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Urban Farming as a Pathway to Strengthen Community Adaptive Capacity to Climate Change: Opportunities and Challenges from Makassar City

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A B S T R A C T

This study examines urban farming as a strategy to enhance community adaptive capacity to climate change in Makassar City. Using a qualitative approach, the research finds that urban farming strengthens household food security, local economies, environmental awareness, and social networks for managing climate risks. However, constraints such as limited land, insufficient technical and financial support, weak policy frameworks, and low public literacy persist. Its success hinges on robust synergy among communities, government, academia, and the private sector through regulatory support, funding, and innovation. Consequently, urban farming should be recognized not merely as a food production activity, but as a sustainable climate adaptation strategy to be integrated into urban development planning.

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INTRODUCTION

Climate change has become the most pressing global challenge, especially for coastal urban areas (Caprario et al., 2022; Day et al., 2021; Yi, 2024). Cities such as Makassar face high risks due to rising temperatures, extreme rainfall, and increased frequency of hydrometeorological disasters that have a direct impact on environmental sustainability and community welfare (Ismayanti & Aljurida, 2023). In the local context, climate change has affected the availability of water resources and increased the potential for urban flooding that disrupts people's economic activities (Awaluddin et al., 2024).

This trend shows the need for an adaptation strategy that is not only top-down through government policies, but also bottom-up through community initiatives. Research in Makassar shows that local communities are starting to adopt alternative environmental-based approaches such as urban farming as one of the adaptive responses to climate change pressures and limited green space (Isdialah, 2023). Thus, examining community-based adaptation strategies is very important to understand local capacity to deal with environmental crises.

In addition to direct climate impacts, climate change also threatens urban food security, exacerbating existing vulnerabilities in food systems (Worku & Terefe, 2023). Rapid urbanization in Makassar reduces productive agricultural land, while food demand continues to increase (Maru et al., 2016). The dependence of urban communities on external food supplies makes the food system vulnerable to global climate and economic shocks (Mejía & Gomez, 2023; Toth, 2024). Urban farming emerged as an innovative strategy that is able to answer these challenges by utilizing limited space in urban areas for small-scale food production (Abdul Rashid et al., 2023; Teoh et al., 2024).

In Indonesia, various studies confirm that urban farming not only increases food independence, but also strengthens the household economy, especially vulnerable groups (Barokah et al., 2023; Maulana et al., 2024; Wijaya, 2022). In the context of Makassar, urban farming contributes to family food security through the use of city hallways as a space for chili and vegetable production (Isdialah, 2023). This shows that urban farming has strategic potential in answering urban food problems while reducing vulnerability to the climate crisis.

Urban farming is not only a food fulfilment strategy, but also a form of community adaptation to climate change. This practice is able to reduce micro temperatures in densely populated environments, improve air quality, and increase socio-ecological resilience (Henzelmann, 2023; Luo et al., 2023; Mensah, 2023). In Makassar, the practice of alley, hydroponics, and urban farming based on sustainable architectural design has begun to be implemented by the community in response to food needs as well as environmental adaptation strategies (Awaluddin et al., 2024; Najib et al., 2025). Studies also show that urban farming can increase community empowerment through the creative economy and green literacy that contribute to the family economy (Surya et al., 2020). In the framework of adaptation, the capacity of communities such as Makassar Gardening shows that urban farming is also a daily political action in responding to the global issue of food crisis (Baharuddin et al., 2024). Therefore, urban

farming has strategic relevance in building climate adaptation capacity at the level of urban communities.

Despite its great potential, the implementation of urban farming in Makassar still faces various challenges, including limited land, low sustainable agricultural literacy, and suboptimal policy support (Mahyudin et al., 2025; Tenri ulfa et al., 2023). Previous research has shown that community initiatives have not been fully integrated into urban food security policies, so the scale of urban farming's impact is still limited (Awaluddin et al., 2024). Meanwhile, qualitative studies of local communities confirm that urban farming is often constrained by social capital, policy networks, and access to technology (Baharuddin et al., 2024). Thus, this study aims to explore how urban farming is applied in Makassar City and the extent to which the practice increases the community's adaptation capacity to climate change. The focus is directed at identifying opportunities and challenges so that urban farming can develop as a sustainable adaptation strategy that is relevant to local needs while being aligned with the global agenda of climate change mitigation.

