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Urban Agriculture as a Food Security Solution Through Green Economy Approach

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A B S T R A C T

Global climate change threatens various countries' food security and supply. The World Food and Agriculture Organization (FAO) has identified 27 countries, including Indonesia, that are at risk of experiencing a food crisis. Several studies look at the potential of urban agriculture (UA) to overcome the food crisis and impact food security, family income, psychology, society, and the environment. Urban agriculture applied in developed and developing countries effectively increases commercial-scale food production on urban land by utilizing production technology. This research uses a mix of methods, namely quantitative and qualitative methods, where the results of the study found that people who practice Urban Farming are helped in terms of urban farming skills, food security, the creation of green open spaces, entrepreneurial opportunities, the fulfillment of nutritional needs, enjoying fresh crops, creating bonds among community members, educational benefits and awareness for mental health and the environment.

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INTRODUCTION

Global climate change threatens food security and food supply in various countries. The World Food and Agriculture Organization (FAO) has identified 27 countries, including Indonesia, at risk of experiencing a food crisis. Several studies look at the potential of urban agriculture (UA) to address the food crisis; other problems include increasing food diversity, poverty alleviation, social issues, employment and income increase, distribution of production factors, and waste management (Pawlak and Kołodziejczak).

The COVID pandemic has made many parties aware of the importance of food security in ensuring a food supply for human needs (Mealy and Teytelboym). A green growth economy is an effort to harmonize economic growth while preserving nature as a source of supply, food security, and human welfare (Ali et al.). Many practitioners encourage urban agriculture (UA) to contribute to solving the global food crisis and achieving a resilient food security system. However, UA differs from conventional agriculture because it is still constrained by production scale, resource efficiency, and cost-effectiveness (Benis dan Ferrão). Various studies reveal that UA impacts food security, family income, psychology, society, and the environment (Gulyas and Edmondson). The following are some benefits of the green economy presented in a table.

Table 1. Benefits of The Green Economy

Economic Benefits	Social benefits	Environmental benefits
1. Reduced poverty and inequality.* 2. Increased economic growth and employment.* 3. Improved training and skills." 4. Development of new markets and specialization. 5. Increased productivity, and increased commodity and agricultural yields. 6. Improved energy security. 7. Improved competitiveness	1. Reduced poverty and inequality. * 2. Reduced social inequality." 3. Increased employment.* 4. Improved training and skills. 5. Better public services. 6. Improved health outcomes.	1. Sustainable management of natural assets and resources. 2. Reduced greenhouse gas and other emissions. 3. Better adaptation to climate change and resilience to natural disasters. 4. Improved environmental quality.

and trade balances.		

Source:(Ali et al.)

The formulation of the problem studied is how to measure the level of readiness of urban communities to practice urban agriculture to avoid food crises, have food security, and get income from urban agriculture production. The urgency of this research is that people in urban areas can solve food supply constraints through the urban agriculture program to have food security, diversify agricultural products, reduce household food expenditure, earn income, and contribute to maintaining ecosystems and nature conservation.

It is estimated that by 2030, world food demand will increase to 43% (Khan et al.); this is relevant to the FAO release, which states that world food production needs to increase by 70% to meet food demand by 2050 (Lema et al.). The concept of a green economy attracts global interest because it raises three main issues: human resources, environment, and social justice (Lal). In line with the concept of a green economy, urban agriculture is the concept of farming on small plots of land, which is an essential strategy for advancing food security. This strategy promotes food security and nutrition while preserving and strengthening ecosystems (Toxopeus dan Polzin).

FAO suggests that a sustainable UA model must be profitable and economically viable in order to benefit the community. It is financially feasible, so people feel UA's economic benefits include food availability, income generation, and reduced household food expenditure (Akbari et al.). Some countries implementing UA choose the type of agriculture according to climate, culture, and consumer preferences. Land utilization land use varies, ranging from vacant land, roadsides, parking lots, courtyards, beaches, rooftops, and home gardens, such as houses, beaches, rooftops, and building exteriors.

The following table shows the types of urban agriculture practiced in several countries by land use.

