SPATIAL RECONFIGURATION THROUGH EDIBLE URBAN FARMING: DESIGNING SOCIAL INTERACTION SPACES IN VERTICAL URBAN KAMPONG

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ABSTRACT

A city is inseparable from the presence of settlements, as residential environments are fundamental to the formation of urban areas. In cities, settlements vary in form, commonly divided into formal and informal types. Urban kampong are a form of informal settlement whose existence, though sometimes seen as a challenge to urban order, is a natural and enduring component of the city. One essential element within these settlements is the availability of social interaction spaces—places where residents can engage in daily encounters and strengthen community ties. In Kampung Kunir vertical housing, however, such spaces are either absent or underutilized. Several potential areas exist, but they remain as residual spaces with no clear function or value to the community. This initiative seeks to revitalize those neglected spaces by introducing edible gardens through vegetable planting. By transforming passive spaces into productive, interactive areas, the program not only enhances spatial quality but also fosters social engagement among residents. This community engagement effort—driven by interdisciplinary collaboration between architecture and economic management—provides multidimensional benefits. It empowers residents socially, improves spatial utilization, and contributes to small-scale urban sustainability. Ultimately, it reflects a human-centered approach to designing inclusive, responsive urban environments within dense residential settings.

Keywords: Human Settlements, Social Interaction Spaces, Urban Farming, Urban Kampong, Vertical Kampong.

1. INTRODUCTION

The flats are an important part of the urban ecosystem that accommodates many residents with diverse social and economic backgrounds. As a dense residential environment, flats often face challenges in providing adequate social interaction spaces and green areas (Christantia, 2018; Sunoto, 2022). In fact, social interaction spaces have a crucial role in building connectivity between residents, strengthening social ties, and creating a more inclusive and comfortable environment (Anggiani & Ayudya, 2024; Sofia et al., 2021; Tamariska & Ekomadyo, 2017). Therefore, innovative planning efforts are needed so that existing spaces can be utilized optimally. One solution that can be applied is the use of edible gardens in the residual spaces of flats. This concept not only provides an ecological function as a green space that can improve environmental quality but also creates a more lively and productive interaction space for residents (Diwanti, 2018; Puji Lestari & Dewi Lestari, 2022; Sukenti et al., 2020). With the presence of edible gardens, flats are not only a place to live but also a healthier, more empowered, and more sustainable shared space in supporting urban social life.

In the residential environment of the stacked kampong, social interaction spaces have an important role in strengthening relationships between residents and creating a more harmonious environment (Chaniago & Antaryama, 2016; Sukawi, 2024; Tamariska & Ekomadyo, 2017). However, in the Kampung Susun Kunir, proper social interaction spaces are still not available, even though there are residual spaces that have the potential to be utilized. These residual spaces are often not managed properly and are left empty without a clear function. As a result, residents do not have a comfortable place to do activities together, discuss, or simply socialize in their daily lives. In fact, the existence of good social interaction spaces can support various community activities and improve the quality of life of urban village residents.

In addition to the lack of social interaction spaces, the Kampung Susun Kunir also faces the problem of minimal green areas in the residential environment . The presence of green spaces not only functions as an aesthetic element but can also improve environmental quality by reducing urban heat and improving the health of residents. Urban parks are like an oasis in the concrete desert of the city, making urban life feel more humane(Jamila & Putra, 2016). One solution that can be applied is the use of edible gardens, namely productive gardens that not only function as green spaces but can also be used to grow food crops. With this concept, previously unused residual spaces can be optimized into greener, more productive, and more beneficial social interaction spaces for residents. Through this community service

program, the planning of the edible garden will be designed in a participatory manner with residents so that it can create a space that suits their needs and is sustainable in the long term.

