

Participatory Development Communication Strategy of an Urban Farming Program in Yogyakarta, Indonesia

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Abstract

Participatory development communication strategies to enhance local food security in Yogyakarta, Indonesia, have made substantial progress through urban farming initiatives. This study examines how these strategies contribute to improving local food security by analyzing urban farming programs initiated by the city government. Urban farming, as a key innovation, has become increasingly important due to diminishing arable land and the need for sufficient nutritional intake in both quantity and quality, necessitating active community involvement. The research employs observations and in-depth interviews with leaders and members of farmers' groups, agricultural extensions, and the local Department of Agriculture and Food staff, reinforced by focus group discussions. Findings indicate that the communi-

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cation strategy, rooted in a bottom-up participatory development communication approach from planning through evaluation, embodies community empowerment, making the success and sustainability of the program a shared responsibility. Despite some accomplishments, the initiative has not yet been adopted by all community members. The harvest is also limited to daily needs and has not greatly improved group members' income. The key to participatory development communication in the urban farming program is regularly scheduled meetings held by farmer groups as a participatory medium to manage activities.

Keywords

Community empowerment; farmers' groups; local food; participatory development communication; urban farming.

Estrategia de comunicación participativa para el desarrollo de un programa de agricultura urbana en Yogyakarta, Indonesia

Resumen

Las estrategias de comunicación participativa para el desarrollo que tiene por objeto mejorar la seguridad alimentaria local en Yogyakarta, Indonesia, han logrado avances notables a través de las iniciativas de agricultura urbana. En este estudio se examina la forma en que estas estrategias contribuyen a mejorar la seguridad alimentaria local mediante el análisis de los programas de agricultura urbana llevados a cabo por el gobierno de la ciudad. La agricultura urbana, como innovación fundamental, ha adquirido cada vez mayor importancia debido a la disminución de las tierras cultivables y a la necesidad de una ingesta nutricional suficiente tanto en cantidad como en calidad, lo que requiere la participación de la comunidad. La investigación hace uso de observaciones y entrevistas en profundidad con líderes y miembros de grupos de agricultores, personal y extensiones agrícolas y con el personal del Departamento de Agricultura y Alimentación local y se complementa con debates de grupos focales. Los hallazgos indican que la estrategia de comunicación, arraigada en un enfoque ascendente de comunicación participativa para el desarrollo desde la planeación hasta la evaluación, encarna el empoderamiento de la comunidad, lo que hace del éxito y la sostenibilidad del programa una responsabilidad compartida. A pesar de algunos logros, la iniciativa aún no ha sido adoptada por todos los miembros de la comunidad. Por otra parte, la cosecha también se limita a las necesidades diarias y no ha mejorado de forma significativa los ingresos de los miembros del grupo. En conclusión, la clave para la comunicación participativa para el desarrollo dentro del programa de agricultura urbana son las reuniones periódicas que sostienen los grupos de agricultores como medio participativo para gestionar las actividades.

Palabras clave

Comunicación participativa para el desarrollo; grupos de agricultores; agricultura urbana.

Estratégia de comunicação participativa para desenvolver um programa de agricultura urbana em Yogyakarta, Indonésia

