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Social Capital as a Catalyst for Community Empowerment: Evidence from KWT Srikandi Mrican, Indonesia

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ABSTRACT

This research seeks to investigate the role of social capital in the empowerment of urban agriculture within the Srikandi Women's Farmers Group (KWT). Employing a qualitative research methodology, the study is conducted at KWT Srikandi located in Mrican, Sleman. The findings reveal that the effective utilization of social capital significantly contributes to the success of the empowerment initiatives within KWT Srikandi. Key values that underpin this process include mutual cooperation, discipline, and responsibility, all of which are reinforced by the awareness and commitment of individual members. Trust is evidenced by the successful delegation of tasks, transparency in program execution, and the solidarity fostered within the group. Social networks are robustly established both internally, among KWT Mrican members, and externally, through collaborations with various partners, including academic institutions, government entities, and the private sector. The advantages of leveraging social capital include the promotion of harmony, enhancement of capacity, and facilitation of successful empowerment outcomes. However, challenges persist, such as limited expansion of partnership outreach and the necessity for improvements in facilities and infrastructure.

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Social Capital, Community Empowerment, Farmer Women Group, Srikandi Mrican.

Introduction

The phenomenon of urban farming has garnered significant attention in recent years. It presents a viable solution for the management of open space amidst the increasing density of urban development (Rosdiana et al., 2023). The rise of urban farming aligns with the projected growth of the global urban population, which is anticipated to reach 6.7 billion by 2050 (UN Social & Social Affair, 2019). Current statistics indicate that, as of 2023, over 55% of the world's eight billion inhabitants reside in urban areas (Ritchi &

Roser, 2018). Additionally, concerns regarding food security in urban settings have intensified, especially in the aftermath of the pandemic, which has further influenced the evolution of urban farming practices (Abdillah et al., 2023). Urban farming plays a crucial role in sustainable development, as defined by the United Nations (UN), which regards it as an alternative approach capable of addressing various social, economic and environmental challenges (Appolloni et al., 2022). Moreover, the advantages of urban farming extended to enhancing motivation and improving health outcomes (Ivascu, 2022). Research spanning two decades has demonstrated the positive impact of urban farming in mitigating the effects of climate change, while concurrently contributing to the enhancement of the quality of life in urban environments (Skar et al., 2020). Collectively, these studies underscore the significance of urban farming in contemporary society.

The prevalence of urban farming initiatives is on the rise both internationally and within Indonesia. This trend has notably accelerated in the aftermath of the COVID-19 pandemic, with countries such as Canada, Colombia, Argentina and Australia exhibiting significant urban farming practices (Amalia, 2023). In Indonesia, various regions are actively promoting urban farming, as it can be seen to the 2023 Agricultural Census (ST2023) conducted by the Indonesia Statistics (*Badan Pusat Statistik – BPS*), the number of individual urban agricultural businesses (UTP) has reached 13.019 units. The provinces with the highest concentration of urban farming activities are West Java, East Java and Central Java (Muhammad, 2023). Globally, urban farming has gained traction in major cities. For instance, Singapore, urban farming is viewed as a viable solution for future food production, particularly given the limited availability of land (Xi et al., 2022). In India, the utilization of vacant rooftop spaces in Nagpur for cultivating herbs and vegetables demonstrates that urban farming can serve as an innovative approach to promote agricultural practices while minimizing environmental impact (Pawan, 2021). In Malaysia, urban farming began as a means to enhance residential aesthetics but has evolved into a significant source of nutrition for families, thereby reducing household expenses (Muhammad et al., 2020). However, the approach to urban farming in Indonesia diverges from that of other countries. While other nations emphasize individual initiatives, with urban farming primarily occurring within private homes or buildings, Indonesia prioritizes collective urban farming development through community groups, or commonly referred to the Women Farmer Groups (*Kelompok Wanita Tani – KWT*). According to Mufti & Nurwanti (2023), these groups consist of women who share a common objective of developing and producing agricultural products by utilizing land, typically within an urban context.

The formation of women's farmer groups exhibits distinct characteristics, which can be categorized as either *top down* or *bottom-up* approaches. The *top-down* approach refers to the establishment of these groups as a result of directives from local government authorities, while the *bottom-up* approach arises from the initiatives of local communities. In the Kamba region, for instance, women have autonomously developed both formal and informal community networks to access information and training aimed at enhancing their empowerment and capacity building (Po & Hickey, 2020). In Indonesia, the majority

of women's farmer groups emerge from the community's needs and the potential inherent within the surrounding population. This potential-based empowerment, particularly concerning human and social resources, is exemplified by the residents of Pulu Beruang Village, who effectively leverage available natural and social capital, characterized by social networks, mutual trust, participation, and cooperation (Nurlia et al., 2021).