The development of the Kampung Susun Kunir is an effort to relocate 33 heads of families from the former Kunir Village who were affected by the 2015 clean-up. The planning of the arrangement was carried out in a participatory

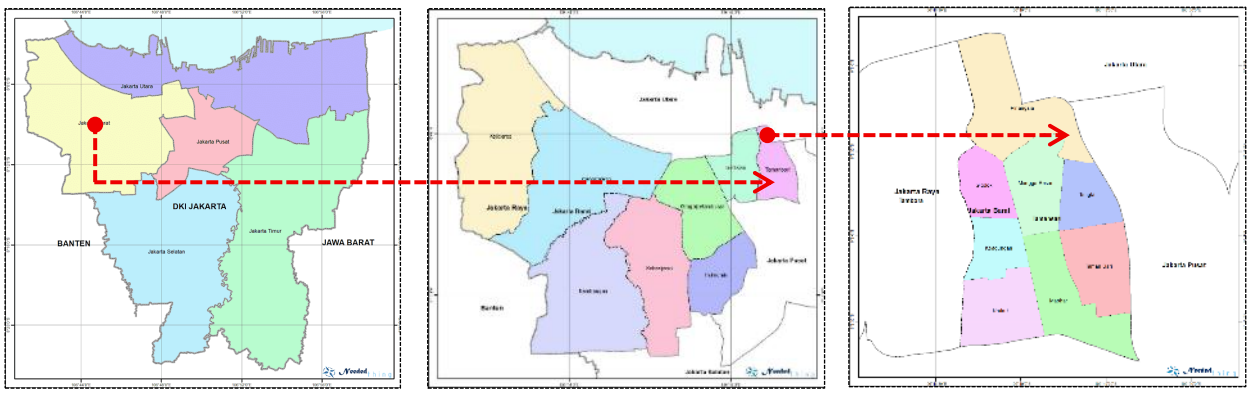
Figure 1. Kampung Kunir vertical housing

and collaborative manner with residents through the Community Action Plan (CAP), taking into account city spatial planning provisions that support the preservation of cultural heritage. In addition to residential units, the facilities available include residents' business spaces, multipurpose rooms/halls for interaction, community posts, motorbike parking areas, green open spaces, and the Kunir Gallery as a means of preserving cultural heritage (Dinas Perumahan Rakyat dan Kawasan Permukiman Jakarta, 2024).

The presence of Kampung Susun Kunir reflects a paradigm shift in urban housing—moving from evictions to structured resettlement with dignity. However, the physical provision of housing alone is not sufficient. What residents truly need is a livable environment that supports their daily social life, economic activity, and cultural continuity. The challenge lies in how to activate the in-between and leftover spaces in ways that resonate with the residents' habits and communal values. This is where spatial interventions, such as the edible garden initiative, gain relevance—not merely as environmental solutions, but as catalysts for social cohesion and spatial justice.

Involving residents in the design and activation of their living environment has proven to increase the success rate of community-based programs. Kampung Susun Kunir presents a valuable case where participatory approaches empower residents to reclaim agency over their everyday spaces. Transforming residual land into edible gardens not only adds functionality and greenery but also strengthens the residents' attachment to place. Moreover, it enhances the sense of belonging and mutual responsibility. These outcomes demonstrate that small-scale spatial strategies, when embedded in a participatory framework, can contribute meaningfully to building inclusive, sustainable urban communities in rapidly densifying cities like Jakarta.

2. METHOD



Jakarta maps West Jakarta maps Pinangsia District maps

Figure 2. The location of Kampung susun Kunir in Pinangsia District, West Jakarta

Historically, the location of Kampung Susun Kunir is a former Dutch building from the 18th and 20th centuries. Before the construction of the Kampung Susun, this area had been a garbage dump. Now, with the existence of

Kampung Susun Kunir, it is hoped that it can improve the quality of life of residents by providing decent housing and adequate supporting facilities (Trengginas, 2022). Kampung Susun Kunir is located at Jalan Kemukus No. 2, RT 9/RW 7, Pinangsia Village, Taman Sari District, West Jakarta (Figure 2). Built on an area of approximately 860 square meters, this Kampung Susun consists of one block with four floors covering a total of 33 residential units, each with an area of 36 square meters. Each unit is equipped with a bedroom, living room, kitchen, bathroom, and balcony (Diana, 2022).