Resumo

As estratégias de comunicação participativa para o desenvolvimento com o objetivo de melhorar a segurança alimentar local em Yogyakarta, na Indonésia, tiveram um progresso notável por meio de iniciativas de agricultura urbana. Neste estudo, examina-se como essas estratégias contribuem para melhorar a segurança alimentar local por meio da análise dos programas de agricultura urbana implementados pelo governo da cidade. A agricultura urbana, como uma inovação fundamental, tornou-se cada vez mais importante devido à redução das terras aráveis e à necessidade de uma ingestão nutricional suficiente, tanto em quantidade quanto em qualidade, o que exige a participação da comunidade. A pesquisa faz uso de observações e entrevistas aprofundadas com líderes e membros de grupos de agricultores, funcionários e extensões agrícolas, bem como funcionários do Departamento de Agricultura e Alimentação local, e é complementada por discussões em grupos focais. As descobertas indicam que a estratégia de comunicação, baseada em uma abordagem de comunicação participativa de baixo para cima para o desenvolvimento, do planejamento à avaliação, incorpora o empoderamento da comunidade, tornando o sucesso e a sustentabilidade do programa uma responsabilidade compartilhada. Apesar de algumas conquistas, a iniciativa ainda não foi adotada por todos os membros da comunidade. Além disso, a colheita também se limita às necessidades diárias e não melhorou significativamente a renda dos membros do grupo. Em conclusão, a chave para a comunicação participativa para o desenvolvimento dentro do programa de agricultura urbana são as reuniões regulares realizadas pelos grupos de agricultores como um meio participativo de gerenciar as atividades.

Palavras-chave

Comunicação participativa para o desenvolvimento; grupos de agricultores; agricultura urbana.

Introduction

Development communication is fundamentally based on the principle that developmental media and participatory communication focus on transforming community awareness and enhancing the effectiveness of institutions involved in the development process. Consequently, in conjunction with other academic disciplines, participatory development communication has contributed to sustainable development by involving communities in decision-making processes aimed at improving their living standards, particularly in the area of food security (Lennie & Tacchi, 2022; Manyozo, 2017; Samad & Padhy, 2018; Servaes, 2022; Yusoff et al., 2017).

Yogyakarta, Indonesia, is recognized as a significant national and international tourism destination with unique and appealing agricultural potential. Despite rapid developments in facilities, infrastructure, tourism destinations, and population growth, Yogyakarta has managed to maintain its agricultural activities. According to the Central Bureau of Statistics of Yogyakarta (2023), the available agricultural land spans 3,250 hectares, which includes 54 hectares of rice fields in 2020. This area decreased to 53 hectares in 2021 but increased by 1 hectare the following year. Agricultural land represents only 3 % of the total area of Yogyakarta. Conversely, the population growth rate has been increasing over this period, with the population rising from 373,589 in 2020 to 376,324 in the following year and further to 378,913 in 2022. This population growth impacts the increased demand for food. Additionally, Yogyakarta's numerous alleys, corridors, and walls may serve as alternative solutions to the limited agricultural land. These issues and potentials have prompted the Mayor of Yogyakarta to implement an urban farming program based on Yogyakarta Mayor Regulation No. 128 of 2021 concerning Farmer Institutions and Main Actors in Fisheries (The Office of Agricultural Extension of Yogyakarta City, 2022).

Urban farming is typically small-scale due to limited land availability. It aims to enhance food stock in terms of both quality and quantity while addressing the reduction of Green Open Spaces in the city, serving as a recreational outlet, improving air quality, and providing economic empowerment to enhance community well-being (Andiani et al., 2021; Huang, 2021; Poulsen et al., 2017; Sardiana, 2018; Sarwadi & Irwan, 2018).

In Yogyakarta, there are 276 farmer groups distributed across 14 sub-districts. However, not all these groups participate in the urban farming program, as some manage rice fields. The urban farming program aims to enhance food security by increasing the consumption of nutritious and safe food through alleys and vacant spaces for growing agricultural commodities. This program empowers community-established farmers' groups, the majority of which comprise women. The issue of women's empowerment is increasingly important across various sectors and affects awareness of gender inequality, fostering collective identity among women (de Carvalho & Bogus, 2020; Mandal, 2013).

