

# Community-Based Research on Urban farming: Towards Sustainable Development and Inclusive Urban Design in Masangan Kulon Village, Indonesia

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**Abstract** *This study investigates the use of Urban farming in Masangan Kulon Village, Indonesia, using a Community-Based Research (CBR) paradigm. Community emotions surrounding village life were collected through surveys and participatory involvement, uncovering opportunities and problems for the growth of urban farming. The public facility land, situated strategically within the Griya Bhayangkara housing neighborhood, has emerged as an ideal location for agricultural activity. The development plan tackled various challenges, such as enhancing infrastructure and promoting community engagement, while emphasizing the significance of inclusive urban design planning. Despite the COVID-19 pandemic, the community has shown resilience by converting public spaces for agricultural use. The proposed action plan prioritizes community engagement, improving infrastructure, and promoting environmental sustainability. The proposed action plan will support the development of sustainable Urban farming and advocate for inclusive urban design planning methods.*

**Keywords:** *urban farming, community-based research, sustainable development, community participation, inclusive urban design*

**Abstrak** Penelitian ini menyelidiki pemanfaatan *urban farming* di Desa Masangan Kulon, Indonesia, dengan menggunakan paradigma Penelitian Berbasis Komunitas (CBR). Emosi masyarakat seputar kehidupan pedesaan dikumpulkan melalui survei dan keterlibatan partisipatif, untuk mengungkap peluang dan permasalahan bagi pertumbuhan pertanian perkotaan. Lahan fasilitas umum yang terletak strategis di lingkungan perumahan Griya Bhayangkara ini menjadi lokasi yang ideal untuk kegiatan pertanian. Rencana pembangunan tersebut mengatasi berbagai tantangan, seperti meningkatkan infrastruktur dan mendorong keterlibatan masyarakat, sekaligus menekankan pentingnya perencanaan desain perkotaan yang inklusif. Meskipun ada pandemi COVID-19, masyarakat menunjukkan ketahanannya dengan mengubah ruang publik menjadi lahan pertanian.

Rencana aksi yang diusulkan memprioritaskan keterlibatan masyarakat, peningkatan infrastruktur, dan peningkatan kelestarian lingkungan. Hal ini akan mendukung pengembangan pertanian perkotaan yang berkelanjutan dan mendukung metode perencanaan desain kota yang inklusif.

Kata Kunci: *pertanian perkotaan, penelitian berbasis masyarakat, pembangunan berkelanjutan, partisipasi masyarakat, desain kota inklusif*

Submitted: 2023-12-23 | Accepted: 2024-03-04 | DOI: 10.29080/eija.v0i1.2104 | Pages : 69-78

EMARA: Indonesian Journal of Architecture

<http://jurnalsaintek.uinsby.ac.id/index.php/EIJA>



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## Introduction

The growing number of community-led initiatives aimed at developing the physical environment at the level of neighborhood associations (RW), neighborhoods (RT), and towns indicates a shift in the prevailing mindset. An in-depth examination of these developing villages, each with unique skills, is essential to obtain a significant and thorough understanding of the future advancement of villages in Indonesia. A significant focus is scrutinizing the sustainability and precision of village development activities.

The general concern arises from the frequent derivation of models for village environmental development from present trends. Therefore, village development concepts are often implemented due to curiosity or imitation, inspired by the success of similar efforts in other communities. Imitative developmental models often result in shortcomings as they need to consider the programs' sustainability aspects. This phenomenon presents a difficulty for academic institutions in reference studies, specifically community service efforts. These studies aim to improve the long-term viability of village development projects by empowering communities via

a precise understanding of their respective settings (Zulmasyhur & Avianto, 2019).

Sustainability is a significant issue and challenge in community empowerment and development. (Zulmasyhur & Avianto, 2019) argue that the ongoing failure of thematic village development activities to achieve sustainable outcomes can be attributed to various factors, such as inadequate technical implementation processes, unfulfilled expected benefits, and insufficient community support. Another example of sustainability challenges can be found in the studies on tourism growth in Bali. External influences often form the basis for sustainability difficulties in community projects, leading to a lack of community ownership (Dolezal & Novelli, 2022). The challenge is supporting a plan that enables communities to take control, guarantees the upkeep of excellent housing, and empowers individuals to develop a sense of ownership for each community-strengthening effort. Community-based research (CBR) seeks to promote program longevity by engaging communities as both the recipients and creators of their community (Ochocka & Janzen, 2014).