Implementation methods that can be carried out in the optimization of residual space as a social interaction space in the Kampung Susun Kunir, one of which is by improving the available spaces that have not been optimized. It can be seen from the extent to which the community is involved as an actor in every process of planning, implementation, and management. Participation, according to the United Nations, is the creation of opportunities for the community or a community to actively contribute and influence the development process and to also participate in feeling the results of the development (https://bappeda.bulelengkab.go.id/). The concept of the level of community participation according to the high level is that the community really starts from the planning, implementation, and management of development results (Iftisan, 2013).

The community engagement activity was carried out through a participatory method that emphasized the active involvement of Kampung Susun Kunir residents. The steps included problem socialization, collaborative identification of underutilized residual spaces, and participatory design discussions (Aditya et al., 2020; Solikhah et al., 2021). A joint planning schedule was prepared with community input, followed by space preparation and gradual implementation. The residual spaces were transformed into productive areas for social interaction, such as edible gardens and communal gathering spots. Each stage involved residents in planning, execution, and maintenance, ensuring the sustainability and relevance of the intervention to community needs.

Urban farming is beneficial to the society due to food shortage crisis which is inadequate for the whole population (Indrawati et al., 2022; Yusoff et al., 2017). The use of an edible garden as an urban farming strategy in the context of Kampung Susun Kunir aims not only to improve household food security but also to create opportunities for residents' social interaction. This implementation method focuses on empowering the community to design, plant, maintain, and harvest the communal garden together. In this way, residual spaces that were previously unproductive can be transformed into communal gardens that support gardening activities while strengthening social ties among residents, creating spaces for learning and sharing urban farming knowledge within a vertical housing environment (Hou, 2017).

In addition, this method will engage residents as the main driving force through an active participation approach, starting from site identification, edible garden design development, to daily garden management. The productive garden will be designed to be flexible and accessible for all residents without obstructing housing circulation. With an edible garden integrated as a social interaction space, it is expected that residents will not only benefit from the harvest but also gain a communal space for socializing, fostering a supportive community that cares for its surrounding environment.

Implementation steps

The steps for implementing PKM activities are arranged as follows (Figure 3):

1. Socialization of the problem of the suboptimal quality of teaching and learning spaces and partner offices.
2. Sharing information with partners that their teaching and learning spaces and offices can have their space quality optimized.
3. Start the planning schedule for optimizing residual space as a social interaction space that produces results in Kampung Susun Kunir, West Jakarta.
4. Conducting preparation for the optimization of residual space as a productive social interaction space in Kampung Susun Kunir, West Jakarta.
5. Implementation of planning for the optimization of residual space as a productive social interaction space in Kampung Susun Kunir.