Several successful urban farming initiatives in Indonesia illustrate the effectiveness of women's farmers groups. For example, the Kosagrha Lestari group in Surabaya transformed a former swamp into an urban farming area, cultivating various fruit, vegetables, and engaging in fish farming (Baihaqi, 2023). Similarly, in Sleman, Yogyakarta, the Srikandi farmer women's group converted a former landfill into urban farming land, producing a diverse array of vegetables, fruits, fish, poultry, and hydroponics in residential yards (Maymarwan, 2023). These case studies underscore the significance of social capital in the success of women's farmer groups, as evidenced by the members' willingness and initiative to repurpose previously deemed useless or obstructive land into productive opportunities.

Social capital plays a crucial role in empowering women through urban farming practices, fostering social networks, norms, and values that, when effectively integrated, facilitate cooperation and trust among group members. Field (2005) identifies three functions of social capital: bonding, which refers to close ties among individuals (e.g., family); bridging, which denotes more flexible connections (e.g., colleagues); and linking, which involves outreach to external individuals or entities to strengthen the community. Key elements of social capital include knowledge, trust, norms, and social networks (Tohani & Wibawa, 2019; Putro et al., 2022; Zeballos-Velarde et al., 2023). In the context of urban farming, social capital aids women in accessing knowledge about urban agriculture, managing vacant land, and enhancing their farming capabilities. Research by Kurniasari and Dianto (2021) highlights the importance of social capital in fortifying group cohesion, emphasizing trust and adherence to group norms. Furthermore, robust social capital enables agricultural groups to adapt to shifts from conventional to urban agriculture (Arnott et al., 2021) and facilitates the mobility of herder groups across regions (Salman et al., 2021). Both social and intellectual capital are pivotal in enhancing farmer group empowerment, with high-performing groups demonstrating the ability to innovate and leverage knowledge, including social capital (Muwardi et al., 2023).

Existing literature has identified various elements of social capital within farmer groups. For instance, Ofuoku (2020) focused on group cohesiveness as a form of social capital among Nigerian farmer groups, while the Bugis community in Indonesia exemplifies social capital through the "Tudang Sipulung" tradition (Pawalluri et al., 2021). Strong social networks have been documented among farmer groups in Delhi, India, in the context of urban agriculture (Diehl et al., 2022), as well as within the Kamba women's community in Kenya (Po & Hickey, 2020). Additionally, social capital encompassing norms, trust, and social networks has been observed in farmer groups in Sumber District, Rembang Regency (Pramono et al., 2021), and women's empowerment

groups in Khulna City, Bangladesh, aimed at fostering resilient empowerment (Parvin et al., 2023). While many of these studies focus on singular or limited aspects of social capital, the present study aims to comprehensively explore all dimensions of social capital within women's farmer groups, alongside the strategies employed to strengthen this capital. Furthermore, this research will investigate the models or patterns of urban farming development through the empowerment of women's farmer groups, particularly in relation to social capital, which has not been extensively addressed in prior studies.

This research will utilize a case study approach, focusing on the Srikandi women's farmer group located in Padukuhan Mrican, Mrican Sub-district, Kapanewon Depok, Sleman Regency, Yogyakarta Special Region. The Srikandi group exemplifies the critical role of social capital in empowering women through urban farming practices. This group has successfully transformed land previously designated as a garbage dump into green space within an urban environment, while also establishing collaborative networks with various stakeholders, including universities, local governments, and non-governmental organizations. Notably, the group achieved recognition as the V Champion in the National KRPL Competition in 2020 (Syaifuddin, 2021). In light of these considerations, a thorough understanding of the existing programs within the Srikandi group and the social capital that underpins their success is essential for advancing women's empowerment in the future. This research aspires to contribute valuable scientific insights that will facilitate the development of urban farming through the empowerment of women's farmer groups, leveraging the social capital at their disposal.

Literature Review

Empowerment of Women Farmers Group

The empowerment of women farmer groups represents a strategic approach to advancing urban agriculture. This empowerment is understood as a systematic process aimed at enhancing the strength, knowledge, and skills of women within the agricultural sector. The effects of empowering these groups are evident in various activities, including the identification, planning, implementation, and evaluation of empowerment programs, which have been shown to foster increased autonomy, skill acquisition, and cohesion among members of women farmer groups (Afifah & Ilyas, 2020). Predominantly, the empowerment initiatives for these groups emphasize the utilization of home gardens and the processing of agricultural products (Ardiani & Dibyorini, 2021). Strategies for empowering women in agriculture encompass training, skill enhancement, intellectual development, and the promotion of group autonomy (Arti et al., 2022). Collectively, these observations indicate that the empowerment of women farmer groups is an ongoing process that necessitates the collaboration of various stakeholders, including government entities, organizations, the private sector, and the community, to support women as pivotal agents of change in the realm of sustainable agricultural development through urban farming initiatives.

