

Fostering Empowerment of Urban Community Gardening Through Urban Agriculture Initiatives in Malaysia

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Abstract

Urbanization in developing countries has increased urban poverty and food insecurity. In Malaysia, 76% of the population lives in cities, making it difficult to access affordable and nutritious food. To address these issues, the Malaysian government initiated the Urban Agriculture Program, promoting urban farming for food security and well-being. Urban agriculture uses unused spaces like rooftops and empty lots for rooftop gardens, community gardens, vertical farming, and hydroponics. The Department of Agriculture (DOA) and Malaysian Agricultural Research and Development Institute (MARDI) support urban farmers with resources and assistance. Urban agriculture (UA) provides benefits such as improved food access, income generation, social interaction, and community empowerment. The paper highlights the importance of active participation, knowledge sharing, and skills development in promoting economic empowerment within UA communities. Practical skills development enables individuals to cultivate food sustainably, improve productivity, and potentially generate income. By nurturing participation, knowledge, and skills, UA communities in Malaysia can thrive, enhance food security, and contribute to resilient and empowered urban environments. Additionally, promoting and integrating urban agriculture requires support from policymakers, urban planners, researchers, and practitioners for sustainable and resilient cities.

Keywords: Urban Agriculture, Economy Empowerment, Participation, Knowledge, Skill

Introduction

Developing countries have been experiencing rapid urbanization due to various factors, including industrialization, economic growth, rural-urban migration, and population growth. The process of urbanization involves the shift of population and economic activities from rural areas to urban areas. This transformation is driven by factors such as better job opportunities, access to services, education, healthcare, and improved infrastructure in urban centers.

According to the Department of Statistics, Malaysia, in 2020, approximately 76% of the country's population resided in urban areas. The majority of the population is concentrated in major cities such as Kuala Lumpur, Shah Alam, Johor Bahru, Ipoh, Penang Island, and Alor Setar. Projections indicate that the percentage of people living in urban areas is expected to rise to 80% by the year 2050.

Urban areas are often associated with the presence of urban poverty due to the high cost of living. There are several factors contributing to the increased cost of urban living in Malaysia, including rising food prices, housing costs, transportation expenses, and basic services. According to a study by Von Braun (2008), the low-income group in urban areas allocates a significant portion, ranging from 50-70%, of their income towards purchasing food. This situation has resulted in the emergence of the 'urban poor' phenomenon. Furthermore, research conducted by Khazanah Research Institute in 2019 revealed that 94.6% of households in urban areas primarily allocate their income towards food expenditure, surpassing expenditures in other categories. The concern over rising food prices, particularly when the increase exceeds the normal or expected levels, is reasonable and can create public anxiety, especially among lower-income groups. When food prices experience excessive or abnormal increases can have significant implications for communities. The high cost of living in Malaysia at present has affected the finances of urban residents. This phenomenon will cause food insecurity issues where individuals or households face challenges in obtaining adequate and nutritious food. Therefore, the Malaysian government has created an initiative to help the urbanites reduce their expenditure on food by creating Urban Agriculture Program.

Development and Concepts of Urban Agriculture

Urban agriculture (UA) refers to the practice of cultivating, processing, and distributing food within urban areas, typically in cities or densely populated regions. It encompasses a wide range of activities, including growing crops, raising livestock, and producing food in both residential and non-residential urban spaces (Specht et al., 2014). The concept of UA emerged as a response to various challenges related to nutrition; public, and mental health; community food security; climate change mitigation; community building; economic development and empowerment (Golden, 2016; Hagey & Rice, 2012; Alaimo et al., 2008; Carmody, 2018; Daigger et al., 2015; Draper & Freedman, 2010; Purcell & Tyman, 2015). It involves the cultivation of food crops, herbs, or edible plants in urban settings. UA can take various forms, such as rooftop gardens, community gardens, indoor hydroponic systems, vertical farming, or even small-scale livestock keeping (Lovell, 2010). UA often utilizes underutilized or vacant land within cities, such as empty lots, rooftops, or abandoned buildings. It promotes the efficient use of urban spaces for food production, maximizing the potential of available land resources.