This study, carried out in Kampung Masangan Kulon, aims to identify significant challenges related to

environmental settlement. Kampung Masangan Kulon, situated in Sidoarjo Regency, faces numerous challenges related to settlement. These challenges include limited space for activities, conflicting needs of different residents, a need for improved environmental conditions, and difficulties in promoting social interaction among the local community. The viability of multiple ongoing activities in Kampung Masangan Kulon is being questioned due to the emergence of development obstacles in the region. An analysis of previous programs suggests that previously implemented efforts persist. However, similar to similar programs, sustainability difficulties arise when efforts are forced externally and often stem from imitating development patterns observed in other communities.

The underlying foundation of the effort dramatically impacts the long-term viability of community development models worldwide. Community behavior change (CBR) is based on the Community Self-Help paradigm, which has been applied by community development initiatives in Africa, Southeast Asia, Latin America, and other developing nations (Ochocka et al., 2013). The significance of this approach lies in the notion that communities gain their power from internal, tangible resources rather than external forces.

Despite the increase in community building activities, achieving sustainable solutions for communities still needs to reach the desired level. Ensuring sustainability is a continuous focus in the development of villages. This community service initiative aims to address the challenges related to the long-term viability of the village during its development stage by employing the CBR methodology. This paradigm empowers

communities, shifting their role from passive subjects or subordinate partners in research to active participants who significantly impact the direction of village development. Thematic villages represent a change in how we address settlement issues by implementing projects guided by the local community's talents and forward-thinking goals. The CBR framework serves as a guiding concept, ensuring that action plans for developing thematic villages are thorough, originating from internal sources, and susceptible to little external interference.

### Methods

This study focuses on the desires and goals of the community in relation to how open spaces are used in residential areas. The study utilized the Community-Based Research (CBR) strategy together with appropriate qualitative methods to thoroughly investigate the occurrence inside the research subject. Community-Based Research (CBR) engages the community in both the execution of developed idea designs and the research implementation itself (Rosada, 2016).

Data collecting: Data collecting was carried out via field observations, semi-structured questionnaire interviews, and in-depth interviews. A field study was conducted to assess the possibilities and obstacles of utilizing open spaces. Measurements and mapping were conducted to establish a foundation for planning the exploitation of Green Open Space (RTH). Additionally, social life was observed in order to get insight into the nature and concerns of the community. Community goals regarding living preferences and the necessity for open space utilization were captured through the use of semi-structured interviews. A group of thirty individuals, including community leaders, members of

the Family Welfare Empowerment (PKK), and representatives from youth organizations, were chosen to gain insight into the specific requirements of each citizen. Representatives from each group were interviewed extensively to obtain a comprehensive understanding of the requirements for open space utilization. A triangulation analysis was conducted to further examine the data and develop pertinent concepts within the framework of community-based open space utilization.

## Results and Discussion

### The Development Location

Once the subject, research implementers, and community research objectives were determined using the CBR model; the research continued by constructing research formulations. These formulations included strategies for gathering and analyzing data, indicating the initial planning step. In order to accomplish the objective of establishing a thematic village through urban farming initiatives, the researchers from the Masangan Kulon community needed to initially ascertain the rationale behind selecting this subject, identify the specific location for development, determine the key individuals involved, and outline the step-by-step implementation of this program. Therefore, the community researchers of Masangan Kulon reached a consensus on the following:

The public facility land, situated in the heart of Griya Bhayangkara housing, is held by the village and designated as the agreed-upon site for development (see figure1). It is positioned 300

meters away from the primary village's road access.