THEORETICAL REVIEW

Urban Farming as a Global Strategy

Urban farming has developed into one of the innovative strategies in responding to the challenges of urbanization, environmental degradation, and climate change. Globally, this practice is seen as a multifunctional approach because it not only provides food, but also improves the ecological quality of cities, reduces carbon footprints, and strengthens people's social interactions (Kurnianto, 2024; Mathew et al., 2023; Fadhilah et al., 2024). Research in the world's major cities shows that urban farming plays an important role in building food security while supporting the sustainable development agenda (Wei, 2022). Furthermore, urban farming is also seen as an effective environmental education instrument because it encourages cross-generational community participation in environmentally friendly practices (Araújo, 2025). Thus, the global literature provides a theoretical basis that urban farming has a strategic role as an adaptive response to the climate crisis and accelerating urbanization.

The Development and Context of Urban Farming in Indonesia

In Indonesia, urban farming is developing in line with increasing urbanization and limited green space in big cities. Government programs through "Climate Village" support the use of narrow land as an alternative food production space (Zuhri et al., 2022). Recent studies show that urban farming not only functions as a food fulfilment strategy, but also as a means of economic empowerment of urban communities through integration with the creative economy (Surya et al., 2024). In addition, the application of hydroponic and verticulture technology has expanded opportunities for urban farming innovation in major cities in Indonesia (Sriyanto & Saniya, 2025). With a strong socio-cultural base, urban farming in Indonesia emphasizes its role in building the adaptation capacity of urban communities, both through increasing environmental literacy and strengthening family food independence.

Urban Farming Initiatives in Makassar

Makassar is one of the major cities in Indonesia that is actively developing urban farming programs through government and local community initiatives. The "Lorong Garden" program run by the city government has become a model for the use of hallway space to grow vegetables and chili peppers as part of family food security (Isdialah, 2023). Local studies have also found that urban farming in Makassar strengthens community resilience through improved farming skills, social networks, and household economic diversification (Awaluddin et al., 2024). However, limited policy support and a lack of integration with urban spatial planning hinder the optimization of this program (Mahyudin et al., 2025). This dynamic confirms that urban farming in Makassar has great opportunities, but it also faces structural challenges that require sustainable solutions.

Urban Farming and Community Adaptive Capacity

The concept of adaptive capacity refers to the ability of communities to anticipate, respond, and recover from the impacts of climate change (IPCC, 2022). Factors that determine adaptation capacity include access to resources, environmental literacy levels, institutional support, and community social capital (Bako et al., 2025; Datta & Roy, 2022). Studies show that societies with strong social networks are better able to adapt to environmental changes through collaboration and collective action (Kriegl et al., 2022). In Makassar, communities such as Makassar Gardening show how urban farming is a means of strengthening people's adaptation capacity by combining aspects of food production, social solidarity, and environmental awareness (Baharuddin et al., 2024). This confirms the relevance of urban farming as a community-based adaptation strategy.

Multidimensional Opportunities of Urban Farming

Urban farming offers various opportunities as an adaptation strategy for urban communities to climate change. Based on ecological perspective, this practice supports environmental conservation through organic waste management and increased green cover (Luo et al., 2023). From a social perspective, urban farming encourages community participation in collective activities, strengthens social cohesion, and reduces vulnerability to vulnerable groups (Surya et al., 2024). From an economic perspective, urban farming provides an alternative livelihood and reduces the burden of household expenditure for food needs (Kwiringira et al., 2024). This opportunity is even stronger when supported by pro-environmental government policies, access to technology, and integration in urban development plans (Mahyudin et al., 2025). Thus, the literature suggests that urban farming can be positioned as a layered adaptation strategy with multidimensional benefits.

Challenges and Constraints in Optimizing Urban Farming Potential

Despite its great potential, urban farming is inseparable from various challenges. The main obstacles include limited land, lack of financial support, and limited technical knowledge of urban communities (Teoh et al., 2024). In Makassar, urban farming is often hampered by inconsistent policies and weak coordination between stakeholders (Mahyudin et al., 2025). Studies also show that low green

economic literacy limits the sustainability of urban farming practices at the community level (Abdullah et al., 2022). In addition, small scale and limited market access are also challenges in making urban farming a long-term solution (Awaluddin et al., 2024). Therefore, the literature confirms that although urban farming offers strategic opportunities, its success is largely determined by the synergy between social, economic, environmental, and policy factors.