Table 2. Types of Urban Agriculture Practiced in Several Countries

City/Country	Horticulture Product Grown	Land Utilized
Havana/Cuba	Vegetables (Beans, tomatoes, lettuce, okra, eggplant) Fruits (Papaya, pineapple, avocado, guava, coconut)	Community gardens, vacant spaces, green spaces, parking, highways, rooftops
Jakarta/Indonesia	Cabbages, ginger, chilies, pineapples, and mangoes	Vacant land, uneven spaces, riverside, roadside, and coastal lands
Rubi/Spain	Tomatoes and greenhouses	Rooftops

Munich/Germany	White cabbages, grapes, and apples	Green spaces, building facades, rooftops, and car parking
Boston/USA	Dark green vegetables and fruit trees (according to climate and cultural practices)	Vacant residential areas, vacant commercial areas, and rooftops
Montreal/Canada	Vegetables (according to climate and consumer preferences)	Vacant spaces, residential gardens and rooftops
Toronto/Canada	Summer vegetables	Residential gardens and rooftops
London/UK	Strawberries, lettuce	Farmlands, private gardens, and small plots
Maputo/Mozambique	Lettuce, kale, cabbages, tomatoes, and carrots	Green belts and small plots
New Town/Singapore	Vegetables and hydroponic products	Rooftops and public buildings

Source: (Khan et al.)

The sustainability of urban farming depends on the management of available spaces, such as vacant land, rooftops, courtyards, parks, and commercial premises for urban agriculture, as well as individual initiative and behaviour to grow fruits and vegetables (Khan et al.).

In Indonesia, the community can do farming independently, and assistance can be received from the Department of Food Security, Maritime Affairs and Agriculture (DKPKP) to optimize production and resource efficiency. DKPKP has a food security program that includes planning, organizing, implementing, supervising, and evaluating the implementation of management activities within DKPKP.

LITERATURE REVIEW

Urban agriculture (UA) has emerged as a strategic response to growing challenges related to food security, rapid urbanization, and environmental degradation. As cities face increasing pressure on land, rising food prices, and climate-related risks, UA provides a localized, sustainable mechanism for improving food availability, community resilience, and ecological quality (Mok et al., 2019). Integrating UA with a green economy approach elevates its relevance by promoting environmentally responsible practices, resource efficiency, and social inclusiveness.

METHODOLOGY

This research was conducted from July to December 2024, and the research location was in the DKI Jakarta area. This study sought sources of information from urban farmers and the government, in this case, from the DKI Jakarta Food Security Agency.

Urban agriculture offers solutions to address food insecurity in low-income families (Appolloni et al.), reduce pollution levels and carbon emissions, improve energy and resource efficiency, and reduce the risk of biodiversity loss and ecosystem damage (D'Amato dan Korhonen).

Urban agriculture in developed and developing countries such as Hong Kong, Tokyo, Mumbai, and Bangkok effectively increases commercial-scale food production on urban land by utilizing production technology as a social catalyst (Dabić et al.). For planting needs, aquaponics, indoor farming, vertical farming, rooftop farming, wall farming, school gardens, and gardens around the house are generally used (Skar et al.).

Suppose we study the literature that describes the various agricultural focuses and UA results. In that case, we will find the idea that in Indonesia, we can choose UA focus, such as in Ruhr Metropolis, Germany, where UA land is located in the suburbs, which allows for optimization of production volume and easy access to distribution to urban customers. Agricultural products are selected based on the focus of the developed commodity: cabbage, ginger, chilli, pineapple, and mango. Indonesia can also emulate UA's focus in Bangkok, Thailand, where profit orientation is UA's priority in peri-urban land with the top choice of commodities, namely shrimp, rice, fish, and fruit. The following is described: the name of the country, the focus of the UA practised, and the results of the UA are presented in the following table.

