

The impact of urban farming on environmental and community aspects in Sumurrejo Gunungpati village, Semarang

Fadhillah^{1*}, Rizki Wulan Maharani¹, Rizki Nur Ardani², and Widya Eka Lutfiah Ningrum³

¹ Department of Physics, Faculty of Science and Technology, Universitas Islam Negeri Walisongo Semarang, Indonesia

² Department Sharia Economics, Faculty of Islamic Economics and Business, Universitas Islam Negeri Walisongo Semarang, Indonesia

³ Department Islamic Criminal Law, Faculty of Sharia and Law, Universitas Islam Negeri Walisongo Semarang, Indonesia

*Corresponding author's e-mail: fadhillahf565@gmail.com

ABSTRACT

In Sumurrejo village, Gunungpati district, Semarang, urban farming has begun to develop in response to the need for local food and better environmental quality. Through this study, it is hoped that a deeper understanding will be gained regarding how urban farming can contribute to better environmental management and the formation of more connected communities through sustainable agricultural practices. This research uses qualitative data and inductive analysis, namely an analysis based on the data obtained, then developing specific relationship patterns or hypotheses. This research provides an understanding that urban farming has many positive impacts, one of which is in the environmental aspect of society.

Keywords:

Urban Farming; Community; Environment; Sumurrejo.

Introduction

Urban farming, or urban agriculture, is one of the innovative solutions to face the challenges of urbanization and environmental change in various regions, especially in urban areas. In the midst of the rapid growth of big cities, urban farming offers the opportunity to utilize limited land in a productive and sustainable way. This phenomenon affects economic aspects and significantly impacts the environment and society.

In Sumurrejo village, Gunungpati district, Semarang, urban farming has begun to develop in response to the need for local food and better environmental quality. By adopting environmentally friendly farming methods, people in this area are starting to experience various benefits, directly and indirectly. However, this initiative's impact extends beyond just increasing food supplies. Urban farming also influences the social structure and behavior of society.

This article aims to explore the impact of urban farming in Sumurrejo village from two main perspectives: environment and society. Through this study, it is hoped that a more profound understanding will be gained regarding how urban farming can contribute to better environmental management and the formation of more connected communities through sustainable agricultural practices. Thus, this article not only provides an overview of the successes and challenges of urban farming in the area but also provides valuable insight into the development of urban farming policies and practices in other cities.

Urban farming, or urban agriculture, focuses on agricultural practices carried out in urban environments to increase environmental sustainability. This concept is based on sustainability theory, which emphasizes the importance of efficient resource use and reducing negative environmental impacts (Elmqvist et al., 2013). Urban farming can reduce the carbon footprint by reducing the need for food transportation and organic waste management (Katz et al., 2016).

Urban farming, or urban agriculture, plays a vital role in environmental sustainability efforts by making productive use of limited urban land. Environmental sustainability emphasizes the importance of efficient use of resources and reducing negative impacts on the environment. According to Dian (2015), urban farming can reduce the carbon footprint by reducing the need for food transportation and utilizing organic waste effectively. Urban farming also improves air quality and reduces the urban heat island effect (Wibowo et al., 2020).

Urban farming also plays a vital role in community development. Community development theory suggests community involvement in urban agricultural activities can strengthen social ties and improve social welfare (McIvor & Hargreaves, 2012). Urban farming significantly impacts community development, such as improving social welfare and community connectedness. Sutrisno (2018) explains that involvement in urban agriculture can strengthen social ties and improve people's quality of life by providing access to healthy and local food. Urban farming can improve food security and empower communities by reducing dependence on global supply chains (Mulyadi, 2017).

Urban farming also serves as an effective educational tool, providing hands-on experience about agriculture and sustainability. Hadi (2016) explains that field-based education can increase students' knowledge through direct practice in city gardens. Urban farming programs often include workshops and training that can educate people about the importance of environmental sustainability and agricultural skills (Ningsih, 2019). Urban farming can inspire environmentally based curricula and teach essential skills such as environmental responsibility and entrepreneurship (Klemmer et al., 2005).

Methods

Urban farming is an agricultural practice in urban areas, utilizing limited lands such as backyards, building roofs, or even road medians to produce vegetables, fruit, and other products. Using methods such as hydroponics, aquaponics and vertical gardens, urban farming improves air quality by absorbing carbon dioxide and producing oxygen. This activity also improves community welfare by providing fresh products, creating jobs, and promoting healthy lifestyles. Urban farming also helps reduce dependence on food supplies from outside the city, reduces the carbon footprint, increases local food security, creates environmental sustainability, and improves air quality in the city.