METHODOLOGY

This research uses a qualitative approach with a case study design to understand the dynamics of urban farming implementation and community adaptation capacity to climate change in Makassar City. This approach was chosen because it allows researchers to explore the meaning, experiences, and adaptation strategies carried out by the urban farming community in depth. Qualitative methods are also relevant to explore the relationship between social, cultural, and environmental factors in developing urban agricultural practices (Creswell & Poth, 2018). By focusing on the local context, this research is able to map the opportunities as well as challenges faced by communities in strengthening climate resilience through urban farming.

The research locations were determined at several urban farming points in Makassar City, which were selected based on the criteria of active community involvement, institutional support, and variations in the form of urban farming practices. The selected areas include community lands, school-based urban gardens, and self-help initiatives in densely populated areas. The selection of this location pays attention to the representation of the diversity of urban farming practices, both supported by the government and based on citizen initiatives. With this scope, the results of the research are expected to provide a comprehensive picture of the adaptation of urban communities to climate change through agricultural practices.

Primary data was collected through in-depth interviews, focus group discussions (FGDs), and participatory observations. The research informants included urban farmers, community managers, local government officials, as well as support groups such as NGOs and academics. Interviews are used to explore individual experiences, while FGDs aim to capture collective dynamics and shared perspectives on the challenges and opportunities of urban farming. Participatory observation was carried out to record daily activities, interaction patterns, and the use of simple technology in urban farming practices. This combination of techniques strengthens the validity of the data through triangulation of sources and methods.

In addition to primary data, this study also utilizes secondary data in the form of official government reports, climate data from the Meteorology, Climatology, and Geophysics Agency (BMKG), as well as academic publications related to climate change and urban farming in Indonesia. Climate data, particularly regarding rainfall and temperature trends in Makassar, are used to link adaptation practices to the real dynamics of climate change in the region. Meanwhile, local policy reports such as urban food security programs are also

analyzed to understand institutional and regulatory support. This approach ensures that research is connected to actual empirical and policy frameworks.

Data analysis was carried out using thematic techniques based on grounded theory (Roldugin, 2023). The first stage is open coding to identify the initial categories of interview transcripts and field notes. Next, axial coding was carried out to connect categories and find patterns of inter-theme relationships, such as the relationship between urban farming practices and the capacity to adapt to climate change. Finally, selective coding is used to formulate a theoretical narrative that explains the opportunities and challenges faced by urban farming communities in Makassar. The analysis process is carried out iteratively to maintain the validity of the interpretation while ensuring that the findings are in harmony with the empirical context.

RESULTS

The research found that urban farming in Makassar develops through various forms of practices, ranging from community gardens to the use of household yard land. Some communities have successfully integrated vertical farming and simple hydroponics, especially in dense urban areas with little open land. This innovation shows that communities are able to adapt appropriate technology to deal with space limitations, while maintaining local food productivity. These findings are in line with previous studies which stated that innovative farming methods allow communities to adapt to space constraints while maintaining local food productivity (Jain et al., 2025; Zhou, 2024). This is proof that the physical limitations of the city are not completely an obstacle in building community-based food security.

One of the important findings is the active role of women in urban farming practices, both as garden managers and as community driving forces. Their involvement not only strengthens aspects of food production but also enhances social solidarity and support networks between citizens. This engagement is in line with global studies showing that the empowerment of women's groups in urban agriculture contributes significantly to food security and climate adaptation (Ghimire, 2024; Jemaneh & Shibeshi, 2023; Ngalekoua, 2024). Thus, urban farming in Makassar functions as an arena for social empowerment that has a dual impact on economic and environmental aspects.

In terms of climate adaptation, urban farming practices have been proven to contribute to environmental risk management, especially in reducing the impact of urban temperatures. Field observations show that areas with high urban farming intensity have a better level of microclimate comfort than areas without vegetation. These findings are consistent with research highlighting the role of urban green spaces in lowering local temperatures and increasing people's adaptive capacity to heat waves (Rahman & Hasan, 2024; Panwar & Mina, 2025). Thus, urban farming not only contributes to food production but also provides important ecosystem services.