Utilizing Social Capital in Urban Farming Development

The application of social capital in the advancement of urban agriculture pertains to the utilization of resources embedded within social networks, interpersonal relationships, and social norms to enhance the capabilities of individuals or groups engaged in urban farming initiatives. Urban farming is characterized as the adaptation of traditional agricultural practices to urban settings, with a focus on the actors involved, specifically urban communities (Bakhri, 2019). The prevalence of underutilized land in urban environments has further stimulated the growth of urban farming Gasperi et al. (2016). In alignment with this perspective, Kato et al. (2018) define urban farming as the transformation of vacant open spaces into productive land, with the aim of improving both the quality and quantity of green open spaces. Consequently, the development of urban farming necessitates a robust social capital framework to facilitate the empowerment of women's farming groups, which is essential for the success of urban agricultural endeavors.

Several key components of social capital contribute to the effectiveness of empowerment initiatives. The first component is norms, which are understood as a set of rules, values, or attitudes that individuals or group members are expected to adhere to. Norms can be formal, often codified in written guidelines, or informal, existing as unwritten expectations that members still follow. These norms serve as behavioral guidelines for social interactions within the group and regulate production outcomes that benefit each individual, reflecting a consensus among group members and demonstrating the maintenance of relationships (Putro et al., 2022).

The second component is trust, which in the context of social capital refers to an individual's confidence in the group, as well as the trust between individuals and the broader society. Trust is fundamental for fostering effective cooperation and social interaction, as it encourages openness to collaboration in pursuit of shared objectives. This trust can also enhance relationships and group solidarity. Research by Arnott et al. (2021) indicates that farmer groups willing to adapt to governmental agricultural policies achieve greater prosperity compared to those resistant to such changes. Conversely, a lack of trust and openness among conventional farmers can lead to unfavorable conditions, diminishing their competitiveness relative to those who embrace change and seek governmental guidance (Pawalluri et al., 2021).

The third component, social networks, pertains to the relationships among individuals or groups within society. These networks facilitate communication and resource sharing within the group. Diehl et al. (2022) highlight the critical role of social networks in group development, suggesting that expanding networks beyond the group can enhance opportunities for growth. Effective management of social networks can lead to broader prospects for the group. Participation in community and governmental meetings by artisan groups exemplifies how social networks can yield benefits (Putro et al., 2022). The three components of social capital are interrelated and mutually reinforcing; norms establish interaction protocols among members, trust fortifies

relationships, and social networks serve as conduits for the reinforcement and application of norms and trust in group activities.

The integration of social capital in the promotion of urban agriculture is crucial for facilitating women's empowerment, particularly within organizations such as KWT Srikandi Mrican. Social capital, encompassing norms, trust, and social networks, forms the foundation for sustainable empowerment initiatives. Norms provide behavioral frameworks that govern interactions and delineate shared responsibilities among group members, while trust fosters an environment conducive to openness, collaboration, and solidarity. Furthermore, both internal and external social networks function as channels for communication and platforms for resource sharing, thereby expanding access to opportunities and institutional support. These three elements are interconnected and mutually reinforcing, enabling women's farming groups to effectively manage urban agricultural projects, adapt to changing circumstances, and enhance their resilience. In the case of KWT Srikandi Mrican, strong social capital has proven essential for ensuring the sustainability of long-term programs, promoting active engagement, and enhancing the economic and social capabilities of its members.

Methods

This research will employ a qualitative methodology utilizing a case study approach. The case study method is frequently adopted in qualitative research as it seeks to achieve an in-depth comprehension of a phenomenon present within a community (Yin, 2015). Additionally, this method facilitates a comprehensive understanding of the subject under investigation (Yunus, 2010). This study aims to explore the role of social capital in the empowerment of women through urban farming, with a particular emphasis on the experiences and perspectives of members of the Srikandi Women Farmers Group. The research will be conducted from April to October 2024 in Mrican Village, located in the Yogyakarta District of the Yogyakarta Special Region Province, Indonesia. The primary focus will be on the Srikandi Women Farmers Group within this locality. The population for this study comprises the members of the Srikandi Women Farmers Group in Mrican Village, selected due to the group's attainment of an intermediate level of development and ongoing active participation in various activities.

