantages and problems of the site. Summarising and analysing the situation collectively, they found the advantages of the site to be: 1) complete space and large area; 2) small house next to the garden can be used for supporting facilities; and 3) nearby Zhongguancun No.1 Primary School, convenient for student participation. The problems were: 1) large





Figure 7. The revitalised Yuyuan garden. © Tongfei Jin, 2020

quantity of trash and mosquitoes; 2) privately built colourful steel houses, affecting the area and its aesthetics; and 3) informal parking spaces across the garden. Subsequently, during the participatory design and discussion period, 30 residents were divided into four groups. Residents exchanged opinions and interacted in the group, reached consensus, and used the method of drawing design sketches to transform the results of the consensus into four different design solutions. These processes served as the design bases for the design team. Following the workshop, Gaiascope turned residents' creativity into understandable drawings and solid models. A consensus meeting on the plan was held, which was attended by the sub-district office, the RC, and residents. After discussion at the meeting, the attendees settled on Yuyuan as the name of the garden. The main function of the garden was to be a sustainable community public garden, to meet the daily leisure needs of the residents, and serve as a venue for community activities and an outdoor classroom (Figures 5-7).

The implementation period included activities such as building a bird feeder, making a 1 sqm vegetable garden and seeding box, creating a rainwater harvesting system, and building a tyre climbing playground, according to the schedule given in Figure 8. As the project entered its third year, a number of garden construction enthusiasts emerged from the body of resident volunteers and took part in building the garden. They formed a garden maintenance team and arranged three volunteers for daily plant conservation (Figure 9). There was a person responsible for managing kitchen waste in compost bins. The RC staff were responsible for logistical support for garden construction and securing the resources needed. The RC invited experts to carry out horticultural lectures and training for

## Yuyuan Garden

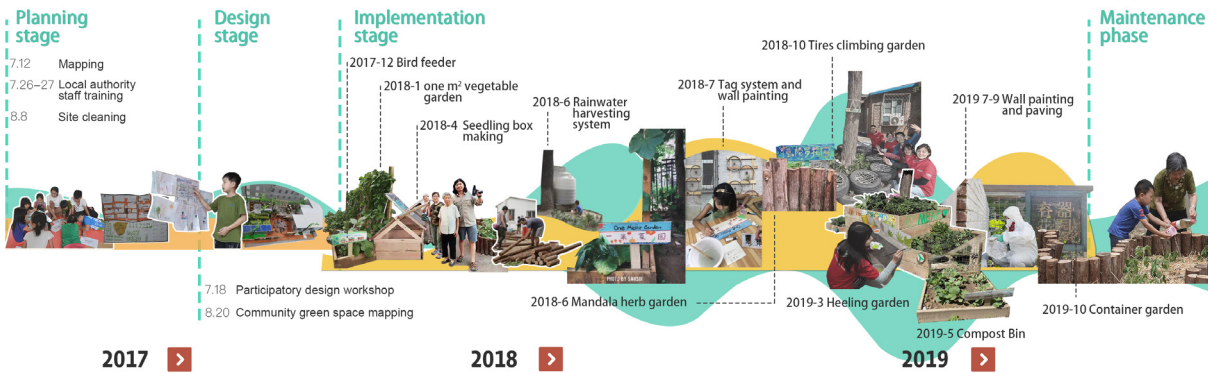


Figure 8. The Yuyuan garden project schedule. Source: Author

volunteers and residents, hence contributing to the positive interaction between the RC, residents, and specialists. Spontaneous engagement in construction by nearby residents reflects the fact that the residents have mastered the basic knowledge of gardening, hence empowering residents to build garden spontaneously. Students from the nearby primary school wrote and performed a play about the building of Yuyuan, which strengthened the bond between the school and the neighbourhood. The primary designer of the Yuyuan garden has claimed that the value of Yuyuan is that it has provided a mutual learning platform for multiple participants.



Figure 9. The Yuyuan garden maintenance team. © Tongfei Jin, 2020

### **The Yuyuan garden: multiple impacts**

After three years of implementation, the project has been remarkably successful in terms of its impact on community networking, social capital building, and healthy development, as described in the following sections.

#### **Networking**

The long-term micro-regeneration practice has helped lay the groundwork for resilience networks and initiatives to emerge in the community, with various active individuals and organisations becoming actors and stakeholders in the process. During construction of the Yuyuan garden, the design team was invited to an adjacent community to develop a participatory design project (Figures 10, 11). Gaiascape has co-produced 13 community gardens in various neighbourhoods in Beijing with local residents. Moreover, many practitioners from other Beijing districts joined the Yuyuan project as volunteers and brought the participatory design strategy back to their own work, scaling up the community garden network across the whole city.

#### **Building the social capital**

The Yuyuan project has benefited the creation of social capital, enhancing the community's stability and cohesion. Activities organised by Gaiascape involved many residents in a mass gardening effort, which generated a social network comprised of these individuals. In addition, the co-production approach has contributed to collective action and overall trust between residents and local authorities, improving the community's capacity to cope with future changes. Further, the Yuyuan micro-regeneration project has advanced ordinary people's ability to engage in community development through social learning in venues such as workshops, group discussions, and collaborative construction.

#### **Healthy community development**

Effects on healthy community development have been twofold. Firstly, the community garden is environmentally friendly and solves problems identified in the survey. The garden is built of natural and recyclable materials. For instance, the bare land is covered by gravel conducive to rainwater permeation and storage and healthier water circulation. Seeding and vegetable boxes are made of timber, and residents can water plants using water gathered from the rainwater harvesting system. Secondly, the implementation of participatory design helps improve residents' mental health. Participants have reported that they met new friends in workshops and during construction activities, and that they were more willing to join public efforts. Residents' sense of belonging and identity has been enhanced since they have built their own garden step by step and have taken the responsibility of caring for the garden that will benefit the community's sustainable and healthy development over time.



Figures 10-11. The community gardens in the vicinity of the Yuyuan garden. © Tongfei Jin, 2020

## Conclusion

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The case of the Yuyuan garden is a successful experimental project that has facilitated Beijing's healthy community development by utilising residual spaces in the community to add green public space and introducing low-carbon techniques. It has built a platform that has brought together multiple stakeholders, such as the RC, residents, and non-governmental organisations. By knitting more actors together into a network, the effort has allowed power and resources to be redistributed more reasonably. As a result, it has enabled sustainable and resilient self-governance of the community garden and has allowed the participatory strategy to be scaled up across the city.

Although participatory approaches have been accepted and utilised in many cases, the incomplete maturity of this strategy cannot be ignored. Planners need to keep in mind both the tangible and the intangible aspects of healthy community development. It is not only environmentally-friendly development that should be emphasised: rather, the ordinary people's understanding and engagement also need to be highlighted as these are the basis for equitable and healthy urban development at a higher level. The lessons learnt strongly suggest that healthy community planning needs to pay attention to previously neglected small spaces, and, more importantly, to go beyond physical boundaries and promote a holistic and multi-disciplinary participatory approach.

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