The adaptation capacity of the Makassar people to climate change can be seen from the way they adjust their planting patterns to local climate data. Urban farmers rely on rainfall and temperature information from Government

Meteorological Agency to determine the appropriate type of crop in a given period. For example, in the rainy season, they prefer leafy vegetable crops that harvest quickly, while in the dry season they rely on more heat-resistant crops such as chili peppers and eggplants. This strategy shows the integration of local knowledge and scientific data in building adaptation capacity.

However, the results of the study also show significant limitations, particularly in terms of institutional support. Many urban farming communities still operate independently without ongoing assistance from the city government. This condition has an impact on limited access to superior seeds, organic fertilizers, and efficient water management technology. Similar barriers are also found in other cities in Indonesia, where urban farming is doing well at the initiation stage but is difficult to survive without structural support (Hanifa et al., 2023; Luthfiasari et al., 2022). Therefore, the sustainability of the initiative is greatly influenced by partnerships between communities, governments, and the private sector.

From an economic perspective, urban farming in Makassar provides real benefits even on a small scale. The residents involved reported savings of up to 20–30 percent in daily vegetable shopping, as well as additional income from the sale of fresh produce at the local market. These benefits are in line with international studies showing that urban agriculture plays a role as an effective microeconomic strategy, especially among low-income communities (Siegner et al., 2018; Uzcátegui et al., 2017). These findings strengthen the argument that urban farming not only has an ecological impact but also contributes to household economic resilience.

The research also found that urban farming functions as a means of environmental education, especially for the younger generation. Some schools in Makassar have integrated learning gardens as part of the practical curriculum, so that students can understand the linkages between food, the environment, and climate change. This program strengthens ecological awareness while instilling sustainability values from an early age. Thus, urban farming contributes to the transformation of people's behaviour towards a more pro-environmental lifestyle. This finding is in line with the study of Prasetiyo (2018) which states that urban farming school projects in Bandung have been particularly effective in teaching children about ecology, fostering an ecological mentality, and encouraging environmentally significant behaviour.

Despite this, major challenges remain, especially in the context of long-term sustainability. The threat of urban land conversion, limited access to clean water, and low consistency of policy support are factors that hinder the development of urban farming in Makassar. These findings are in line with the FAO report (2022) which confirms that urban agriculture needs cross-sector integration to be part of a systematic climate adaptation strategy. Without strong policy interventions, community initiatives risk weakening and not being able to respond effectively to the challenges of climate change.

Overall, the results of the study show that urban farming in Makassar offers great opportunities in strengthening the capacity of community adaptation to climate change. The practice provides ecological, social, and economic benefits at

the same time, although it still faces significant structural challenges. With policy support, technology access, and institutional strengthening, urban farming has the potential to be a key strategy in building cities that are more resilient to climate change. These findings are an important basis for further discussion in the discussion section. The following table is an overview of thematic analysis and transcript interpretation of some key informants.

Table 1. Thematic Analysis of Urban Farming in Makassar

Theme	Sub-theme	Informant Transcript Citation	Interpretation
Urban Farming Innovation	Limited land adaptation	"*We don't have a large plot of land here, so we made vertical shelves to plant kale and mustard greens. It's a good idea to harvest every week.*" (Informant 1, Urban Farmer)	Residents developed simple vertical farming techniques to overcome space constraints in urban areas.
	Simple technology	"*We learned hydroponics from Youtube, continue to practice it at home. At first, I tried it, but now I can harvest lettuce myself.*" (Informant 2, Housewives)	Digital knowledge supports the adoption of household-scale urban agriculture technology.
Climate Adaptation Capacity	Adjustment of planting patterns	"*In the rainy season, we plant spinach or kale. If it's dry season, it's better to plant chili peppers or eggplants, heat resistant.*" (Informant 3, Chairman of the Urban Farming Community)	Communities integrate local climate data with traditional knowledge in selecting crops.
	Response to rainfall	"*We check local climate data (BMKG) information before planting, so that we know when it rains heavily. If it's the wrong season, it can fail the harvest.*" (Informant 4, Community facilitators)	Scientific data from BMKG is used as a reference for climate adaptation in urban farming practices.
Socio-Economic Benefits	Shopping savings	"*Since there is a garden at home, vegetable*	Urban farming has a direct economic