Table 3. The Economic Potential of Different Types of Urban Agriculture

Location	UA concerns	Result(s)
Ruhr metropolis, Germany	Professional urban and peri-urban farms	• It is less likely to achieve success in densely populated municipalities where various adjustment strategies (e.g., provision of tourism services, using short distribution channels) are not implemented • Farm success is mainly dependent on the farm location thereby minimizing transport costs and offering convenience to the customers • Full-time farmers who are using appropriate adjustment strategies for farm development are more likely to achieve farm success in the long run
Galati, Romania	Integrated aquaponics system: Deep water culture (DWC) and Light expanded clay aggregate (LECA)	• LECA substrate aquaponic technique requires higher investment costs but generates higher income than the DWC technique • Electricity costs represent more than half of the total variable costs value, thus creating a great demand for renewable energy source alternatives
Sicily, Italy	Pilot aquatic plant producing lettuce and Nile tilapia	• Aquaponic farming yields positive operating income and benefit/cost ratio for the first year of experimental activity • Economic viability might be slightly more sensitive to revenue than its operational cost
Arizona, US	Consumer behavior towards urban farming	• Consumers having subjective knowledge of UA and a favorable attitude towards urban farming increases the likelihood to purchase produce from urban farms and grow their own produce at urban farms
European cities	Economic performance and self-sufficiency of urban gardening	• Most urban gardeners were not motivated mainly by profit, but of other factors such as safe and healthy food production, source of relaxation, environmental impact, and as a means of socializing • Albeit profit being of second importance, economic productivity of urban gardens can be compared to market production by a substantial amount
Bangkok, Thailand	Peri-urban farming systems (fish, shrimp, rice, and fruits)	• Despite having the highest costs among the four systems, shrimp farms remain to be the most profitable, yielding the highest income, net income per family worker, investment, and input costs

Source:(Yuan et al.)

Agricultural businesses are synonymous with initial capital to start a business, and urban agriculture requires capital stimulus. Productive zakat is generally used to finance productive economic projects (Rahman dan Shahirah binti Mat Shaari; Wiwin et al.; Windianingsih et al.). The fields financed by productive zakat include culinary, agricultural cultivation, livestock, fisheries, and plantations. This stimulus is an effort to empower SMEs and farmers so that their businesses develop.

Waqf land can generate economic benefits if managed productively and professionally. Waqf land is commonly used as a business and agricultural centre in Saudi Arabia, Egypt, Turkey, Malaysia, and Singapore. Urban agriculture can utilize waqf land to become productive and generate profits (Rohman et al.; Windianingsih dan Hisanah; Agustin Windianingsih et al.). The novelty of the research offered is that urban agriculture farmers with limited land can be business-oriented by accessing productive zakat financing and planting on their land or utilizing productive waqf land.

This research was carried out in the DKI Jakarta area. This study uses questionnaires and interviews as the main instruments to collect primary data. This research follows the literature and the results of discussions in developing research instruments. The instruments prepared were questionnaires and interview forms with a sample of 100 respondents. The following is a research instrument in the form of a questionnaire containing statements that respondents must fill in with answers using a Likert scale.

RESEARCH RESULT

Coefficient of Determination Test

Table 4. Coefficient of Determination Test

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,729[a]	,532	,496	1,258	,532	14,784	1	13	,002

a. Predictors: (Constant), Variable X

b. Dependent Variable: Variable Y

Based on the results obtained above, an Adjusted R Square value (Determination Coefficient) of 0.496 can be obtained, which means that Variable X (UF activity) has an influence of 49.6% on Variable Y (UF benefit). In comparison, the remaining 50.4% is the Non-Determination Coefficient or other factors not studied in this study. The benefits of Urban Farming referred to here include community food security, the creation of green open spaces, entrepreneurial opportunities, the fulfillment of nutritional needs, the creation of bonding among community members, aspects of education, and awareness of mental health and the environment.

Simple Linear Regression Test

Table 5. Simple Linear Regression Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	7,000	3,138		2,231	,044
	Variabel X	,384	,100	,729	3,845	,002

a. Dependent Variable: Variable Y

Simple Linear Regression Test

Y = a + b.x + e

Y = 7,000 + 0,384 X + e

From the simple linear regression equation above, it can be obtained as follows:

Intercept:

a. The value of the constant (intercept) is 7,000; this means that when Urban Farming (X) activity is equal to 0, then the Urban Farming (Y) benefit is predicted to be 7,000. In this context, intercept provides an overview of the essential benefits that can be obtained without Urban Farming activities.
b. Variable Coefficient X: The coefficient for variable X is 0.384; this shows that increasing one unit in Urban Farming (X) activity will increase the Urban Farming (Y) benefit by 0.384. In other words, there is a positive relationship between urban farming activities and the benefits they provide.
c. If we want to calculate the predicted benefit for a given level of Urban Farming activity, we can override the value of X in the equation. For example: If (X = 10) (for example, 10 units of Urban Farming activity): [Y = 7,000 + (0.384 x 10) = 7,000 + 3.84 = 7,003.84] So, the predicted benefit is 7,003.84.