Figure 1. aerial view of the site location The area, conveniently located near Griya Bhayangkara, is officially administered by the village and residents of RW 08 and RW 09. Additionally, it is openly accessible to all people of Masangan Kulon Village. The land spans a total area of 3400 square meters, with 70% designated as a football field and 30% designated as a volleyball field. The perimeter of the land and the area adjacent to the volleyball field are utilized as a green open space adorned with decorative plants, which the residents own. The selection of urban farming as the focal point is based on a comprehensive investigation of this property. Presented is a concise summary of the land's limits and encompassing surroundings.

### Potential and Problems Identification

The table1 presents the community's perspectives on various aspects of village life, reflecting their levels of agreement. These insights were gathered to understand the sentiments



and aspirations of the residents regarding their living environment.

Table1. Community Aspirations Regarding Village Life.

No	Community Aspirations Regarding Village Life	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)
1	My family and I feel comfortable living in this village because it meets our needs	33	66	0	0
2	The village's infrastructure is very adequate, making it comfortable to live in	7	43	40	10
3	The available facilities in the village already meet my family's needs	13	57	23	7
4	Life in this village is very conducive (safe), so my family feels comfortable living here	10	67	17	6
5	The relationship between residents is very harmonious and peaceful, with a strong sense of family	10	77	13	0
6	Community participation in village development is very high	7	70	23	0

Based on the identification results, it can be seen that the potential areas for the development of the Urban Farming Thematic Village in Masangan Kulon

Village are as follows: (1) the physical condition of the area needs improvement, particularly in terms of infrastructure quality, facilities, and maintenance; (2) the community has strong social connections, but there is a need to enhance their sense of responsibility for village security; (3) the community enjoys a harmonious social life, but social strategies are required to strengthen social cohesion; and (4) there is a low level of participation in development. Therefore, village activities need to encourage partnership levels and community involvement.

### Challenges related to potential and land development

According to studies carried out by researchers from the Masangan Kulon community, the development land facility is strategically advantageous in the center of the Griya Bhayangkara housing area. The land is conveniently accessible due to its central location inside the housing area. Non-residents can also conveniently access the housing area, as it is only 300 meters away via a road that is 6 meters wide. This arrangement creates an optimal environment for developing the targeted field (Figure 2). Amidst the pandemic, the population density of this developed land area increased significantly. It is, naturally, employing improvised methods. Amidst the pandemic, community activities were limited to the volleyball field to grow plants that could be consumed, including vegetables and medicinal plants, and to cultivate attractive plants.



Figure 2. Land Development Conditions in Masangan Kulon Village (source: documentation, 2022)

Moreover, the CBR research has progressed to implementing the discovered information. At this point, the data gathered and processed earlier was consolidated into a unified action plan. The action plan mentioned emerges slowly but develops through a collaborative evaluation of the research findings by both the individuals implementing it and those reviewing it. The urban agricultural development plan in Masangan Kulon Village is formed by considering the community's autonomous preferences, research findings conducted with the community, community ambitions, government policies, and global trends in the development of food security. This development strategy encompasses both tangible and intangible aspects. Furthermore, it is crucial to highlight that the proposed development model must prioritize the program's long-term viability. The growth plan for urban farming in Masangan is designed in the following manner, taking into consideration physical aspects: Creating comprehensive public infrastructure

that focuses on establishing an environment that is favorable for the establishment of urban farming communities, economic endeavors, democratic engagement, recreational pursuits, and community socialization (see figure 3).



(a)



(b)



(c)

Figure 3. Illustration of the Post-Development Situation of Urban Farming in Masangan Kulon Village (a) and (b&c) Public spaces (source: researchers)

The development goals should prioritize enhancing community engagement in village development through the provision of shared activity spaces outside of homes, with a specific emphasis on urban farming; Creating infrastructure that enhances

the well-being of the community in terms of healthcare, education, and convenience; Engaging the community in facility management and fostering collaboration with several stakeholders in facility development; Emphasizing the enhancement of the environment while imaginatively and innovatively ensuring the village is aesthetically pleasant and clean.