Research on urban farming has been conducted by various scholars across many countries (Beacham et al., 2019; Carolan, 2019; Grebitus et al., 2020; Lotfi et al., 2020; Orsini, 2020; Petrovics & Giezen, 2021; Wadduwage, 2021). Previous research also indicates that urban farming programs have successfully implemented participatory approaches in other regional or international areas, such as in Bogor, Indonesia, France, Uganda, India, and Thailand (Clerino & Fargo-Lelievre, 2020; Odoi, 2017; Oktarina et al., 2022; Sereenonchai & Arunrat, 2023; Touri, 2016). However, research on participatory development communication strategies within urban farming programs holds significant academic and practical interest, as food security is not solely the government's responsibility but heavily relies on community involvement. An additional benefit is the potential to build unity, strengthen social capital, and enhance the capabilities of active community members, ultimately correlating with the program's success as an integral part of sustainable development efforts.

The process and involvement of stakeholders in the program and the challenges and difficulties encountered are critical questions in addressing the study objectives. This study aims to analyze how participatory development communication strategies in urban farming programs in Yogyakarta contribute to reducing local food insecurity. It is also possible that these strategies could be applied to other cities in Indonesia. This program is unique because it combines top-down and bottom-up approaches. On the other hand, participatory communication is viewed by Freire (1970)

as a grassroots initiative that articulates, visualizes, and presents a community and does not separate it from traditional culture.

Literature Review

The evolution of development communication theory for social change cannot be isolated from the effect of Westernization and colonial viewpoints, which merged ideas from Europe, the United States, Latin America, and other regions while originally disregarding ideas from periphery nations. It must be acknowledged that participatory and democratic development communication is a significant contribution from the Latin American experience based on aspects such as structural settings, oral traditions, poverty, and disparities in various sectors (Aguirre Alvis, 2014; Barranquero, 2017; Dagron, 2010).

Critiques of the old development paradigm have led to the emergence of participatory development communication strategies, positioning them as central to the third development paradigm. This paradigm is characterized by stakeholder integration processes that can transform the knowledge, attitudes, and practices of communities, enabling voluntary engagement in development processes (Barranquero-Carretero & Sáez-Baeza, 2014; Bessette, 2020; Musakophas & Polnigongit, 2017). Participatory development communication is a valuable approach for enhancing community participation as it allows for a deeper understanding of community needs through knowledge sharing and empowerment, and it facilitates social cohesion and integration (Barranquero, 2017; Bassey & Etika, 2019; Incio et al., 2021; John & Etika, 2019).

The implementation of participatory development communication strategies is an intriguing subject for researchers due to its dialogic nature, which is accompanied by practices of freedom, placing humans as subjects, enabling social transformation, and promoting sustainability (Carrick et al., 2023; Suzina et al., 2020; Touri, 2016; Willy & Holm-Muller, 2013). Nevertheless, participation in participatory development communication strategies is not merely an end and a means to an end but also requires support from individuals, various institutions, and media (Ali & Sonderling, 2017;

Koutsou et al., 2014; Molale & Fourie, 2023). It is also marked by the emergence of various media forms, including new media, in line with the Information and Communications Technology (ICT) trend that has defined the shift in dominant paradigms. The advent of new media positions communities not merely as passive beneficiaries of development communication processes but also as active participants, including message producers (Breuer et al., 2018; Cogo et al., 2015; Patil, 2019; Plenković & Mustić, 2016).

Farmers' groups also play a role in utilizing the latest information and communication technology, although access to this technology is often more significant for entertainment and general information-seeking rather than for agriculture-related information (Mashi et al., 2022; Prastyanti et al., 2020; Rajabi et al., 2021; Rumata & Sakinah, 2020; Sekaranom et al., 2021; Zhu et al., 2022).

The development of agriculture in Yogyakarta occurs in buffer areas around the city center that border other regions such as Magelang, Kulon Progo, Klaten, and Surakarta, which still have extensive agricultural land and communities that rely on farming. However, the city center of Yogyakarta has transformed into a hub for tourism and culinary destinations, resulting in a significant reduction in agricultural land. The urban farming program strategy implemented by local and village governments aims to meet the daily needs of families and farmer or women's farmer groups.