The Interpretation of this Equation shows a positive relationship between Urban Farming activities and the benefits obtained. The higher the Urban Farming activity, the higher the benefits that can be obtained, although the increase is not too significant (0.384 per unit of activity).

t Test

Table 6. T Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7,000	3,138		2,231	,044
	Variabel X	,384	,100	,729	3,845	,002

a. Dependent Variable: Variable Y

Value of sign < 0,05

Calculated t-value > table t value (influential)

T table = t (a/2 : n-k-1)

a = 5% = 0,05/2 : 15-1-1)

= 0,025: 13

= 2,160

Calculated T = 3,845

We can conclude that the independent variable X (UF activity) tested significantly affects the dependent variable Y (benefit UF), indicating that independent variable changes will impact dependent variables.

DISCUSSION

Study of the Concept and Prospects of Urban Agriculture Collaboration in Cooperation with the Food Security Office, Zakat Institutions, and Waqf Institutions

Food insecurity affects 2.37 billion people worldwide, particularly in Southeast Asia, where lack of agricultural land and climate change pose significant food insecurity. FAO defines food security as ensuring all individuals have access to adequate, safe, and nutritious food, including availability, access, and utilization. Factors that affect food security include financial and non-financial elements, such as community engagement and institutional support, which vary according to the regional context.

Waqf is characterized by its irrevocable, perpetual, and irrevocable nature, thus providing sustainable benefits to beneficiaries while being managed for the public good. Nazhir Waqf is expected to develop waqf land for the benefit of the Muslim Community (Mohd Ali). Historically, waqf has played an essential role in overcoming socio-economic problems and can function as a provider of capital for crucial needs, including food security, with the goal of zero hunger. Waqf is also relevant as a solution to food insecurity in developing countries. Waqf can increase agricultural investment and create innovative programs to combat food insecurity.

Meanwhile, productive zakat, as one of the instruments for economic empowerment and community development, aims to create a sustainable livelihood for mustahik and foster a culture of charity in the community. Zakat funds function as economic catalysts that channel capital to productive businesses. In line with the mission of financial empowerment, waqf instruments can synergize to advance SMEs in urban agriculture (UA) so that it is a productive land that generates income.

By optimizing the support system in the form of capital access from Zakat funds, the availability of waqf land for the Green Economy movement of urban agriculture can overcome the food crisis and bring prosperity. Economic empowerment initiatives that improve access to productive assets and markets have significantly increased farmer's incomes. These efforts improve individual livelihoods, promote the well-being of the wider community, and encourage sustainable and more resilient agricultural practices.

Urban Agriculture Collaboration Model for Zakat, Waqf, and Food Security Service Cooperation

Figure 1. Urban Agriculture Collaboration Model

Collaboration Model Name: "*Community Economic Empowerment Program Through Waqf, Zakat, and Food Security*".

Objective:

a. Improving community welfare through economic and social empowerment.
b. Increasing community food security through the development of agriculture and local food.
c. Increasing public awareness and participation in the management of waqf and zakat.

Collaboration Structure:

1. Waqf Institution:
   a. Responsible for the management of waqf assets and the development of community empowerment programs.
   b. Providing waqf funds for local agricultural and food development activities.
2. Zakat Institution:
   a. Responsible for the management of productive zakat funds and the development of agricultural community empowerment programs.
   b. Providing zakat funds for local agricultural and food development activities.
3. Food Security Office:
   a. Responsible for policy development and food security programs.
   b. Provide technical assistance and resources for local agricultural and food development.