Respondents for the research will be chosen through purposive sampling to ensure that the information gathered aligns with the research objectives (Tersiana, 2018). Additionally, respondents will be encouraged to recommend other individuals who may provide relevant information pertaining to the study (Abdussamad, 2021). The selected respondents will include group administrators and members who possess significant experience and contributions to the Srikandi Women Farmers Group, specifically comprising seven individuals: three administrators, three members, and one community leader.

Data collection will be conducted through observation and structured in-depth interviews. The interview process will utilize a structured format guided by predetermined questions to elicit insights regarding the experiences, perceptions, and roles of social capital in the empowerment of the group, as supported by interview guidelines and questionnaires (Sari et al., 2022). The inquiries will focus on the manifestation of the three components of social capital—values, trust, and social networks—within the Mrican KWT, the benefits derived from social capital utilization, and the challenges faced by the Mrican KWT in leveraging social capital. Furthermore, the observational component will involve the researcher monitoring urban farming activities alongside group members to gain firsthand insight into the application of social capital, utilizing an observation checklist. Key aspects to be observed include the activities undertaken by the Mrican KWT, interactions among group members, collaborations with external entities, and the group's engagement in sharing activities and information via social media.

The data collected will be analyzed using qualitative data analysis techniques, which encompass several stages: data reduction, data presentation, and conclusion drawing, thereby facilitating the researcher's subsequent analytical processes. This approach is informed by the framework established by Miles and Huberman, wherein data reduction involves identifying principal themes and categories emerging from the data, data presentation is achieved through narrative descriptions, direct quotations, and relevant tabular representations, and conclusion drawing entails correlating findings with existing theories or practical experiences (Saleh, 2017). To enhance the trustworthiness of the data, the study will implement several strategies, including source triangulation, data triangulation, detailed data presentation to mitigate confusion, and contextualizing the findings within established theoretical frameworks. These three stages of data analysis and validation techniques will provide a robust foundation for a comprehensive understanding of the role of social capital in empowering women through urban farming, particularly within the context of the Srikandi Women Farmers Group in Mrican Village.

Findings

The results of this study encompass various elements, specifically the empowerment processes within KWT Srikandi and the application of social capital in this empowerment. The analysis of Srikandi reveals several dimensions, including values, trust, and social networks. Additionally, the study identifies both the advantages and challenges associated with the use of social capital in the empowerment of KWT Srikandi. The subsequent sections provide a detailed account of the research findings.

Empowerment of Srikandi Women Farmers Group

The Srikandi Women Farmers Group (*Kelompok Wanita Tani* - KWT) represents a community empowerment initiative that emphasizes agricultural practices, particularly urban farming. The designation “Srikandi” is derived from a character in Javanese

Wayang (puppet) theater, symbolizing resilience and strength, with the aspiration that the women involved in KWT Srikandi embody these qualities to confront various challenges. Additionally, the name is inspired by a local alley in the Mrican area, further connecting the group to its cultural roots. The establishment of this organization arose from the observation that many residents of Mrican were cultivating plants from their second-floor residences due to a scarcity of available land. This phenomenon is prevalent in numerous urban settings, highlighting a significant issue that remains to be addressed. In response, the Mrican community proactively sought to optimize the limited space available for agricultural purposes, thereby enhancing food security for local residents.

KWT Srikandi is situated in Mrican Hamlet, within the Caturtunggal Sub-district of Kapanewon Depok, Sleman Regency. The group's demonstration plot spans 540 square meters, located in Mrican Hamlet, specifically within Neighborhood Association (*Rukun Tetangga* - RT) 10 and Citizen Association (*Rukun Warga* - RW) 02. This area was previously underutilized, serving primarily as a site for construction waste disposal. Currently, KWT Srikandi comprises 40 members and administrators from various RTs and RWs in Mrican Village. The group has implemented several notable programs, including the cultivation of vegetable crops such as chilies, eggplants, mustard greens, and spinach, which are chosen for their relatively easy management and potential for communal consumption or sale. Additionally, the group engages in catfish farming, utilizing vacant spaces beneath gazebos and in buckets. A hydroponic program has also been established, supported by a partner organization, which allows for the cultivation of hydroponic plants intended for sale, despite the associated maintenance costs. Furthermore, KWT Srikandi offers a study program that welcomes individuals interested in learning about their practices, making the group a frequent destination for comparative studies, educational tours, and field trips for schoolchildren.