Women's empowerment in Indonesia is unique in its own right. On the one hand, it provides opportunities for women to enhance their capacities and contributes to various aspects of life, with notable opportunities for female representation in legislative elections up to 30% (Nadia, 2022; Styaningsih & Wicaksono, 2017; Widiyanti et al., 2018). On the other hand, the patriarchal system remains deeply entrenched in the majority of Indonesian society. Even the increase in education has not proven sufficient to empower women in Indonesia in household decision-making, community participation, or asset ownership (Samarakoon & Parinduri, 2015). In contrast, Akter et al. (2017) and Ang and Lai (2023) state that the agricultural

sector in Indonesia remains predominantly male-dominated despite women's equal access to productive resources and decision-making autonomy.

Women farmers' groups in Indonesia generally emerge from the awareness and motivation developed by village governments or empowerment activists or from women actively participating in community social institutions such as Family Welfare Empowerment and Integrated Service Posts. These groups initially started as social activities to meet their own needs and those of their families or groups. Subsequently, these women farmers' groups have expanded their efforts to generate additional income for families as a side job and, in some cases, have become a primary occupation (Handoko et al., 2024; Utami et al., 2024; Windiasih et al., 2023). In addition to women's empowerment, the integrated development of urban farming systems is also a significant indicator of sustainable urban development (Andini et al., 2021; Degefa et al., 2021; Horst et al., 2017; Prasada & Masyhuri, 2020).

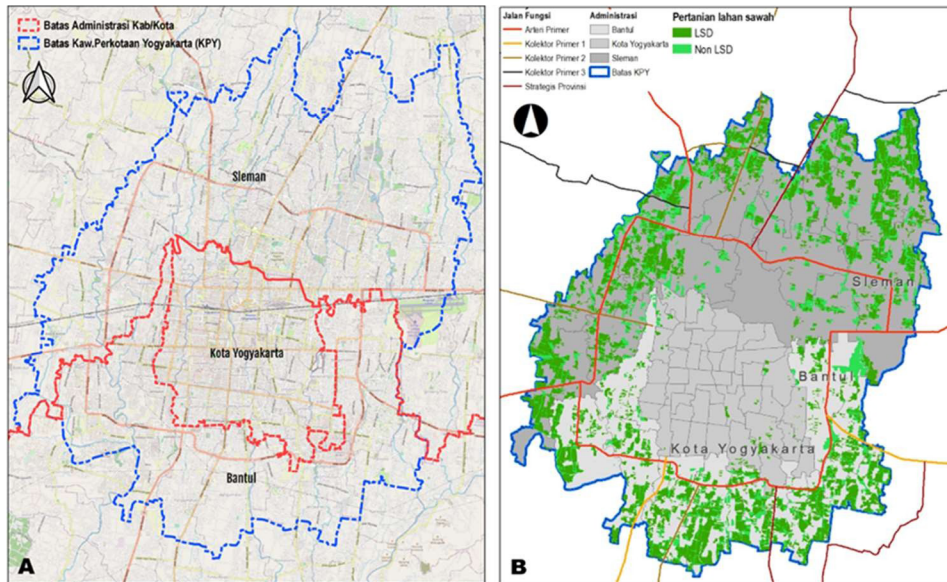
Research Methods

This research holds significant, unique, and important ethical implications when the urban farming program becomes part of the spirit of Yogyakarta's urban farming groups to meet the daily needs of families and farmer groups (Figure 1). Academically and practically, it can serve as a study for developing urban farming as edu-tourism.

The 2022–2023 research employs a qualitative research method with a case study approach. This study was conducted in four sub-districts: Rejowinangun, Danurejan, Mantrijeron, and Wirobrajan. These sub-districts were chosen because each has unique characteristics compared to other sub-districts. The success of community participation in the urban farming program in Rejowinangun is seen from a quantitative aspect, namely the formation of many farmer groups that spread to the neighborhood level. From a qualitative aspect, Danurejan stands out for organizing various agricultural activities and actively utilizing social media to publicize them. In Mantrijeron, urban farming activities are organized with a sectoral division of responsibilities, where each farmer group is responsible for managing one

vegetable/fruit alley. Unlike the other three sub-districts, the urban farming program in Wirobrajan aims not only to fulfill family nutritional intake but also to serve as edu-tourism.