Collaborative Activities:

1. Local Agriculture Development:
   a. Waqf Institutions and Zakat Institutions provide funds for local agricultural development.
   b. The Food Security Agency provides technical assistance and resources for local agrarian development.
2. Local Food Development:
   a. Waqf Institutions and Zakat Institutions provide funds for local food development.
   b. The Food Security Agency provides technical assistance and resources for local food development.
3. Community Empowerment:
   Waqf Institutions, Zakat Institutions, and Food Security Agencies work together to empower the community through training, mentoring, and the provision of social assistance.

Expected Results:

   a. Improving community welfare through economic and social empowerment.
   b. Improving community food security through local agriculture and food development.
   c. Increasing public awareness and participation in managing waqf and zakat.

The Role of Academics in Urban Agriculture

The role of academics in agricultural collaboration between Waqf Institutions, Zakat Institutions, and Food Security Agencies is significant in providing research-based solutions to improve food security. Academics can contribute by increasing the quantity of research related to waqf-based sustainable financing in the agricultural sector.

In addition, the media can facilitate dialogue between stakeholders, including Waqf Institutions, Zakat Institutions, Food Security Agencies, farmers, and other related parties; this can help build trust and encourage collaboration, ultimately resulting in more effective solutions to food security challenges. The public and the media can pressure policymakers to create an environment that supports the integration of waqf-based sustainable financing in the agricultural sector; this can include advocating for policies that promote the use of waqf land and resources for agricultural development.

The Primary Role of the Public and the Media

a. Raising awareness about the importance of food security.
b. Supporting initiatives that improve food security.
c. Disseminating information about the collaboration and its objectives.
d. Facilitating dialogue between stakeholders.
e. Advocating for policies that promote the use of waqf land and resources for agricultural development.

A Case Study of Urban Agriculture in the DKI Jakarta Region

In this study, the researcher studied the practice of Urban Farming in the RW 03 area, East Cempaka Putih Village. This area is named Tourism Village, Samtama Village, by residents. The flagship program of this Tourism Village is the Climate Village Program (Proklim Lestari), which began to be active in 2006. The Proklim Lestari program is assessed based on the classification of urban agriculture. Desa Wisata has an Urban Farming training and education program and creative economy empowerment that utilizes used goods whose products have been exported to Spain and the UK. The programs in Kampung Samtama are held thanks to the support of the Government and SOEs. Mr Adian, a practitioner and activist of urban farming, said he has never managed to use waqf land as urban agricultural land.

On another occasion, researchers visited the Food Security Office of DKI Jakarta. The researcher interviewed the head of the Urban Agriculture Program of the DKI Jakarta Food Security Agency, Mr. Taufik. Several important things are related to the urban agriculture program of the KPKP Service, namely the cultivation, processing, and marketing of agricultural products. According to Governor's Instruction No. 14/2018 on implementing urban agriculture in 2018-2030, it is seen as the KPKP Agency's role to implement agriculture in Jakarta. There are three main achievements aimed at: an increase in productive green open space, food certification in Jakarta totalling 1000 certificates, and a 30% increase in agricultural products, marine fisheries, and livestock. Meanwhile, the KPKP Agency has six targets for urban agriculture programs, which include yards and alleys, schools, offices, RPTRA, and social facilities such as riverbanks, flats, and Sealand.

He believes collaboration between government, academics, and financial institutions is needed to advance urban agriculture. Meanwhile, part of the KPKP Agency's duties is to campaign and document urban farming through the Instagram social media network @urbanfarming.dkijkt. The Jakarta KPKP Agency is among the most intensively campaigning for land utilization programs for urban agriculture. To date, many of the crops harvested by Jakarta residents are vegetables and fruits such as pakcoy, watercress, kale, grapes, and melons.

Demographic Analysis of Urban Farming (Urban Agriculture) Farmers
The following are the demographics of the questionnaire results of urban farmers in Jakarta.