Theme	Sub-theme	Informant Transcript Citation	Interpretation
		shopping has decreased. About a quarter more economical." (Informant 5, Housewives)	impact through saving food costs.
	Community solidarity	"*We often gather for community service in the garden, so we are more familiar with the neighbours. Not only about planting, but also friendship.*" (Informant 6, Community Leader)	Urban farming strengthens social networks and togetherness of urban residents.
Challenges and Obstacles	Limited policy support	"*Government programs are usually only at the beginning, after that there is no assistance. We walk alone.*" (Informant 7, Community Leader)	The sustainability of urban farming is constrained by the lack of policy support and technical assistance.
	Access resources	"*Sometimes it is difficult to get good seeds or organic fertilizers. If you buy it in an expensive store, it will be limited.*" (Informant 8, Urban Farmer)	Limited access to agricultural inputs is the main obstacle for urban farmers.
Environmental Education and Awareness	Schoolchildren's learning	"*We teach children to grow vegetables in school, so they know the importance of protecting the environment.*" (Informant 9, Elementary School Teacher)	Urban farming functions as a medium for environmental education and builds awareness from an early age.
	Climate awareness	"*Now we understand more about climate change. I used to not care too much, but after participating in activities, I became aware of the importance of planting.*" (Informant 10, Community Member)	Participation in urban farming increases citizens' climate awareness and pro-environmental behavior.

The findings of this study show that urban farming in Makassar has great potential in increasing the capacity of community adaptation to climate change. This practice not only provides economic and social benefits, but also contributes to the improvement of the microclimate as well as the strengthening of environmental awareness. However, the results also confirm that there are serious barriers in the form of limited institutional support, access to resources, and program sustainability. Therefore, further analysis is needed to understand how these opportunities can be maximized and challenges can be addressed through a more integrated approach. The following discussion section will outline the implications of the findings in the academic framework, policy, and sustainability practice.

Furthermore, Table 2 provides an overview of the opportunities and challenges of implementing urban farming in climate change adaptation in Makassar City. Table 2 confirms that the implementation of *urban farming* in Makassar City is in a landscape filled with opportunities as well as challenges. In terms of opportunities, the availability of open space, green city policy support, and simple technological innovations provide a large space for strengthening the community's adaptation capacity. On the other hand, significant challenges arise from limited access to capital, regulatory inconsistencies, urbanization pressures, and extreme climate risks that can hinder the sustainability of *urban farming* practices. This condition shows that the success of adaptation depends not only on the potential of resources and technologies, but also on policy consistency, community technical capacity building, and comprehensive climate risk management strategies.

Table 2. Opportunities and Challenges of Implementing Urban Farming in Climate Change Adaptation in Makassar

Aspects	Opportunities	Challenge
Resources	The availability of yard land, house roofs, and city public spaces that can be utilized.	The pressure of urbanization and land conversion that reduces green space.
Policy	Support for local governments through green city programs and green policies.	Policy inconsistencies and suboptimal supporting regulations.
Technology	Adopt simple innovations such as hydroponics, verticulture, and aquaponics.	Limited access to capital and advanced technology for the lower middle class.
Social	Strengthening the network of urban farmer communities and increasing community participation.	Lack of technical capacity and skills of some people.
Environmental	Increasing awareness of healthy food and mitigating the impact of urban climate change.	Extreme climate risks such as high rainfall and rising air temperatures.

DISCUSSION

The results of this study confirm that urban farming is one of the important strategies in strengthening food security and climate adaptation in urban areas. This practice is able to present a community-based solution that is cheap, flexible, and easy to implement in the midst of limited urban space. This is in line with the findings of Li (2023) who stated that urban farming increases the socio-ecological resilience of cities through diversification of food sources and increased social interaction. Thus, urban farming in Makassar can be seen as a strategic instrument to build urban climate resilience in an inclusive manner.

From a social perspective, this study shows that the involvement of women and local communities is a major driving factor for the success of urban farming. These findings support the global literature that emphasizes the role of women in sustainable food innovation as well as the strengthening of social networks at the local level (Edewor & Ogbe, 2020; Muslih & Rayhan, 2023). The role of women in the context of Makassar is not only in the aspect of production, but also in the dimensions of education, solidarity, and environmental advocacy. Thus, the sustainability of urban farming depends not only on technology and policy support, but also on community-rooted social empowerment.