Figure 1. A) Urban Area of Yogyakarta; B) Distribution of Rice Fields in Yogyakarta



Source: Firmansyah et al. (2024)

Data were gathered through in-depth interviews and observations, reinforced by focus group discussions (FGDs), to explore data not expressed during individual interviews with farmer groups from these four sub-districts. The research informants were key actors active in the urban farming program since its inception and were selected through purposive sampling. Four focus group discussions were conducted and attended by twenty-four participants, including group leaders and members from the four sub-districts, for six per sub-district. In-depth interviews were conducted with thirty-eight informants, including four group leaders, twenty-four group members, four government agricultural extensions, four independent agricultural extensions, and two local Agriculture Office staff members. The matrix of informants, information obtained, and data collection techniques is shown in Table 1.

Table 1. Matrix of Research Informants, Types of Information, and Data Collection Techniques

Informant	Data obtained	Data collection techniques
Yogyakarta Agriculture Office Staff	Implementation of urban gardening activities Policies within the urban gardening program Collaborations undertaken	Interviews
Agricultural Extension	Educational activities conducted Media used for educational purposes	Interviews, Documentation, Observation
Group Leader	Activities of the farmers' group and participation of its members Communication processes within the farmers' group	Interviews, Documentation
Group Members	Participation of members in activities Communication processes among members of the farmers' group	Interviews, Documentation, Observation, FGD

Source: Own elaboration.

After data collection through several techniques, important data supporting the research were sorted. The collected data were then verified and triangulated to check their validity. The next stage involved categorization, data presentation, and conclusion. Qualitative data analysis involves a process of data collection, sorting, and reduction. Data are further deepened and refined through verification and clarification with informants, followed by triangulating data sources, theories, and concepts, which are then categorized and summarized (Denzin & Lincoln, 2018; Döringer, 2021; Lester et al., 2022; McGrath et al., 2018). The researcher verbally presented the study to the participants, and participation was entirely voluntary.

Results and Discussion

The Yogyakarta region, which is relatively small and densely populated, requires precise strategies to maintain agricultural sustainability and economic growth. To address this, agricultural policy strategies in Yogyakarta are based on accurate data obtained through agricultural censuses, allowing for the preservation of limited agricultural land, the exploration of potential, and innovation (Jogjapro.go.id, 2023). Facts and data also indicate that participatory development communication has been implemented by the community in Yogyakarta, particularly by urban farmers' groups, through

the *Musyawah Perencanaan Pembangunan* (*Development Planning Deliberation*) forum mechanism, which operates from the village or sub-district level to the district and provincial levels. The results of this forum include proposals that prioritize addressing issues, needs, and the development of socio-economic and environmental resources within the community, one of which is the urban farming program.

Although the urban farming program in Yogyakarta initially began as a top-down model, the community, through farmers' groups, has played a substantial role in participating and influencing the program's success. It is implemented hierarchically from the sub-district to the village, hamlet, and neighborhood levels. Each farmer group consists of 10–40 residents, though only about half of the members are active for various reasons such as work commitments and household responsibilities. Participation in the program encompasses planning, implementation, evaluation, and utilization of results. In some farmer groups, agricultural extension actively provides advice, while others do not. More advanced groups are often led by extension agents, providing them with broader networks and easier access to support facilities in the urban farming program.

Participatory development communication, characterized by a more bottom-up approach, involves voluntary community participation in designing, implementing, and evaluating development programs according to their needs and issues. It can be initiated by the government, facilitators, academics, or community groups themselves and contributes to enhancing community capabilities (Oshimi & Yamaguchi, 2023; Sugito et al., 2019; Sulaiman et al., 2019).