In Malaysia, the government has allocated a total of RM63.32 million to the Ministry of Agriculture and Food Industry (MAFI) to support the successful implementation of the Community Garden Program (Kebun Komuniti or Kebuniti) throughout the country (Hibrahim, 2021). This allocation is mainly focused to encourage and cultivate communities' interest to participate in UA programs. There are currently approximately 11,000 urban farming communities, and the government has set a target to establish 20,000 communities nationwide by the year 2030 (Abu Dardak & Muhammad, 2021). The Department of

Agriculture (DOA) is the main agency that takes responsibility for overseeing and implementing the Urban Agriculture (UA) program. Under the purview of the DOA, the UA program involves various initiatives and activities that encourage and facilitate urban residents to engage in agricultural practices and until recently, a total of 124,988 people in 5,065 locations have benefitted (Abu Dardak & Muhammad, 2021). This includes promoting rooftop gardens, community gardens, vertical farming, hydroponics, and other innovative farming techniques suitable for urban environments. The DOA provides guidance, technical support, and resources to individuals, communities, and organizations interested in participating in urban agriculture. They offer training programs, workshops, and educational resources to equip urban farmers with the necessary knowledge and skills to cultivate crops in urban settings. In addition to the Department of Agriculture (DOA), other agencies such as the Malaysian Agricultural Research and Development Institute (MARDI) also play a vital role in promoting urban agriculture (UA) in Malaysia. MARDI's involvement in UA focuses on providing support and resources to communities interested in engaging in farming activities within the urban area. One of the ways they support urban communities is by providing farming kits and tools. The farming kits and tools provided make it easy for communities to apply the new soilless UA technique, ensuring a user-friendly and accessible approach to improve productivity (Muhammad et al., 2020). They also promote sustainable agricultural practices such as organic farming, vertical gardening, and hydroponics. These methods minimize the use of pesticides, fertilizers, and water, leading to reduced environmental impact.

Besides, social entrepreneurs such as Urban Hijau also involved and engage with different sections of society interested in urban farming and sustainability. Urban Hijau social entrepreneurs act as a platform to showcase a range of permaculture practices and sustainable farming methods to the broader public. They offer education on healthier growing, eating, and living options, as well as provide training in these practices. Additionally, they aim to supply fresh and healthy produce, such as vegetables and fruits, which can be sold or distributed to the larger community. These social entrepreneurs also organize diverse events, including workshops, talks, tours, and other activities, to bring people together for learning and sharing experiences in sustainable farming and urban agriculture (Urban Hijau, 2023).

Urban agriculture plays a crucial role in enhancing food security in rapidly urbanizing areas. As cities continue to expand and populations grow, the demand for food increases. Urban agriculture offers a means to produce fresh, nutritious food locally, reducing dependence on external food sources and mitigating potential disruptions in the global food system (Badami & Ramankutty, 2015). Encouraging urban farming and community gardens can enable urban residents to grow their own fruits, vegetables, and herbs, reducing their reliance on expensive store-bought produce. Urban agriculture optimizes land use by utilizing underutilized or vacant spaces within cities, such as rooftops, empty lots, or abandoned buildings. It transforms these spaces into productive areas, increasing the overall efficiency of land utilization and maximizing the potential for food production within urban environments (Smit & Nasr, 2021).

In terms of community development, urban agriculture fosters community engagement, social interaction, and empowerment. It brings people together, encourages collaboration,

and creates opportunities for residents to actively participate in food production, gardening, and educational activities (Diekmann et al., 2020). Urban gardens often serve as gathering spaces, promoting social cohesion, improving mental well-being, and enhancing the overall quality of life in urban neighborhoods. By reconnecting urban dwellers with the process of food production, urban agriculture strengthens the connection between people and the food they consume, leading to more sustainable and healthier food choices. Besides, urban agriculture can stimulate local economies by creating employment opportunities and supporting small-scale food businesses (Specht et al., 2014). It enables the establishment of farmers' markets, community-supported agriculture programs, and value-added food production enterprises, generating income within urban areas. This localized economic activity strengthens local food systems, promotes entrepreneurship, and contributes to the economic resilience and self-sufficiency of urban communities.