Furthermore, this research uses a descriptive qualitative research design. Descriptive qualitative research is a type of research that aims to describe and depict social phenomena or events in depth and comprehensively. This research uses qualitative data and inductive analysis, namely an analysis based on the data obtained, then developing specific relationship patterns or hypotheses. Descriptive qualitative research pays more attention to the characteristics, quality, and interrelationships between activities and reveals attitudes, contradictions, relationships, and views within a respondent's scope.

Results and Discussions

The urban farming activity carried out by KKN (Kuliah Kerja Nyata) students at Universitas Islam Negeri Walisongo Semarang in Sumurrejo village is an initiative aimed at strengthening food independence and increasing awareness of the importance of urban farming in the community. Through this activity, students work with residents to develop the limited land available in urban areas to plant various organic plants, such as vegetables and spices.

Figure 1 shows urban farming activity; this urban farming activity not only provides direct benefits in the form of a healthier and more affordable food supply for the community but also has a positive impact in improving the city environment by increasing ecological sustainability and beautifying the city structure. Apart from that, through the urban farming process, students also provide outreach and training to residents regarding sustainable agricultural practices, limited land management, and efficient use of natural resources.



Figure 1. Making urban farming (a) plant trees and (b) hoe the ground

This activity is not only a means to improve urban farming skills for the community but also strengthens relationships between students and residents of Gunungpati village and inspires a more sustainable mindset and lifestyle in the context of urbanization. Thus, urban farming activities in the KKN of Universitas Islam Negeri Walisongo Semarang in Sumurrejo village are a concrete manifestation of collaboration between students and the community in creating positive changes for welfare and environmental sustainability locally.

Benefits of Urban Farming

Urban farming or urban farming is a way of farming that optimizes land ownership or agricultural intensification. Urban farming is suitable for urban communities, most of which have limited land. The role of urban farming is not only to meet food needs. More than that, urban farming can also allow families to spend free time together.

Urban farming has many benefits, including social, economic, and ecological. From a social perspective, it can be seen from the level of household participation in urban farming. Household participation in urban farming reaches 30% in developing countries. This affects increasing income, reducing unemployment, and reducing social conflict.

Increasing people's income will be a stimulus to strengthen the local economy and alleviate poverty so that economic stability can be achieved in urban communities. The development of urban farming from an ecological perspective provides benefits, including:

- Conservation of land and water resources
- Improve air quality
- Creates a healthy microclimate
- Providing beauty or aesthetics

The development of urban farming in an integrated and sustainable manner also has health, educational, and tourism value. The density of urban areas due to the large number of settlements, vehicles, and public facilities means pollution is increasing. The existence of urban farming will increase green open space (RTH) and reduce existing pollution. The green open space is also used as a tourist attraction and educational facility for the community.

Urban farming does have many benefits, but it also has challenges in its development. The challenges faced are:

- Land area and legal status
- Sunlight supply and air circulation
- Heavy metal contamination
- Limited knowledge and mastery of community technology
- The development of infectious diseases from animals (zoonosis)

Research in 6 large cities in Indonesia (Surabaya, Cirebon, Bandung, Yogyakarta, Pacitan and Salatiga) shows similarities in the implementation of urban farming. Of the six cities, the urban farming type is relatively uniform, utilizing a dominant land area of 100–500 m².

The urban farming movement in Indonesia was visible after the economic crisis in 1997 – 1998. However, urban farming in Indonesia has not been adequately implemented and prioritized in its development. The Food Agriculture Organization (FAO) estimates that almost 75% of the population in developing countries will live in urban areas.

Conclusion

The Urban Farming activity is an effort by KKN Universitas Islam Negeri Walisongo Semarang students to invite the Sumurrejo community to improve the quality of food in the Gunungpati District environment, especially Sumurrejo village. There are several positive impacts in implementing urban farming, namely from environmental and community aspects; urban farming can contribute oxygen, reduce the carbon footprint in urban areas, create new job opportunities, and develop gardening skills among the community. As more people are involved in urban farming, we can create greener, healthier, more sustainable cities.

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