The accomplishments of KWT Srikandi Mrican are evidenced by various accolades received at district, provincial, and national levels. Notable achievements include winning the Adhikarya Pangan Nusantara competition at the district level, securing second place in the gotong royong competition at the district level, and achieving second place in the Progo Merapi Tough Village competition at the district level, as well as second place in the banana processing competition at the provincial level and fifth place in the national sustainable food yard competition. The success of KWT Srikandi can be attributed to the active engagement of its members and administrators, driven by community interest, which fosters the advancement of empowerment programs that yield significant benefits for the community.

The advantages of KWT empowerment within the community can be analyzed through three dimensions: economic, social, and environmental. Economically, the initiative has led to a reduction in household expenditures on vegetables, as members can harvest produce from their gardens. Socially, the empowerment of KWT has strengthened community cohesion, facilitating interactions that enhance social dynamics and fostering mutual support among residents in times of need. Environmentally, the introduction of greenery amidst the urban landscape has contributed to a more

aesthetically pleasing and comfortable environment, resulting in improved air quality for the community.

Utilizing Social Capital in Empowering Women Farmers Group

The empowerment of women's farmer groups (KWT) serves as a strategic approach to enhance community welfare, particularly in urban settings. The effective execution of the KWT empowerment initiative is intrinsically linked to the critical role of social capital. Social capital encompasses values, trust, and social networks, which are interrelated and collectively contribute to the group's strength. Research findings indicate a progressive development of social capital over time within the KWT Mrican, evidenced by notable changes in the behaviors of group members.

- *Value*

In the realm of social capital, values function as essential frameworks that govern interactions and collaborative efforts, thereby facilitating harmonious and mutually supportive engagement among group members in the effective execution of the KWT empowerment initiative. Core values such as gotong royong (mutual cooperation), honesty, and awareness, among others, provide a critical foundation that fosters active participation and dedication within the empowerment program. Several key values are evident in the implementation of the KWT empowerment program. Firstly, the principle of mutual cooperation is highly esteemed within group dynamics. This value is characterized by a pronounced willingness to assist one another, both internally among members and externally with outside parties. For instance, members often share knowledge regarding hydroponic cultivation techniques with those who are less familiar, or they collaborate in food processing activities. Furthermore, external support is also evident, as illustrated by the catfish cultivation program, where KWT women, initially lacking knowledge in effective catfish farming practices, received guidance from local men. Additionally, values such as awareness, discipline, and responsibility play a significant role in the execution of the KWT empowerment program. The value of awareness is reflected in the commitment of both members and administrators to adhere to scheduled daily pickets, which is intrinsically linked to the values of discipline and responsibility. The success of these pickets is contingent upon the individual awareness and accountability of each member and administrator, as there are no punitive measures in place for non-compliance.

Moreover, the value of environmental respect is demonstrated through the actions of members and administrators who transform underutilized land into valuable and functional spaces for the community. Their efforts not only enhance the utility of the land but also involve ongoing maintenance to ensure its proper functioning. This endeavor requires a high level of commitment and consistency, as the absence of sanctions for failing to fulfill obligations does not deter members from engaging in scheduled weekly pickets.

Their dedication to land stewardship is complemented by various empowerment activities, underscoring that without commitment and consistency, the KWT empowerment program would struggle to achieve its objectives.

- *Trust*

A critical element of social capital that significantly contributes to the effective execution of the KWT empowerment program is trust. This trust manifests in both internal and external dimensions. Internally, it exists among members, between members and administrators, and among administrators themselves, facilitated through regular monthly meetings and KWT arisan, as well as through weekly pickets. Externally, trust is established with governmental bodies, organizations, and the surrounding community. Notable examples of collaboration include partnerships with the DIY provincial government, the Sleman district government, and the Caturtunggal village government, as well as engagement with local community structures such as RT and RW. Additionally, support from universities, including UGM, UNY, Sanata Dharma, UAJY, UMY, and UII, further exemplifies this external trust. A significant demonstration of trust is evident in the support provided by BRI, which has facilitated the construction of demonstration plots and the renovation of KWT Srikandi land, including the establishment of hydroponic houses and pavilions.

The mutual trust within KWT Srikandi is reflected in the members' willingness to share information and knowledge, fostering an environment of openness. This collaborative spirit is exemplified by internal training sessions led by members who possess specific expertise, such as the food processing section's training on oyster mushroom processing. Moreover, transparency in decision-making and program implementation is crucial for minimizing misunderstandings and conflicts. Trust enables KWT members to engage in open and honest communication, allowing for the early identification of potential conflicts before they escalate into more significant issues, thereby enhancing work efficiency and effectiveness. The successful delegation of tasks and responsibilities further illustrates the role of trust; committed and responsible KWT administrators and members foster an environment of mutual trust. The positive performance of individual members can motivate their peers to fulfill their responsibilities diligently.