1. Based on Age

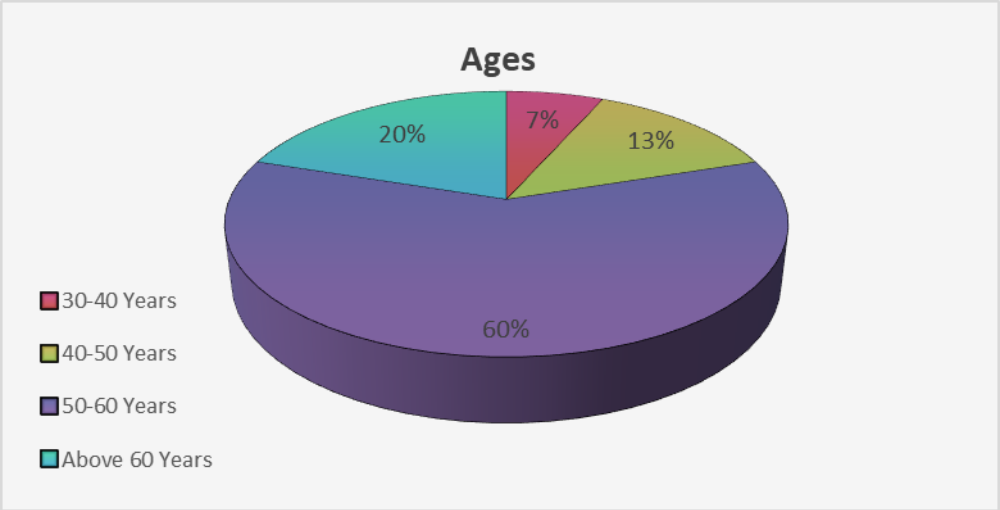

Figure 2. Urban Agriculture Farmer Diagram by Age

In the graph above, based on age, Urban Farming is mainly cultivated by people in the age range of 30-40 years, where at this productive age, the economy is usually in a stable period, has a high concern for the environment, has a high awareness of the importance of the health effects of consuming organic food and healthy food sources produced by themselves. In addition, Urban Farming activities and programs can offer training in new sustainable urban farming skills (Appolloni et al.).

2. Based On Gender

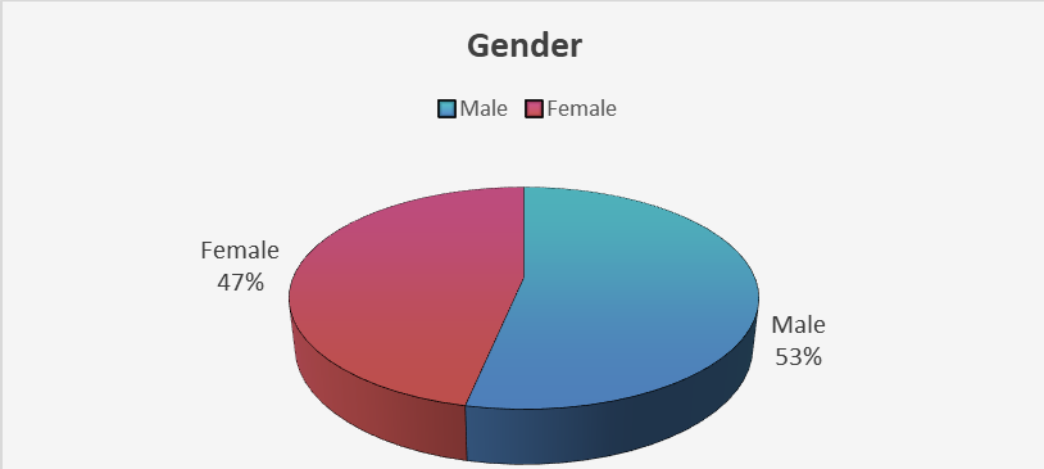

Figure 3. Urban Agriculture Farmer Diagram by Gender

The graph above illustrates that the urban farming sector is dominated by men, who have easier access to agricultural land resources, funding, and networks supporting urban farming implementation. In addition, men are relatively unrestricted in terms of time spent outside the home, are more likely to adopt agricultural skills and techniques, and the economic potential of urban farming is attractive for the male gender to take seriously (Gulyas dan Edmondson).