The discussion also highlights the ecological dimension, where urban farming has been shown to contribute to ecosystem services, including urban temperature mitigation and air quality improvement. This study reinforces empirical evidence that micro-green spaces in cities have a significant impact on local climate comfort (Orsini, 2020; Luo et al., 2023). In the context of global climate change, this kind of ecological contribution is increasingly important, given that major cities in Southeast Asia are vulnerable to the effects of urban heat islands. Therefore, urban farming can be seen not only as a food strategy, but also as an integral part of the urban climate change mitigation agenda.

However, this study found that policy support for urban farming in Makassar is still limited and inconsistent. This is similar to the situation in other cities in Indonesia, where urban farming often runs on community initiative without integration in urban development plans (Maulana et al., 2024). The absence of long-term policies and adequate technical support is a major challenge for sustainability. Therefore, there needs to be synergy between the government, academia, the private sector, and civil society in encouraging urban farming as a formal and institutionalized climate adaptation strategy.

Economically, the findings of this study show that urban farming can reduce the burden of household expenditure while creating new economic opportunities. However, these economic benefits are still limited and vulnerable without market and technology access support. This condition is in line with the findings of Astuti et al., (2025) which emphasized the need to integrate urban farming in urban food systems in order to have a wider economic impact. In other words, urban farming in Makassar needs to be strengthened with a sustainable economic strategy that not only benefits individuals, but also strengthens local supply chains.

Finally, this discussion highlights the importance of the educational dimension and behavioural transformation in urban farming. The practice of school gardens and the participation of the younger generation in urban

agriculture in Makassar prove that urban farming also functions as an ecological learning space. This supports the argument of Pranajaya et al., (2023) that direct practice-based environmental education is more effective in building sustainability awareness. Therefore, urban farming can function as a transformative means in building an adaptive culture of urban communities, while strengthening the sustainable development agenda.

CONCLUSIONS AND RECOMMENDATIONS

This study shows that the implementation of *urban farming* in Makassar City has strategic potential as one of the approaches to community adaptation to climate change. This practice not only serves as an effort to utilize limited space in urban areas, but also strengthens adaptation capacity through increased knowledge, community participation, and diversification of livelihoods. Empirical data obtained from in-depth interviews and thematic analysis confirm that urban communities are beginning to realize the ecological and social value of *urban farming*, thus making it an alternative solution in the face of increasing climate risks.

While great opportunities are available through policy support, simple technological innovations, and the social capital that communities have, the challenges faced cannot be ignored. Limited access to capital, technical skills, and regulatory inconsistencies are real obstacles to the development of sustainable *urban farming*. In addition, the pressures of urbanization and the impact of extreme climate such as high rainfall and rising temperatures add to the vulnerability of the community in maintaining the stability of urban food production. Therefore, adaptation efforts through *urban farming* require a more comprehensive strategy involving governments, local communities, and cross-sectoral support.

Overall, this study confirms that *urban farming* is not only an urban farming practice, but also a climate adaptation strategy that is relevant, contextual, and has the potential to increase the resilience of urban communities. The practical implication of these findings is the need for integration between public policy, technological innovation, and community capacity building to make *urban farming* part of the sustainable development agenda in Makassar City. These findings also open up space for further in-depth research on the effectiveness of community-based adaptation models, as well as the development of sustainability indicators that can be adopted in other urban areas with similar socio-ecological conditions.

This study provides several practical implications for policymakers and practitioners working in the field of poverty alleviation and social protection. First, the findings emphasize the importance of designing empowerment programs that are not only focused on short-term financial assistance but also on building long-term adaptive capacities of poor households. This requires integrating educational support, vocational training, and access to sustainable livelihood opportunities within conditional cash transfer programs such as the Family Hope Program (Program Keluarga Harapan/PKH).

FURTHER STUDY

This study has several limitations that need to be noted. First, the data collected was mostly qualitative through in-depth interviews, so the results of

the analysis were greatly influenced by the subjectivity of the informant's narrative and the inherent social context. Second, this study is focused on cases in Makassar City so that generalization of findings to other cities with different socio-ecological conditions needs to be done carefully. Third, limited research time and access to official secondary data, particularly related to long-term local climate trends, limit the depth of analysis of the causal relationship between climate variability and urban farming practices. To overcome these limitations, further research is recommended with a more comprehensive and cross-methods approach. Quantitative studies supported by longitudinal data can strengthen understanding of the relationship between climate change, adaptation capacity, and the success of urban farming practices.

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