Trust is equally vital in relationships with external stakeholders, including government entities, NGOs, and the broader community. Confidence in the integrity of KWT can influence access to resources, support, and opportunities for collaboration. Consequently, within the internal context, trust bolsters solidarity, enhances participation, and mitigates conflict, while in the external context, it facilitates access to resources, cultivates networks, and elevates the group's credibility.

- *Social Network*

The utilization of social networks in the execution of the KWT empowerment program is categorized into two distinct types: internal and external. The internal social

network, referred to as bonding, is characterized by the close relationships and mutual support among group members. This support extends beyond the implementation of the program to encompass social and emotional assistance. The bonding among group members is fostered through various activities, such as collaborative picketing, which facilitates interaction, as well as monthly meetings held alternately at the residences of each picket group. Effective communication is not limited to face-to-face interactions; members also engage actively in WhatsApp groups, which serve to further reinforce the existing social network. This platform enables the rapid and efficient exchange of information. Furthermore, the bonding experience is intensified when KWT Mrican prepares for or participates in events and competitions, as increased frequency of interaction and shared dynamics contribute to the strengthening of interpersonal relationships.

Conversely, the external utilization of social networks, commonly referred to as linking, is equally significant as bonding. The development of linking provides access to information, knowledge, technology, and broader market opportunities. This access is instrumental in enhancing the capacity and competitiveness of KWT, facilitating its expansion beyond local confines into a more extensive network. Partnerships with external entities, including government agencies, private organizations, other groups, and the surrounding community, play a crucial role in this process. KWT Srikandi has established partnerships primarily with various universities, such as UNY, UGM, Sanata Dharma, UAD, UII, UMY, and several other institutions in Yogyakarta, and is supported by local government entities from the provincial level down to the Caturtunggal sub-district. Additionally, the Agriculture Office, as a relevant government agency, provides support, alongside numerous private entities, such as BRI, which has assisted in the renovation of land owned by KWT Srikandi. Moreover, KWT Srikandi leverages social media to disseminate information about the activities of KWT empowerment and to promote the programs and agricultural products of the group. The leadership's role is pivotal in the success of linking; for instance, the chairman of KWT Mrican actively seeks information and fosters collaborations with external parties, while also encouraging and motivating members to engage with outside entities that offer benefits to KWT Mrican.

Table 1 illustrates that the implementation of the KWT empowerment program is informed by two dimensions of social capital: bonding social capital and bridging social capital. To enhance understanding, the researcher provides a succinct overview of the application of social capital, which encompasses its three fundamental components: values, trust, and social networks.

This study reveals that social capital within the Women Farmers Group (KWT) Mrican, Sleman, has developed rapidly over time, thereby supporting sustainable urban farming empowerment and being dynamically influenced by the challenges and issues encountered in the process of leveraging social capital. Initially, trust among members was limited; however, it increased through joint activities, resulting in stronger connections. Collective norms, which began as simple agreements, evolved into values

Table 1. Social Capital Utilization Results

No.	Aspects	Implementations
1.	Value	<ul style="list-style-type: none"> • Mutual cooperation. There is an attitude of helping each other • Responsibility. Have responsibility for their respective obligations and duties • Awareness. There is awareness in carrying out garden clean-up pickets and attending coordination meetings • Respect for the environment. There is an attitude of turning non-functional land into useful • Share. <i>Knowledge sharing</i> is very visible • Consistent and committed. Evidenced by the existence of KWT until now
2.	Trust	<ul style="list-style-type: none"> • Financial transparency • Shared decision-making • Solidarity through regular meetings • Openness to information and knowledge • Trust in partners or outsiders
3.	Social Network	<ul style="list-style-type: none"> • <i>Bonding</i> Social networks that occur among fellow KWT Mrican members <ol style="list-style-type: none"> 1. There is a daily picket to clean the garden 2. Monthly coordination meeting 3. Leader role 4. Active coordination through WhatsAppgroup • <i>Linking</i> Social networks that occur between KWT Mrican and external parties <ol style="list-style-type: none"> 1. Cooperation with stakeholders 2. Encouragement for growth from leaders 3. Social media utilization

Source: Researchers' elaboration.

encompassing responsibility, awareness, openness, and discipline. The social network of KWT also expanded through collaborations with external parties, thereby facilitating access to new resources. Member participation grew as tangible outcomes were achieved, further solidifying group cohesion. The capacity to share knowledge, particularly regarding agricultural techniques, has improved, fostering a knowledge network both among members and with external extension workers. Consequently, the social capital of KWT has developed significantly in response to various challenges, enhancing the group's ability to manage urban farming resources more effectively and resiliently.