3. Based on Types of Plants

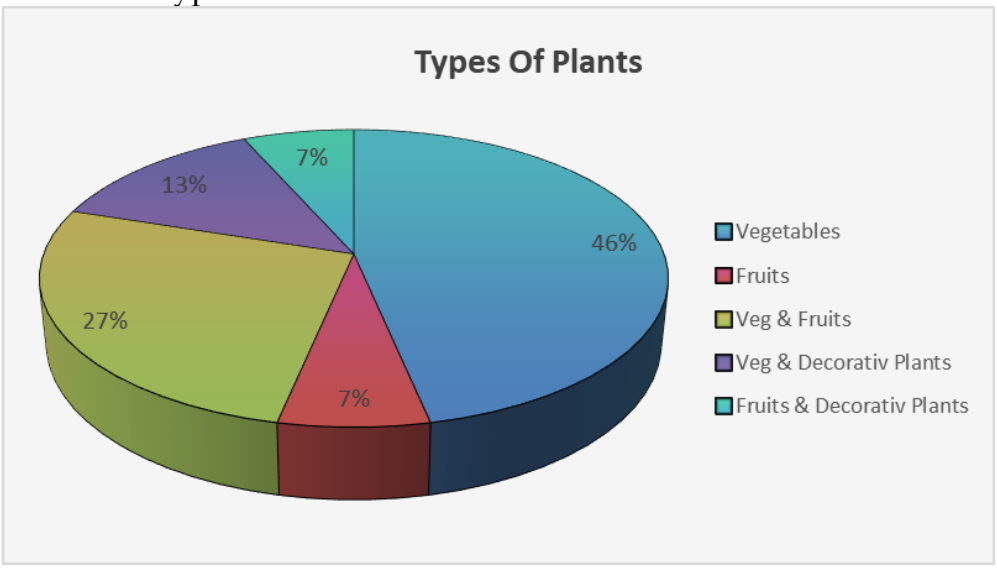

Figure 4. Diagram Based on the Type of Plant Grown

The graph above illustrates that the preference for growing vegetables is generally due to the high demand for cooking food in urban agriculture. Fruits are chosen as the next option for their taste and nutritional benefits. At the same time, ornamental plants are grown for aesthetic purposes, to increase urban green space, and to improve the community's welfare as they can be traded (Sishodia et al.).

4. Based on the Duration of Gardening

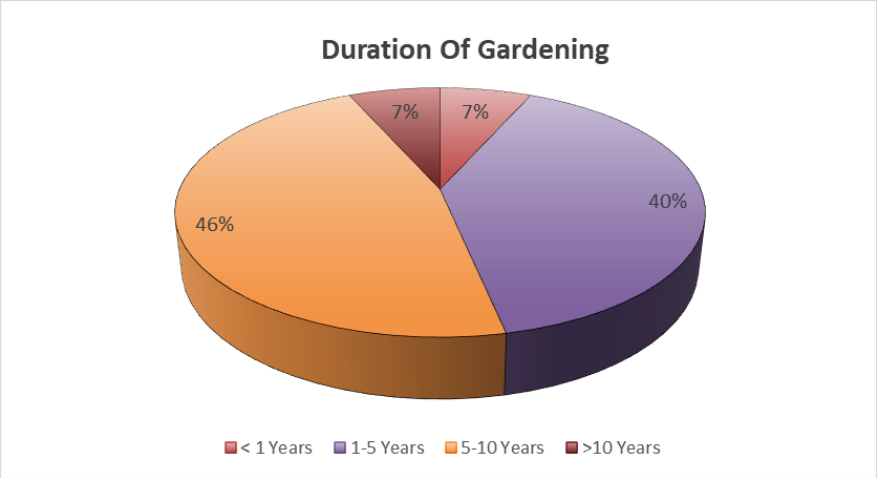

Figure 5. Diagram Based on Duration as a Farmer

From the graph above, it can be illustrated that Urban Farming farmers who have been active for 5-10 years are more oriented towards practicing sustainable agriculture, which can also be based on considerations of building good relationships with the community and can meet and adjust the community's needs for fresh products from urban agriculture. The other side of urban farming is income-generating opportunities, such as organizing training programs, workshops, Urban Farming Tours, and household waste management. Many urban farms can continue to exist to focus on the benefits provided to the community and maintain the commitment to sustainable urban farming.