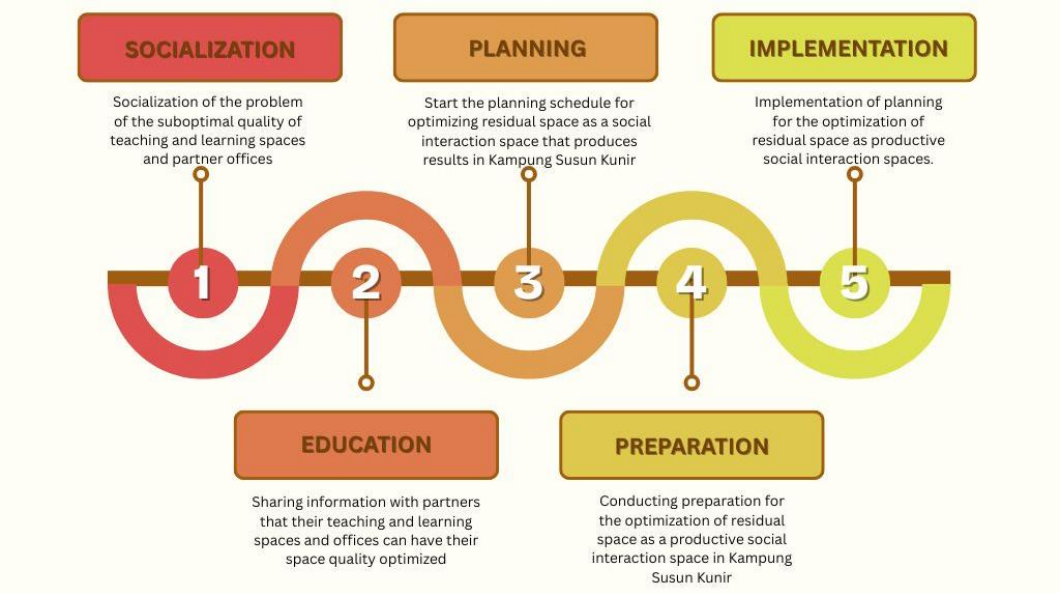


Figure 3. Activities Steps

3. RESULTS AND DISCUSSION

In the midst of the dense capital city area, the Kampung Susun housing complex is here as a vertical housing solution for urban residents who previously lived in urban villages. However, limited land often makes it difficult for residents to find open space for daily activities. Interestingly, there are still remaining spaces around the kampung susun—such as corridors, empty yards, or areas between blocks—that have not been optimally utilized. Rather than being left empty or becoming illegal parking lots, these spaces can be transformed into productive land, such as vegetable gardens that can be managed together by residents.

Utilizing the remaining space in the stacked village as a productive garden is not only about planting food crops but also opening up new space for social interaction between residents. Gardening activities, from preparing the planting medium to watering to harvesting, can be a medium for togetherness that grows naturally. In the midst of the fast-paced and individualistic rhythm of the city, the presence of a space like this allows residents to pause, greet each other, and even help each other. In this way, the remaining space that was previously passive can be transformed into a social node that strengthens the bonds between residents.

Figure 4. Discussion with partners at Kampung Kunir

Productive gardens in the flats also reflect the form of adaptation of residents to limited space and daily food needs. Vegetables from the garden can be used for personal consumption, reducing household expenses while fostering a

sense of ownership of the residential environment. Moreover, the existence of micro green spaces like this contributes to air quality and micro temperatures around vertical settlements. Collective management of remaining space in flats housing is proof that small transformations can have a big impact on the quality of life of residents in the middle of the city.

The PKM activities have been carried out by the proposing team during the program implementation period (Figure 3). The PKM team carried out the entire series of activities in accordance with those proposed in the Implementation Method, starting from socialization activities to evaluation. The entire series of PKM activities carried out by the proposing team from Mercu Buana University were welcomed by the partners. Collaboration between the two parties went smoothly. The following is some documentation during the implementation of activities at the location.

The utilization of the remaining space in Kampung Susun was carried out optimally by presenting an edible farm with high economic value. The corner area near the wall was used to plant leafy vegetables such as kale, spinach, and mustard greens hydroponically, which are suitable for the climate and fast harvest cycle. In addition, plants such as tomatoes and chilies were planted conventionally in soil beds to increase the variety of harvest results. The arrangement of the space was adjusted to the shape of the land: rows of plants followed the length of the land, with a small circulation path in the middle. Hydroponics were placed on the side that received sufficient sunlight, while soil plants were on the shady side. This planting pattern allows for sustainable harvests, while strengthening the food independence of residents collectively. In accordance with the main objective of this PKM activity, namely to create a productive green space design from the remaining space in the Kampung Susun Kunir housing complex, the results of discussions with residents resulted in a green park plan as shown in Figure 5.