The examination of social capital utilization in the empowerment of urban farming reveals the influence of local cultural characteristics that promote effective collaboration within urban agricultural initiatives. Trust is fostered through financial transparency and shared decision-making, which enhances solidarity among group

members. The significance of social networks is underscored, encompassing both bonding through regular meetings and daily activities, as well as linking with external stakeholders through cooperative efforts. The use of social media further illustrates the group's success in establishing mutually beneficial relationships.

Comparative analysis with other studies in Indonesia, such as the research conducted by Safitri et al (2021), indicates that the practice of gotong royong serves as a foundational element for farmer groups in various regions. However, the challenges encountered often stem from divergent goals among members, which can impede collaborative effectiveness. Internationally, research by Chen et al. (2022) in China highlights that social capital within urban farmer groups similarly prioritizes trust and community engagement, yet these groups face obstacles related to resource access and limited governmental support. In Brazil, the study by Carvalho and Bógus (2020) demonstrates that robust social networks among women in farmer groups have led to enhanced innovation in agricultural practices, although participants also contend with social stigma that restricts women's involvement in agricultural activities.

- *Benefits and Barriers*

The advantages of leveraging social capital in the empowerment of Kelompok Wanita Tani (KWT) are evident across multiple dimensions, including enhanced knowledge and skills, improved access to resources, and bolstered group capacity. Each member of KWT is entrusted with the outcomes of their agricultural endeavors, allowing them to retain the produce, which predominantly consists of vegetables such as *tcabai*, kale, spinach, and bitter melon. This practice contributes to a modest reduction in monthly household expenses. Furthermore, a portion of the harvested crops is sold, with the proceeds allocated to cover operational costs associated with the empowerment initiatives at KWT Srikandi. An additional benefit is the fostering of community cohesion, which strengthens relationships both among KWT members and with the broader community. The presence of a robust social network, both internally and externally, enhances the capacity of KWT Srikandi and facilitates greater access to resources. Research indicates that a strong social network significantly improves access to community resources and support from governmental and non-governmental organizations (Harahap et al., 2023; Rahmawati, 2021).

However, the implementation of social capital is not without its challenges, particularly within the context of KWT empowerment. KWT Srikandi Mrican faces several obstacles, including a shortage of partners to collaborate with in the facilitation of empowerment programs. Although there are existing partnerships with government entities, academic institutions, and private organizations, the management and members express a desire to expand these partnerships, particularly with local communities. To address these challenges, the administrators and members of KWT Srikandi actively engage in outreach efforts to establish new partnerships for the execution of empowerment programs. Additionally, they encounter infrastructural limitations, such as the use of village treasury

land for their activities, which poses a risk of being reclaimed at any time. In response, they are committed to maintaining the land diligently to ensure its continued use, while also preparing for the potential consequences should the land be reclaimed.

Discussion

The effectiveness of the empowerment program implemented by KWT Srikandi Mrican is closely linked to the utilization of the community's social capital. Furthermore, social capital offers significant advantages to the community, including enhancements in economic conditions, improved access to education, and advancements in health (Pangesti, 2021). The benefits derived from social capital are intrinsically connected to several constituent elements, namely values, trust, and social networks, as exemplified by KWT Srikandi Mrican. The social capital present within KWT Srikandi Mrican is cultivated through interactions with various stakeholders, including both fellow members and external entities. The social capital attributes possessed by KWT Srikandi Mrican serve as a vital asset in the promotion of urban agriculture through its empowerment initiatives.

Social capital is not an instantaneous achievement; rather, it is a gradual process that necessitates ongoing activities to enhance the existing social capital. Coleman (2015) posits that social capital serves as a productive factor that can be effectively harnessed to collectively realize shared objectives. A pertinent example of this is the empowerment program at KWT Srikandi Mrican, which has successfully persisted for nine years, in contrast to numerous other KWTs that have either diminished or ceased to exist. This observation aligns with the findings of Fadhila et al. (2023), which indicate that stronger social capital within a community facilitates its resilience. In this context, KWT Srikandi's longevity can be attributed to the robust social capital present in the community, bolstered by ongoing empowerment initiatives.

The primary component of social capital is value. According to the research findings, KWT Srikandi Mrican upholds several key values, including togetherness, mutual cooperation, discipline, and responsibility. These values are instrumental in the effective implementation of programs and the successful attainment of collective objectives (Ari et al., 2024). Furthermore, values serve as a catalyst for member engagement in program execution (Tai et al., 2024). In the context of empowering KWT Srikandi, the values of mutual assistance, discipline, and responsibility are essential, as they enable members to fulfill their obligations during scheduled weekly pickets. This observation aligns with the findings of Subagyo (2021), which indicated that the values of assistance and sincerity constitute the identity of a group, thereby fostering cohesive social capital.

