Analysis of the creation of idle community space under the background of urban renewal in China

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Abstract. In the era of rapid urbanization, the existing buildings in old communities can no longer meet the living needs of residents, and the community space urgently needs to be updated. The article explores the use of micro updates to create community space and combines participatory creation to analyse the principles of community space creation, including spatial social power, knowledge interaction power, critical thinking power, and local inclusiveness. From the construction mode and process perspective, this paper analyses the renovation case of basement 302 of Wangjing Huajiadi in Beijing. Starting from the needs of residents, problems encountered, and conflicts encountered, and by creating a skill exchange space, a community construction mode of co-creation and symbiosis has been summarized.

Keywords: community creation, space creation, participatory design, micro update.

1. Introduction

In the context of urban renewal, this article observes that "incremental development" is gradually losing its potential for growth, and the focus is shifting toward "stock renewal". If retrofitting and redevelopment are to be carried out in urban spaces that have been built for many years, it will involve multiple interests, making it difficult to advance renewal projects and implement plans due to various obstacles. Therefore, it is hoped that by transforming the existing buildings and surrounding environments of many old urban areas and urban villages in China, the living environment of residents can be improved. Emphasis is placed on enhancing the quality of cities and exploring more possibilities for community spaces. Whether it is from material needs or spiritual needs, finding a way that is acceptable to residents, supported by policies, and economically viable is important [1]. This article chooses to study the method of community space creation and explores the principles of community space created from the perspective of micro-updates to community spaces. It summarizes and analyzes selected patterns of community space creation, and analyzes how these principles are reflected in spatial creation and the participatory design methods used in community space created through selected cases.

2. Community creation

Community creation is about discovering the potential value of idle spaces in the city, reorganizing the relationship between people and space, and generating benefits in the community by transforming and utilizing these spaces [2].

Initially, residents in the same community were often closely connected in terms of geography, kinship, and social ties. However, with urban development, the turnover of residents in the community, as well as the shortage of urban land and housing, some high-density old neighborhoods lack the conditions to provide a place for public communication and entertainment for residents. Middle-aged and young people choose to go to the more densely populated and resource-rich central areas of the city, while the elderly and children often choose the corners between buildings nearby, bringing their tables and chairs, and can only engage in simple chess and card games, limited by weather and severely restricted by the availability of activity spaces lacking energetic sports facilities.

Community creation requires multi-party participation, including the government, enterprises, community departments, and community residents. Selecting land that conforms to the trend of urban planning and development, partnering with relevant enterprises to conduct convenient commercial activities, coordinating and managing the public areas by community departments, and requiring residents to participate or self-organize in some public activities are necessary [3]. The functional space needs to be integrated into an organic collection through research, which may include public services, public activities, and commercial activities, linking the dynamic and static, public and semi-private attributes of these spaces [4]. Community creation also needs to focus on the vitality and atmosphere of the space, creating open, sunny, and harmonious urban spaces [5].

Exploring the gray spaces around old neighborhoods that have not yet been utilized, updating these negative spaces through design, creating community activity places for daily use by community residents, providing more diverse entertainment facilities for people who have difficulty traveling long distances, and providing comfortable public spaces for the post-epidemic era of online work. Gathering community residents in such rich and multi-functional spaces can promote neighborhood communication and create opportunities to connect among previously more isolated neighbors. Transforming the originally gray urban spaces into multi-functional spaces integrated with green landscapes makes urban life more comfortable.

2.1. Community micro-updates through community building

Micro-updating refers to a gradual and small-scale "organic updating" strategy that follows the city's metabolism and achieves urban revitalization after abandoning large-scale urban renewal. Such a city can be considered an "organic collage". Micro-updating advocates "organic regeneration" and actively expands "micro spaces". It replaces "large-scale demolition and construction" with a people-oriented approach. Micro-updating gradually becomes a city development method with emotions and warmth [6]. Micro-updating refers to adopting some organic updating strategies in small spaces and scales that follow the city's metabolism, including updating spaces, and facilities, and reconstructing and updating functions, materials, and lifestyles[7].

In response to low-quality and low-utilization spaces such as old buildings and urban corners, community space creation methods are used to create warm community spaces, thus achieving micro-updating of the community and optimizing community life.

2.2. The principles of community public space construction

Community public space construction mainly includes four principles: spatial social power, knowledge interaction power, critical thinking power, and local inclusiveness.

2.2.1. Spatial social power.
Spatial social power mainly refers to how all social life is placed in space, and how social behaviour exists in that space. Society, economy, technology as well as other forces can be used, exchanged, and play a role in this space, thus forming a force that affects individuals, communities, and even social processes.