The implementation of this community service program has demonstrated that leftover or residual spaces within vertical housing areas can be optimized into productive areas while also functioning as social interaction spaces for residents. The success of the edible garden planning at Perumahan Susun Kunir emphasizes the importance of collaboration among the design team, housing management, and the local residents themselves. Through a participatory approach, residents are not merely passive users but active participants in maintaining and caring for the green open space. The results of this activity can serve as a good practice example for spatial planning efforts in other dense urban residential areas that face similar challenges regarding limited open space.

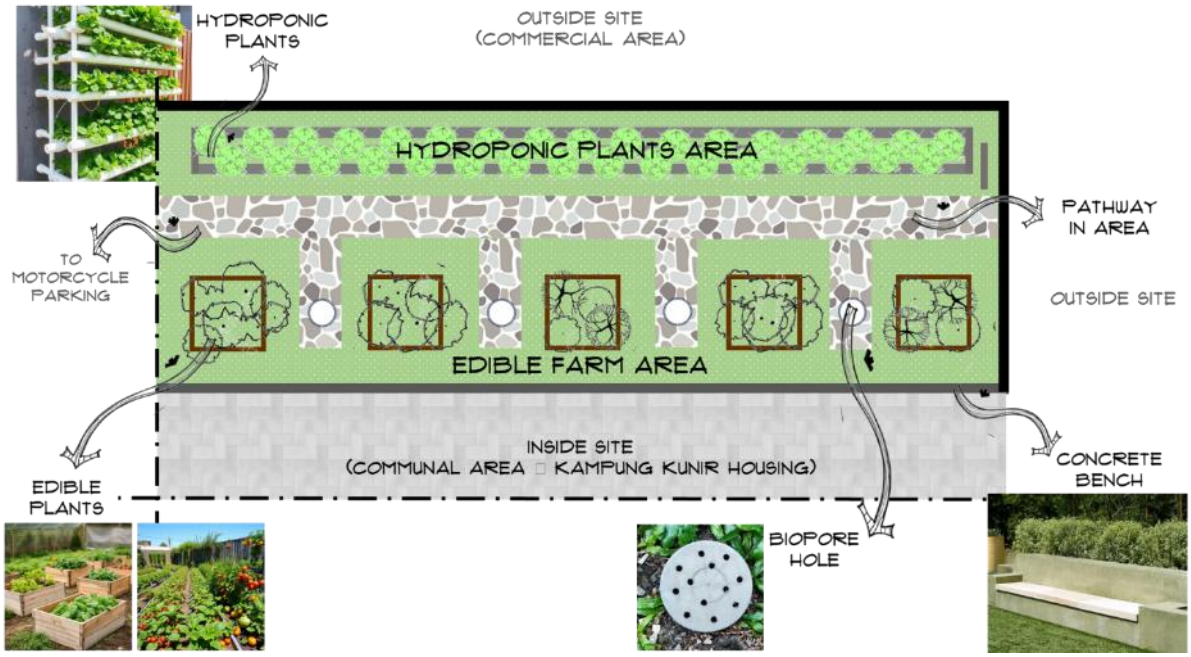


Figure 5. Edible farm as social interaction place for Kampong Kunir dwellers.

Based on the implementation results of the program, it can be concluded that the presence of pathways, edible plants, hydroponic installations, biopore holes, and seating facilities has provided significant added value to the quality of life of the residents. The social interaction space created does not only function as a physical facility but also plays an important role in fostering a harmonious social climate within the limitations of a densely populated environment. Activities such as tending the plants together, harvesting the garden produce, and sitting while having casual

conversations in the open space have become meaningful parts of everyday social life, adding color and togetherness to the daily routines of the kampung kota residents who live in Perumahan Susun Kunir and its surroundings.