The urban farming program in Yogyakarta was carried out using larger plots, such as communal gardens, followed by vacant spaces like alleys, walls, passages, and fences for planting various crops, including vegetables, medicinal plants, and fruits. The program employs vertical and tiered planting strategies using wall planters, pots, polybags, and repurposed items like gallon containers, bottles, jerry cans, and other discarded materials. Planting is done by farmer group members with a variety of species, as noted

by a member of the Women Farmers Group. Informant Y stated: “Farmer groups rarely plant only one crop type, but usually plant several types together such as mustard greens, spinach, pak choy, biofarmaka, water spinach, celery, and ornamental plants.” The diversity of crops planted was also noted by a member of the farmers’ group, Mr. Z: “The crops are of various types, such as water spinach, mustard greens, lettuce, celery, and spinach.”

Group meetings are conducted according to each group’s schedule, typically once a month on the 25th and led by the group leader. The topics discussed are determined by the farmer group members themselves, such as the planning and implementation process, including planting media, seeding, planting locations, watering, pest control, and harvesting methods, as well as evaluating the program. In this meeting, each group member can freely express their input, complaints, and obstacles and collectively solve problems faced by the farmer group.

In addition to regular meetings, communication among group members is also conducted through WhatsApp groups. This social media platform is expected to facilitate faster communication, especially for urgent issues that need immediate attention. Participatory development communication is characterized by its dialogic, egalitarian, and open nature, allowing all parties to voice their aspirations regarding agreed-upon needs and issues. It seeks to find shared solutions for community economic empowerment (Lemke, 2016; Madsen, 2018; Sulaiman & Ahmadi, 2020). The success of participatory communication relies on local aspects, both in terms of communication technology and interpersonal channels (Chirwa, 2023; Chutjaraskul, 2021; Mossie et al., 2021; Ndlovu et al., 2022). In line with these perspectives, Anwar et al. (2020) and Bonatti et al. (2018) argue that efforts to enhance food security and improve community well-being can be achieved through social communication patterns as a means to interact with the community and understand the interrelatedness of various issues, including those related to food security.

Besides planting, farmers’ groups also process agricultural products into higher-value items, such as spinach chips, syrups, eggplant drinks, tra-

ditional herbal medicine (*jamu*), *wingko* (a traditional Javanese snack), and others. However, this product diversification has not yet significantly increased the income of group members, as production is limited to fulfilling orders rather than regular manufacturing.

In addition, farmers' groups collaborate with waste banks to produce their own fertilizer by utilizing household kitchen waste, which is channeled through pipes from each house. The waste is left to decompose for two to three months, resulting in liquid organic fertilizer that can be applied to plants. The residue from decomposition can also be used as solid organic fertilizer. Using self-produced fertilizer reduces operational costs in the urban farming program. As beneficiaries and key stakeholders in the urban farming program, farmers' groups play a significant role in increasing productivity, income, and product prices and lowering production and transportation costs (Abdul-Rahaman & Abdulai, 2020; Bachke, 2019; Mutanyi, 2019).

The urban farming program in Yogyakarta faces various challenges, including seed supply, planting media, fertilizers, post-harvest management, and marketing. Another challenge is the low economic value of harvested commodities, primarily for daily consumption and reducing household expenses. The limited farming skills of group members, many of whom lack an agricultural background, pose a specific challenge to the program. Furthermore, Arabzadeh et al. (2023), Kullu et al. (2020), Sroka et al. (2021), and Takagi et al. (2020) argue that lack of information on farming and inadequate guidance are significant challenges.

Nonetheless, successful examples of urban farming programs can be found in the Wirobrajan sub-district. The Winongo Asri Farmers' Group in Wirobrajan has innovated by transforming the urban farming program into an attractive educational tourism initiative (Figure 2). This is in line with the research findings conducted by Andiani et al. (2021), Asrul et al. (2023), and Barokah et al. (2023) that urban farming can also become a tourist destination, packaged as edu-tourism and agro-tourism. Another example is the Danurejan sub-district, led by the Gemah Ripah Adult Farmers' Group, which organizes various activities and exhibitions and publishes through social media. This utilization of social media is unique to this farmers' group.