The subsequent component of social capital is trust, which is cultivated not only among members of the KWT but also with external parties. Trust is a critical element of social capital that facilitates the attainment of shared objectives. Research by Pavlov et al. (2017) indicates that trust constitutes the initial phase in the decision-making and

transactional processes. The trust that KWT members possess enhances their ability to fulfill their respective responsibilities and to address conflicts, both internally and externally. Furthermore, trust can evolve over time through interactions that occur within the context of social dynamics. Effectively communicating a common goal is a vital step in enhancing member engagement in program implementation. This finding aligns with the research conducted by Fadhila et al. (2023), which posits that trust is fundamental to the success of empowerment initiatives, as it serves as the foundation for a robust social network.

The final component of social capital is the social network. Research indicates the existence of two distinct types of social networks: those that are internal, which occur among members of the KWT (Women Farmers Group), and those that are external, which involve interactions between KWT members and external entities. The latter type typically involves collaborations with parties outside of KWT Srikandi Mrican. The establishment of robust social networks is likely to influence the success of the KWT empowerment program. This assertion is supported by the findings of Wang et al. (2017), which suggest that a broad social network can provide essential support and motivation, thereby facilitating the achievement of objectives. Additionally, research by Subagyo and Legowo (2021) underscores the significant role of social networks in empowerment, as they contribute to the development of connecting social capital.

Research conducted by Babaei et al. (2012) identifies three distinct functions of social capital in empowerment practices: bonding, bridging, and linking. The findings indicate that the application of social capital by KWT Srikandi Mrican has yielded significant benefits for the community, particularly in the realms of empowerment and urban agriculture development. Bonding social capital reinforces pre-existing values that may have been underappreciated, such as the values of togetherness, mutual cooperation, discipline, and responsibility. Bridging social capital enhances knowledge and skill acquisition, while linking social capital facilitates access expansion and capacity building. These results align with other studies, such as those by Kurniasari and Dianto (2021), which demonstrate a positive correlation between social capital and the effectiveness of community empowerment initiatives.

The findings from the preceding discussion illustrate a clear relationship between the effective use of social capital and the empowerment of urban farming initiatives. According to the research conducted by Goldstein et al. (2021), urban farming plays a crucial role in enhancing food security and generating supplementary income for participating families, thereby fostering improved well-being and economic autonomy. This additional income serves to diminish economic reliance on external sources, while simultaneously empowering group members to engage more actively in decision-making processes related to crop production and resource allocation. Furthermore, social capital enhances the efficacy of urban farming by fostering networks of trust and collaboration among participants. Research by Jackson and Harris (2022) indicates that groups characterized by robust social capital are more adept at adapting to challenges, sharing

information, and accessing marketing opportunities. In the context of women farmer groups, social capital facilitates the exchange of knowledge, the establishment of relationships with external stakeholders, and collaboration with governmental or social institutions, thereby demonstrating that the integration of urban farming and social capital is a potent strategy for the empowerment of women.

Conclusion

This research indicates that social capital plays a significant role in the advancement of urban agriculture, particularly through the empowerment initiatives targeting women farmer groups (KWT). Specifically, the findings reveal that: (a) values are cultivated through collaborative activities that emphasize mutual cooperation, discipline, and responsibility, bolstered by the high commitment and consistency of individual group members; (b) trust is evidenced by the effective delegation of responsibilities to both leaders and members, transparency in program and financial management, and the solidarity fostered among group members; (c) social networks are established both within the group and externally. Furthermore, the study identifies several advantages of leveraging social capital within the KWT empowerment program, including enhanced community cohesion, increased knowledge and skills among community members, and strengthened capacities. However, the KWT Srikandi faces challenges, such as the necessity to broaden the scope of partnerships to facilitate the successful execution of the empowerment program, as well as the need to improve the quality of existing facilities and infrastructure, with the expectation of support from local government. The social capital developed through mutual cooperation, discipline, and robust social networks serves as a crucial foundation for the sustainability of empowerment initiatives, fostering a collaborative spirit and enabling group adaptability in addressing long-term challenges. Consequently, the enhancement of social capital emerges as a vital component in ensuring the sustainability and effectiveness of empowerment programs.

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Author's declaration

The authors made substantial contributions to the conception and design of the study. The authors took responsibility for data analysis, interpretation and discussion of results. The authors read and approved the final manuscript.

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