### **Strategic Plan for the Advancement of Urban Farming in Masangan Kulon Village**

The collaborative action plan for creating the Urban Farming Thematic Village in Masangan Kulon Village is structured into three distinct stages: program planning, implementation, and operation. Specific strategies are developed during each stage, and the individuals or groups directly affected by these strategies are determined. The action plan is collaboratively devised and executed for five years. The chosen timeline is based on the collaborative efforts of the community and the municipal government in the development process. The timeline allows for creating a development roadmap that spans a 5-year cycle. The primary participants in the development process are the community, who receive comprehensive support from higher education academics and other stakeholders such as the municipal administration and its associated agencies.

The successful implementation of the Urban Farming Thematic Village in Masangan Kulon Village necessitates

active participation and collaboration from all stakeholders. Given that the initiation of this development is rooted in the shared determination of the Masangan Kulon Village community, the likelihood of the program's sustainability is significantly increased. In addition to the Masangan Kulon Village community, academics, and the Sidoarjo Regency administration, assistance from other entities such as state-owned enterprises (SOEs), private firms, and other expert researchers is also required. SOEs/Private enterprises can contribute by giving financial resources or facilitating infrastructure development. On the other hand, professional researchers can assist by offering support, doing research, or collaborating in training programs, workshops, and empowerment initiatives.

Choosing a suitable location is paramount in urban planning to promote community engagement and sustainability. The decision to use the public facility land in Masangan Kulon Village's Griya Bhayangkara housing area aligns with the principles of accessible urban planning proposed by (Calthorpe, 2015) and (Gehl, 2013). This strategically located location, situated in a central position and with convenient access, provides residents and tourists with a common area for engaging in recreational and agricultural pursuits, fostering social interaction and supporting the responsible management of the environment.

Community aspirations offer valuable insights for addressing possibilities and obstacles in urban development, as highlighted by (Carmona, 2021) and (Row, 1962). Although inhabitants are generally content with their living environment, some concerns regarding infrastructure, social cohesiveness, and community participation exist. The results emphasize the significance of urban design initiatives that stress inclusivity, accessibility, social fairness, and community empowerment (Gilbert et al., 2013; Madanipour, 2003).

The COVID-19 pandemic posed distinctive difficulties for urban development programs, requiring the implementation of flexible measures (Holling & Walters, 1978; Sassen, 2018). Despite of its constraints, the people of Masangan Kulon Village exhibited perseverance by repurposing the volleyball field for agricultural endeavors. This repurposing of public space exemplifies the concepts of adaptable urban planning and the capacity of communities to adjust to evolving conditions (Gehl, 2013; Salingaros, 2013).

The urban farming action plan for Masangan Kulon Village prioritizes community involvement, infrastructure enhancement, and environmental sustainability promotion (LeGates & Stout, 2015; Shirvani, 1985). The program aims to incorporate these components into urban planning to establish a lively and robust community fostering health,

well-being, and social unity (Beatley, 2011; Gehl, 2013).

### Conclusions

To summarize, the research carried out at Masangan Kulon Village exemplifies a holistic strategy for urban development by creating an Urban Farming Thematic Village. The project successfully employed the Community-Based Research (CBR) paradigm to determine the location for development, evaluate community desires, and tackle any obstacles.

The choice of public facility property within the Griya Bhayangkara housing area as the development site is based on the ideals of accessible urban planning, promoting community involvement and sustainability. The significance of inclusive urban design techniques that promote accessibility, social equality, and community empowerment is highlighted by the insights gained from community aspirations. In the face of the COVID-19 pandemic, the community demonstrated resilience by transforming public space for agricultural purposes, showcasing the flexibility of urban design initiatives.

The future direction of the strategic plan for Urban farming in Masangan Kulon Village focuses on community involvement, the improvement of infrastructure, and the promotion of environmental sustainability. The effort aims to include these components in urban planning to establish a dynamic and robust community that fosters physical and mental health and social harmony.



The success of the Urban Farming Thematic Village relies on the active engagement and cooperation of all parties concerned. Through the utilization of community determination, academic expertise, and governmental assistance, the program is positioned to attain enduring sustainability and make a valuable contribution to the welfare of the citizens of Masangan Kulon Village.