Figure 2. Exhibition of Urban Farming Program Results in Yogyakarta



Source: Authors' archives.

The research also reveals that the program has not yet attracted the entire community. It appears more appealing to those aged 45–60 than younger age groups. Contrary to these findings, Lapple and Rensburg (2013) suggest that younger people are more likely to adopt agricultural innovations. The urban farming program in Yogyakarta is also predominantly found in lower-income neighborhoods rather than in more economically stable residential areas, though valid data comparing the program's implementation in different areas is lacking (Figure 3). The program significantly impacts low-income communities more due to their stronger economic motivation and interest, aligning with the views of Diekmann et al. (2018) and Kirby et al. (2021). Conversely, some argue that the socio-economic characteristics of residents do not significantly affect the acceptance of urban farming but correlate with the type of urban farming practiced.

In addition to improving family nutrition, the urban farming program in Yogyakarta is expected to foster social relationships within the community and utilize leisure time for beneficial activities, as stated by a local Agricultural Office staff member, Mr. X:

There are greater benefits, such as fostering a sense of community and relaxation among residents. Moreover, it can develop an area,

for example, turning vacant land initially used as a dump into a green space planted by the community or farmers' groups.

Figure 3. Urban Farming in Yogyakarta



Source: Authors' archives.

The development of urban farming in Yogyakarta is undertaken not only by farmers' groups but also by extension officers. The role of the Yogyakarta City Agriculture and Food Department is to initiate the urban farming program, supported by agricultural extension officers who implement policies through public awareness campaigns while simultaneously empowering the community. Although extension services encompass technical, educational, and social elements, they often present challenges. Nonetheless, humane extension services can significantly contribute to the success of farmers (Cournane et al., 2016; Lu & Grundy, 2017). However, at the inception of the extension program, access to and satisfaction with extension services significantly increased among female farmers' groups. Female farmers face additional challenges related to productivity, and extension services are significantly correlated with farmers' productivity and capability improvement (Abbeam et al., 2018; Buehren et al., 2019; Ragasa & Mazunda, 2018).

Enhancing community capabilities through participatory development communication is a strategy to achieve consistent communication based on decisions regarding multiple communication activities within the

community. This communication strategy is built upon four objectives: motivation, education, information dissemination, and making essential information the basis for decision-making. It involves the planned dissemination of messages that are informative, persuasive, and instructive to the target audience while bridging cultural gaps among the actors involved in the communication process (Browning et al., 2020; Syed Alwi et al., 2022; Wang et al., 2022; Winczorek, 2022).

The design of a participatory development communication strategy for the urban farming program can be realized through the following approaches:

(1) Involvement, roles, and partnerships of all related stakeholders to establish coordination, consolidation, and synergy, thereby strengthening institutions and ensuring program success (McGahan, 2021; Pellizzoni et al., 2020; Pollock et al., 2019; Rane et al., 2021; Rosyadi et al., 2020).

(2) Participatory development communication forums encompassing planning, consensus-building, implementation, and program evaluation ensure that the program becomes collectively owned and a shared responsibility.