To support the sustainability of this program in the long term, it is recommended that there be regular assistance in the form of technical training sessions for the residents. Such training may cover practical skills such as techniques for maintaining edible plants, repairing and managing the hydroponic installations, and handling organic waste management using the biopore system. Through this capacity building, it is expected that the residents will be able to independently care for and further develop the edible garden in a sustainable manner. Additionally, support from the housing management as well as the local government is also crucial so that similar activities and community initiatives can be replicated and implemented in other locations with comparable conditions and challenges, thereby expanding the positive impact of this community empowerment program.

Furthermore, it is necessary to conduct regular monitoring and evaluation so that the results of the community service program do not stop merely at the stages of planning and physical implementation. This evaluation process should ideally involve representatives from the local residents to assess various aspects, including the functional effectiveness of the space, the success rate of harvesting edible plants, and the efficiency of organic waste processing through the biopore system. The findings gathered from this evaluation will serve as a valuable basis for improving the future management of the social interaction space. In this way, the edible garden will not only be sustained but will continue to grow and develop as an innovative model for green open spaces within urban kampong areas, inspiring other communities to adopt similar concepts.

Figure 6. Conceptual sketch of the edible garden as social interaction place in Kampung Susun Kunir

From an academic development perspective, this community service initiative has opened up opportunities for further research related to the optimization of residual spaces in densely populated residential areas. Interdisciplinary collaboration involving architecture, environmental engineering, and social sciences can be carried out to address the complex challenges of managing urban green open spaces effectively and sustainably. In addition, the application of urban farming technologies such as hydroponics and biopores can be further developed and refined to align with sustainability principles. The results of such development and continued research are expected to serve as practical references and valuable resources for both academics and practitioners working in the field of urban planning, community development, and sustainable settlement design. Such contributions will strengthen the knowledge base and help cities respond to the increasing demand for innovative green spaces that integrate social, ecological, and technological aspects in a balanced manner.

In conclusion, through the implementation of this community service activity, it is hoped that a new mindset will be formed among the residents of Perumahan Susun Kunir, encouraging them to become more aware of and care for their surrounding environment in a sustainable manner. The utilization of the edible garden is not merely intended to beautify the space, but also to revive the spirit of mutual cooperation among residents, strengthen family-level food security, and foster closer social ties within the community. It is sincerely expected that this good practice of planning a social interaction space based on the edible garden concept can inspire other residential areas to transform their own living spaces into productive, green, and sustainable environments. Such transformations are particularly important in the dynamic urban context, where limited land and dense population often pose significant challenges to maintaining quality communal spaces that benefit both people and nature.

4. CONCLUSION

In conclusion, the implementation of the community service program in Kampung Susun Kunir demonstrates that residual spaces in dense vertical settlements can be innovatively transformed into productive edible gardens that simultaneously function as vital social interaction spaces for residents. By integrating urban farming through edible gardens, residents not only gain direct benefits in the form of improved food security and reduced household expenses but also experience stronger social cohesion and a renewed sense of place attachment. The participatory planning and maintenance processes have proven to empower residents as active agents in shaping and caring for their living environment, turning unused corners into green, vibrant communal nodes that break the monotony of concrete housing blocks. Gardening together fosters spontaneous interactions, knowledge sharing, and mutual support among neighbors, helping to counteract the isolating tendencies of urban life. Furthermore, the environmental benefits of such initiatives—such as improved microclimate, better air quality, and organic waste management through biopores—add significant value to urban resilience. The involvement of local stakeholders, including housing managers and government support, is key to sustaining these efforts, as is the provision of continuous training and capacity building to ensure residents can independently manage and expand their edible gardens in the long term. From an academic perspective, this initiative sets a valuable precedent for further research on optimizing residual urban spaces for multifunctional community uses, blending social, ecological, and technological innovations in compact urban settings. Ultimately, the edible garden model in Kampung Susun Kunir is more than just a green solution; it embodies an inclusive, participatory approach to urban living that strengthens the community's capacity to build a healthier, more resilient, and socially connected environment. This good practice serves as inspiration for other urban kampongs to creatively reclaim their leftover spaces as meaningful places that nurture both people and nature amidst the challenges of urban density.

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