UA in Developing and Developed Countries

In developing countries, the growth of urban agriculture, especially urban horticulture, is seen as a significant strategy to combat urban poverty and enhance the well-being of city residents. By improving health conditions through urban agriculture, it becomes possible to foster more sustainable and stable economic growth at both the individual family and community levels (Francesco et al., 2013). Urban agriculture offers several benefits in developing countries. It provides opportunities for individuals and communities to grow their own food, reducing their dependence on expensive market purchases and enhancing food security. This allows families to save money on food expenses and have access to fresh and nutritious produce (Francesco et al., 2013). In developed countries such as Canada and Japan, urban agriculture (UA) initiatives have been observed to contribute to income generation, reduce food expenditure, and enhance food security.

Research conducted by McDougall et al (2019) in Canada highlights that urban agriculture enables individuals to generate income through direct savings on food expenses and the sale of food products. By growing their own food, urban farmers can reduce their reliance on store-bought produce, leading to cost savings. Additionally, surplus harvest can be sold, providing an additional source of income. This income generation helps improve the financial well-being of households participating in urban agriculture. In Japan, studies conducted by Duchemin et al (2008) emphasize the stability of food production for household consumption as a benefit of urban agriculture. By growing their own food, urban farmers have a reliable and consistent supply of fresh produce, reducing their dependence on external sources. This stability in food production contributes to improved food security and accessibility within the household. Furthermore, both studies highlight the social benefits of urban agriculture. Engaging in UA creates opportunities for social interaction and community engagement. Urban farmers often come together in community gardens or shared spaces, fostering relationships, and strengthening community ties. These social interactions promote a sense of belonging, enhance social cohesion, and contribute to the overall well-being of individuals and the community.

Urban agriculture (UA) has gained global acceptance as a strategy to address food crises by ensuring food security, improving nutrition, increasing household income, and enhancing community relationships. In Malaysia, UA has been recognized as a valuable practice to tackle food insecurity and urban poverty. Studies by Othman et al (2019); Yusoff et al (2017);

Tajuddin et al (2019) have highlighted the positive impacts of UA in Malaysia, including increased food access, income generation, social interaction, friendship, and community cohesion. The practice of UA in Malaysia is not a new concept and aligns with the recognition of its importance worldwide. The conceptualization of UA as an informal urban food supply, in line with the theory of resilience, helps to address issues of food crises, food insecurity, and urban poverty. Malaysia, as a developing country, has embraced UA as a means to enhance food security, promote sustainable urban agriculture practices, and foster resilient communities. According to data from the Department of Agriculture (DOA) in 2023, participation in UA activities exhibited fluctuations. It witnessed an increase until 2016 but experienced a decline starting in 2017. However, in 2020, there was a significant surge in participation, particularly among individuals residing in residential areas. The fluctuation in participation in UA activities, with an initial increase until 2016 followed by a decrease in 2017, can be attributed to several challenges and limitations.

Challenges and Innovative Solutions

Malaysia does face limitations in terms of land availability for urban agriculture, which poses a challenge to the expansion of such practices. Limited land availability in urban areas of Malaysia does pose challenges for urban agriculture, particularly in securing permission to use vacant land for farming purposes (Cheon, 2022). Obtaining government approval to utilize unused or underutilized land can be a complex and time-consuming process. This scarcity of land makes it challenging to establish large-scale UA projects. However, innovative approaches such as vertical farming, rooftop gardens, and hydroponics can help maximize space utilization and overcome land limitations. The availability of resources such as water, soil, seeds, and fertilizers are crucial for successful urban agriculture. In some urban areas, these resources may be limited or of poor quality, making it necessary to find alternative solutions (Cheon, 2022). Implementing efficient irrigation systems, utilizing composting techniques, and exploring resource-saving practices can help overcome these challenges.