2.2.2. Knowledge interaction power.
Knowledge interaction not only includes the interactive functions of media buildings and installations but also includes information exchange and interaction through the five senses of people in the environment. Community space is also a place for knowledge interaction,

and suitable interactive platforms and environments should be built according to the interacting subjects and cultural context. Therefore, it becomes crucial to construct useful and effective knowledge interaction in what form. For example, a place related to local history and culture can be created in a community with historical commemorative significance to help people understand or remember history. In a community that used to be a factory and mostly inhabited by factory workers' families, some old objects from the factory can be used to create a nostalgic, distinctive space.

2.2.3. Critical thinking power. Critical thinking should be considered in every stage of the design process. "Shaping urban public space" should not be equated with "clearing land." Instead, existing buildings should be adapted and transformed to construct the relationship between space and the city, rather than pursuing a perfect spatial order [8]. Also, community function construction should not simply cater to the behavioural characteristics of community residents, but should selectively guide and optimize their behaviour based on the development needs of the city and era. Additionally, more discreet and penetrative research methods can be used to uncover the potential needs of community residents, and corresponding functional spaces can be designed accordingly. In the process of the rapid metabolism of the city's new urban areas, it is necessary to dialectically view history, not to be constrained by it, but also to be cautious about temporal issues, viewing the evolution of architecture in relation to history, present, and future [9].

2.2.4. Local inclusiveness. Design should coordinate with the natural environment, cultural context, and local customs, emphasizing the integration and blending of buildings with the land they are situated on, the humanistic environment, and the value systems that have formed on it [10]. In urban public space construction, various interest groups need to collaborate on inclusive design to a certain extent, easing inequality and exclusivity issues. Inclusiveness is also a necessary principle for the sustainable development of cities. Local inclusiveness is an attitude, standpoint, and architectural generation logic for researching and designing specific local issues. It emphasizes the inclusive symbiotic way, design principles, and ideal goals of building design with its environment.

3. Community public space creation modes

3.1. Mapping workshop mode

Become a detective of life, empathize with every ordinary person in life, to observe, understand, and think about life, is the mode of mapping workshop. Exploring how the normal people use, transform, and even subvert the original design, and express this information is the core link [11]. As for the complete process of mapping workshop, it contains 6 steps, including choosing, tracking, shifting, discovering, presenting, and designing (Figure. 1).
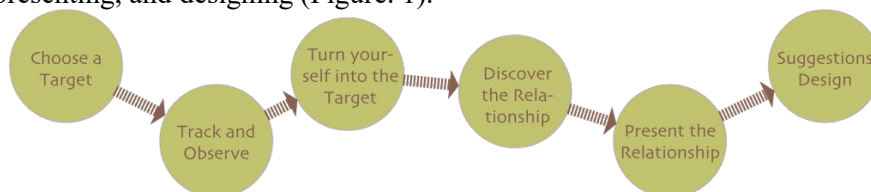

Figure 1. Mapping workshop model step diagram.

Through this process, explore the root causes of the so-called "chaos" in the community, understand the principles behind the order operation behind the chaos, decipher life, and make inclusive and humane designs. The street vendor selling sugar haws, the residents living in the alleys, the homeless wandering in the slums… all of these should be the objects of attention [11]. Through tracking and research, understand their use and needs of daily space, and provide space design and transformation possibilities for these groups of people who are often ignored by the mainstream planning perspective.

3.2. Participatory construction design and co-construction

The demand for the quality of urban residents'' living environment is significantly increasing, and the aware of contradiction in community public space is also becoming more consensual. The cold urban residential buildings make people feel the presence of many strangers in the community. If the real needs of locals can be captured and residents'' power mobilized, then the process of space construction can bring people closer together, creating a warm and humane community [12]. Participatory design, such as community gardens, can be briefly divided into four steps: space-maintenance-management-update (Figure. 2)[13].
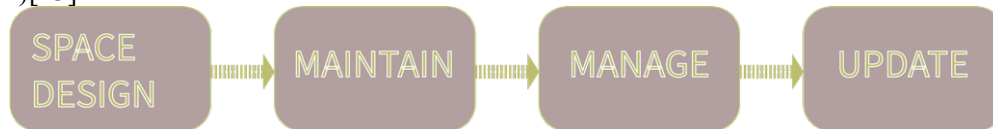

Figure 2. Basic co-construction flow chat

First, create an attractive garden space that attracts community residents to participate. Then the relevant personnel maintain and manage it. On the base of this, periodic activities can be carried out to promote garden updates.