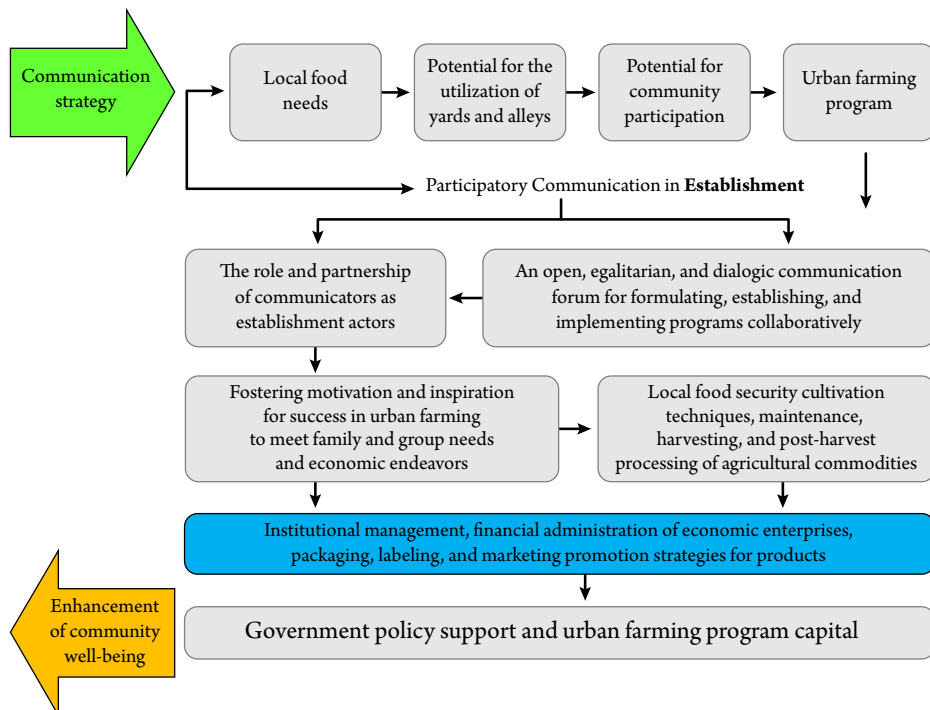
(3) Identification and analysis of community issues: While initiated by the local government, the program also focuses on identifying and analyzing the community's issues, needs, and potential, as well as those of farmers' groups.

(4) Comprehensive government policy support. Farmers' groups consistently receive empowerment programs, including training and support, to enhance their knowledge and skills in local food security and post-harvest practices. The sustainability of the urban farming program driven by farmers' groups needs supportive policies and collaboration from various stakeholders (Bisaga et al., 2019).

(5) Local food security empowerment program. This includes extension and training as a form of community development and enhancement of capabilities in urban farming.

Enhancing community capabilities through a participatory development communication strategy for the success of the urban farming program in Yogyakarta involves several key aspects (Figure 4): (1) Improving motivation and awareness of the program's benefits; (2) Cultivation techniques for local food crops in yards and gardens; (3) Maintenance and harvesting techniques; (4) Post-harvest processing to create added value for families and groups; (5) Institutional development, management, and financial administration for business groups; (6) Techniques for packaging, labeling, and marketing promotion to enhance the economic value of local food security and post-harvest products; (7) Involvement of experts and instructors from academic and business sectors; (8) Comprehensive financial support from local and village governments, as well as the establishment of voluntary business capital from the community and group members, such as cooperatives.

Figure 4. Design of a Participatory Development Communication Strategy for Urban Farming in Yogyakarta, Indonesia



Source: Own elaboration.

Conclusions

While the local government initiated the urban farming program, the involvement of farmers' groups from the planning stage to the program's evaluation and utilization of the results phase exemplifies the participatory development communication strategy. This approach is evident in several activities, such as planting, producing fertilizers using household waste, harvesting, and other initiatives, as well as the active participation of farmers' groups in group meetings and training and extension activities held by agricultural extension agents. These activities aim to support local food security while simultaneously enhancing community capabilities.

The strategy of participatory development communication among farmer group members in regular meetings and employing diverse communication channels within the community has the potential to motivate, educate, disseminate information, and provide a foundational basis for decision-making that contributes significantly to local food security and the advancement of sustainable development initiatives.

However, the program still faces various difficulties and challenges, including seed supply, fertilizers, the low economic value of commodities, and others. This program has also not been adopted by the entire community and has not yet increased the income of group members. In contrast, regular meetings conducted by farmers' groups are the key to participatory medium.

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