Many urban residents may have limited knowledge and experience in agricultural practices (Cheon, 2022). The training, workshops, and educational programs on urban farming techniques, crop management, and business skills should be conducted periodically to ensure that individuals engaging in urban agriculture have ongoing access to updated knowledge and skills. Universities can contribute by offering courses, training programs, and workshops on urban agriculture and related topics. They can develop curricula that cover various aspects of urban farming, including technical skills, sustainable practices, and business management. Government agencies should collaborate with universities, NGOs, and industry experts to develop comprehensive training programs tailored to the needs of urban farmers. NGOs with a focus on agriculture, food security, and sustainable development can contribute by organizing training workshops and capacity-building programs for urban farmers. Collaboration between universities, government agencies, and NGOs is crucial to ensure the effectiveness and reach of training programs. By combining their resources, expertise, and networks, they can develop comprehensive training initiatives that address the technical, environmental, and socio-economic aspects of urban farming. This collaborative approach allows for a broader range of perspectives, ensures the relevance of training programs, and enhances the overall impact on urban farmers and the communities they serve.

The Role of Economic Empowerment in the Success of Urban Agriculture Communities in Malaysia

The empowerment of urban agriculture (UA) communities in Malaysia can be attributed to the presence of participation, knowledge, and skills within those communities. Active participation of community members is essential for the success and empowerment of urban agriculture communities. When individuals within a community actively engage in UA initiatives, they contribute their unique perspectives, skills, and resources to the collective effort. Participation fosters a sense of ownership and shared responsibility, leading to increased community cohesion and collaboration (Bisaga et al., 2019). Through active participation, community members can collectively address challenges, make informed decisions about UA practices, and develop sustainable solutions tailored to their specific urban environment. Active participation in urban agriculture and knowledge sharing within the community can lead to economic empowerment. Community members can identify market opportunities, develop entrepreneurial skills, generate income through produce sales, and create employment opportunities, thereby improving their economic well-being and contributing to local economic growth.

Knowledge is a fundamental aspect of UA empowerment. Urban agriculture involves cultivating crops, raising livestock, and utilizing sustainable farming techniques in urban settings. Access to knowledge about urban farming practices, such as vertical gardening, hydroponics, composting, and pest management, equips community members with the necessary know-how to successfully grow food in limited spaces (Mandel, 2013). This knowledge encompasses various aspects, including soil health, plant nutrition, water management, and urban farming regulations. Access to relevant information empowers UA communities to make informed decisions, adapt to local conditions, and optimize their agricultural practices for increased productivity and sustainability. Engaging and networking with experts is an effective way for urban agriculture communities to gain specific knowledge and insights in various aspects of urban farming (Weber & Khademian, 2008). This helps them gain specific insights, stay updated on the latest research and innovations, receive tailored advice and guidance, and access valuable networks and resources that support their urban farming endeavors. This eventually can lead to increased yield in their urban agriculture endeavors, allowing them to produce more crops and improve overall productivity.

Developing practical skills is crucial for UA communities to thrive and become self-sufficient. Urban agriculture requires a range of skills, including gardening, farming, composting, and marketing. By acquiring these skills, community members can grow their own food, improve crop yields, and potentially generate income through the sale of surplus produce (Hassanein, 2008). Skills development programs, workshops, and training opportunities can be organized to enhance the technical proficiency of community members in urban farming techniques, as well as entrepreneurial skills for marketing and selling their produce. These skills not only contribute to the community's food security but also empower individuals economically and provide opportunities for local entrepreneurship. In summary, participation, knowledge, and skills form the foundation for empowering urban agriculture communities in Malaysia (Hassanein, 2008). Active participation encourages community engagement, collaboration, and collective decision-making. Access to knowledge about urban farming practices enables informed decision-making and innovation within the community. Practical skills development equips community members with the necessary expertise to cultivate food sustainably,

enhance productivity, and potentially generate income. By nurturing these elements, urban agriculture communities in Malaysia can thrive, improve food security, promote sustainable practices, and contribute to a more resilient and empowered urban environment.