The participatory construction mode can be divided into three categories based on different dominance. Firstly, the government-led mode requires systematic evaluation before providing corresponding funds, platforms, and policy support, and it can generally be combined with micro-updates in the community. Secondly, the non-governmental organization-led mode is initiated by some public welfare organizations, and designers are attracted to complete projects through channels such as self-media. Then, grassroots organizations mobilize residents to participate in co-construction and maintenance activities. Thirdly, the resident-led mode is generally small in scale, and the site is often in its front or back yards. They utilize unused corner spaces for some activities. With continuous practice, a self-organized small group mode will gradually form [14].

3.3. Social work embedded community construction

The ways of embedding social work into the community include institutional embedding, project embedding, and service embedding. Based on the community as a platform and social work as a support, it connects community space with community residents [15]. Through professional planning, design, and management personnel, art, history, and culture are integrated into the community space to mobilize the enthusiasm and passion of residents. Regarding historical and cultural-related heritage, not only can exhibitions be set up, but also the public can participate in research, restoration, and promotion of cultural heritage while inspiring vitality and increasing residents' sense of cultural belonging.

4. Exploring the practice of community public space creation: taking Beijing's Wangjing Huajiadi 302 Basement Space as an example

4.1. Overview of public spaces in basements in Beijing

Starting in 1986, every residential building higher than 10 floors in Beijing was required to construct civil defence underground facilities. In the late 1990s, a large number of migrants from outside of Beijing flooded into the city, about one million people. As the subway stopped running after 11 pm, many residents could not return to their suburban homes after working late at night and chose to live in the underground facilities in Beijing [16].

To help these residents living in the narrow space in underground facilities, a sustainable development strategy is needed to redefine the underground spaces and achieve "spatial justice" to rebuild social relationships. With the premise of gaining trust, the project designed an "art exchange" installation for skill exchange, as shown in figure 3, allowing underground residents to learn skills from each other and improve their knowledge and abilities in a free room as shown in figure 4. It also aims to change the perception of the underground spaces and construct a social interaction model in the underground spaces, which could become a transit station between rural and urban areas in the future.

Figure 3. Skill exchange matching room.
(https://kns.cnki.net/kcms2/article/abstract?v=3uoqIhG8C44YLTlOAiTRKibYlV5Vjs7i0-
kJR0HYBJ80QN9L51zrP8IlPdNLp8nNstY0Sddv-lmrxqi-
YvLWP_usz_b6267X&uniplatform=NZKPT&src=copy)

Figure 4. Free room in the basements.
(https://kns.cnki.net/kcms2/article/abstract?v=3uoqIhG8C44YLTlOAiTRKibYlV5Vjs7i0-
kJR0HYBJ80QN9L51zrP8IlPdNLp8nNstY0Sddv-lmrxqi-
YvLWP_usz_b6267X&uniplatform=NZKPT&src=copy)

4.2. Renovation model for building basement space in Beijing Huajiadi community

Detailed, authentic, and critical research is an essential step to obtaining effective research results. To gain the trust of the research objects, who are the underground residents in this project, they need to be integrated into their community to observe what needs to be modified, what needs to be preserved, and the nature of the problems that arise. Regarding space design, the goal is to closely link the spatial structure with the local social structure, and find the best balance point between "public and private," "open and closed," and "public welfare and commercial" to achieve "spatial justice." "Spatial justice" means that space, as a public resource, should be distributed fairly, public space should be maintained and shared in the way of common production materials, and the public products generated after public

space allocation should be distributed in balance to achieve common use balance. The key point of space operation is to let residents themselves ask what they can do with this space.

The controversy over community public spaces stems from the conflict of interests behind various parties. One of the keys to solving this contradiction is to find a "spatial justice" and clarify the dominant logic in the spatial production process under the social context [17].

5. Conclusion

With the continuous advancement of urban renewal, the grey spaces existing in communities are also updated according to the current needs of residents. For the existing buildings in old communities in most cities at present, using micro-renewal methods will be more in line with the fast pace of urban development. Regarding the issue of the relationship between people and space, involving residents in the operation, maintenance, and renewal of this space, developing appropriate participatory design schemes can more effectively create a connection. Overall, the current creation of community spaces requires spatial social power, knowledge exchange, critical thinking, and local inclusiveness. The case of Beijing Wangjing Huajiadi Community is a ground-breaking exploration of participatory design in community space creation and has subsequently produced good benefits in multiple community space creation practices. However, to thoroughly address the series of issues faced by urban renewal and the influx of large numbers of residents into cities, more research is needed in rural areas where the population originates.

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