#### **Author(s) Statement**

The authors declare that this study encompassed the participation of individuals residing in Masangan Kulon Village, local stakeholders and academic collaborators. These collaborations have enhanced the study process and yielded valuable ideas but have had no impact on the interpretation or reporting of the findings. We adhere to the utmost ethical standards and ensure complete research transparency. We will expeditiously reveal any forthcoming conflicts of interest to uphold our research's integrity and credibility.

#### **Acknowledgments**

We express our gratitude to the residents of Masangan Kulon Village for their collaboration, active participation, and valuable contributions during the duration of this project. Their participation was crucial for the completion of this research. This project also leverages the knowledge, resources, and guidance of local stakeholders, government authorities, and academic partners. Their assistance was crucial in delineating the research methodology and enhancing our

discoveries. We extend our gratitude to all those who contributed to the collection, analysis, and evaluation of data and those who provided administrative and logistical assistance. Lastly, we thank UINSA as the funding agency and organization that allowed us to carry out this crucial research and enhance our understanding of the field.

#### **References**

- Beatley, T. (2011). *Biophilic Cities: Integrating Nature into Urban Design and Planning*. Island Press/Center for Resource Economics.
- Calthorpe, P. (2015). "Urbanism in the Age of Climate Change". In *The City Reader* (6th ed.). Routledge.
- Carmona, M. (2021). *Public Places Urban Spaces: The Dimensions of Urban Design* (3rd ed.). Routledge.  
<https://doi.org/10.4324/9781315158457>
- Dolezal, C., & Novelli, M. (2022). Power in community-based tourism: Empowerment and partnership in Bali. *Journal of Sustainable Tourism*, 30(10), 2352–2370.  
<https://doi.org/10.1080/09669582.2020.1838527>
- Gehl, J. (2013). *Cities for People*. Island Press.
- Gilbert, R., Stevenson, D., Girardet, H., & Stren, R. (2013). *Making Cities Work: Role of Local Authorities in the Urban Environment*. Routledge.  
<https://doi.org/10.4324/9781315066431>
- Holling, C. S., & Walters, C. (1978). *Adaptive environmental assessment and management*.
- LeGates, R. T., & Stout, F. (2015). *The City Reader*. Routledge.

- Madanipour, A. (2003). *Public and Private Spaces of the City*. Routledge.  
<https://doi.org/10.4324/9780203402856>
- Ochocka, J., & Janzen, R. (2014). Breathing life into theory: Illustrations of community-based research – Hallmarks, functions and phases. *Gateways: International Journal of Community Research and Engagement*, 7(1), Article 1. <https://doi.org/10.5130/ijcre.v7i1.3486>
- Ochocka, J., Janzen, R., Macaulay, A., Hawkins, L., Grosbois, S., & Lydon, M. (2013, June 13). *Seeking meaningful engagement of community partners: Clarifying guiding principles of community-based research practice*. <https://www.semanticscholar.org/paper/Seeking-meaningful-engagement-of-community-guiding-Ochocka-Janzen/78a09ac918515160575efdb2b78da476ab93b025>
- Row, A. T. (1962). Review of The Death and Life of Great American Cities [Review of *Review of The Death and Life of Great American Cities*, by J. Jacobs]. *The Yale Law Journal*, 71(8), 1597–1602.  
<https://doi.org/10.2307/794509>
- Salingaros, N. A. (2013). *Unified Architectural Theory: Form, Language, Complexity: a Companion to Christopher Alexander's 'The Phenomenon of Life: the Nature of Order, Book 1'*. Sustasis Foundation.
- Sassen, S. (2018). *Cities in a World Economy*. SAGE Publications.
- Shirvani, H. (1985). *The Urban Design Process*. Van Nostrand Reinhold.
- Zulmasyhur, Z., & Avianto, B. N. (2019). Group Dynamics and Cronyism in Village Development Planning Participation. *International Journal for Educational and Vocational Studies*, 1(7), Article 7. <https://doi.org/10.29103/ijevs.v1i7.1801>
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- Muhammad Ulinuha** contributed in investigation, data collection, data analysis, visualization.
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