Active Community Participation and Collaborative Partnerships in Malaysia Urban Agriculture Initiatives

Examples of active communities in Malaysia are the Hartamas Community Garden Association, Bangsar Community Garden Association and TTDI Urban Farming communities. These communities focus on the cultivation and maintenance of community garden areas in Kuala Lumpur. They encourage active community participation in community gardening activities as a way to strengthen social bonds, raise environmental awareness, and create beautiful green spaces in the area and educational purposes. The strong relationship between residents in the Community Garden is facilitated by their voluntary participation and the diverse skill sets they bring to the community. Residents with varying expertise and abilities willingly come together to contribute their knowledge and manpower, creating a harmonious and supportive environment. Besides, the empowered community involved with a private company to kick off a community project in their area. This collaboration involves the community working together with the company to plan, fund, and execute the project. With the active involvement from private company, the community can benefit from the company's resources, expertise, and support. The company may provide financial assistance, contribute necessary materials or equipment, offer specialized knowledge or skills, or engage its employees in volunteering efforts. These strong collaborations allowed them to connect with potential partners, leverage resources, and enhance their project's success. Furthermore, it fosters a sense of shared responsibility and collective impact, creating a solid foundation for future collaborations and community development initiatives. Overall, active participation enables the community to expand its reach, amplify its impact, and build lasting partnerships that benefit both the project and the community as a whole.

Contribution of the Study

The study is driven by the recognition of the important role that urban agriculture plays in addressing challenges related to urban poverty, food security, and community development in Malaysia. Urban agriculture, which involves cultivating, processing, and distributing food within urban areas, has become a strategic response to various societal issues. Governmental agencies, such as the Department of Agriculture and the Malaysian Agricultural Research and Development Institute, play crucial roles in overseeing and executing urban agriculture programs. Social entrepreneurs, as illustrated by Urban Hijau, contribute to the advocacy of sustainable farming methods while also promoting community engagement, social interaction, and economic development. Successful urban agriculture initiatives are often a result of collaborative endeavors that involve government backing, active community involvement, and partnerships with private enterprises. The approach in Malaysia involves nurturing active community participation, advancing education and training, and leveraging collaborative partnerships to establish resilient and self-sufficient urban communities. The findings emphasize the need for supportive policies, incentives, and continual efforts to empower urban farmers with the requisite knowledge and skills for sustainable and productive urban agriculture.

Conclusion

In conclusion, urban agriculture initiatives in Malaysia are playing a significant role in addressing the challenges of urban poverty, food security, and community development. Malaysia, as a developing country, recognizes the importance of urban agriculture in enhancing food security, promoting sustainable practices, and fostering resilient communities. Through active participation, communities gain specific insights, stay updated on research and innovations, receive tailored advice, and access valuable networks and resources that enhance their urban farming endeavors. This, in turn, leads to increased yield, economic empowerment, and improved livelihoods for community members. Despite challenges such as limited land availability and the need for ongoing knowledge and skills, urban agriculture in Malaysia is gaining traction. The presence of participation, knowledge, and skills within UA communities further strengthens the movement and promotes sustainable and resilient urban environments. By fostering active community participation and collaborative partnerships, urban agriculture communities in Malaysia can expand their reach, amplify their impact, and empower achieve lasting positive change. Thus, government should develop policies and regulations that facilitate urban agriculture, including land-use policies that allocate spaces for community gardens, rooftop gardens, and urban farming. Additionally, it is crucial to offer incentives and support to individuals and communities involved in urban agriculture activities. This can be done through financial incentives, access to resources, and technical assistance. Furthermore, promoting education and training programs is essential to equip urban farmers with the necessary knowledge and skills in sustainable farming practices, crop management, and business management. Collaborating with universities, government agencies, and NGOs will help in developing comprehensive training initiatives that cater to the specific needs of urban farmers. By leveraging government support, community participation, and innovative approaches, Malaysia is working towards building resilient and self-sufficient urban communities.

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