5. Based on the choice of Growing Media

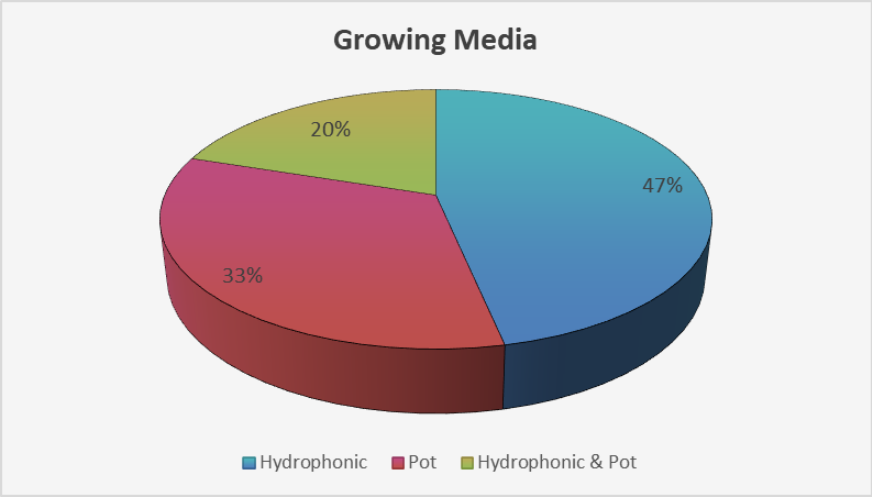

Figure 6. Diagram Based on Type of Planting Media

From the graph above, it can be illustrated that Urban Farming farmers prefer hydroponic techniques and pot media. Urban farming mainly uses hydroponic techniques and pot media for several reasons: firstly, limited land, for example, by utilizing vertical land; secondly, with hydroponic techniques, plants can be produced throughout the year, not dependent on weather and seasons; thirdly, pot media and hydroponic systems can be used to create attractive green spaces in urban environments, improving the quality of life and aesthetics of the area and fourthly Urban farming can be a good educational tool

to raise awareness about sustainable agriculture and the importance of local food among urban communities.

6. Based on The Earned Income

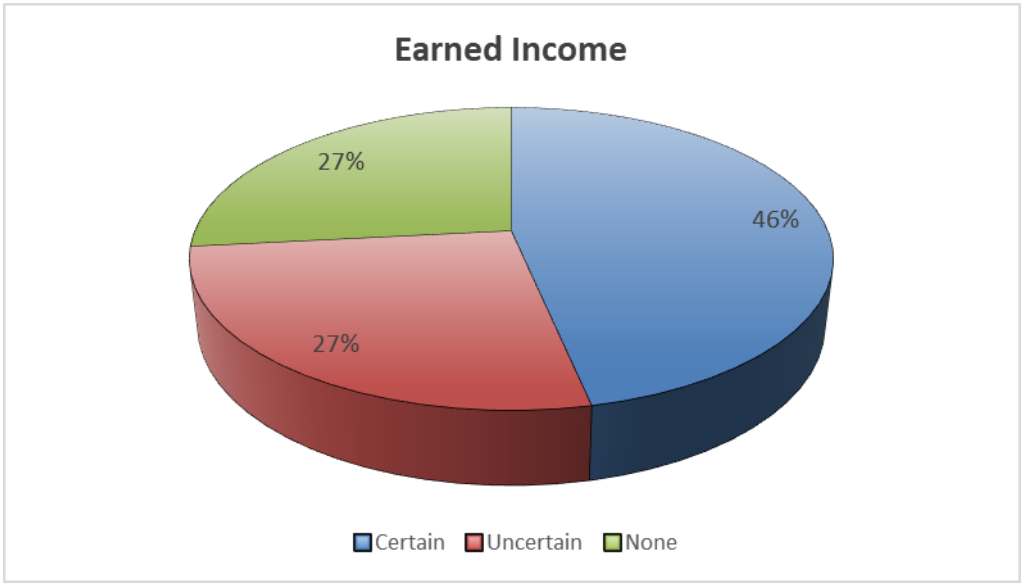

Figure 7. Diagram Based on Income Certainty

The graph above illustrates that the income generated from Urban Farming is regular and irregular. Regular income is obtained from the consistency of selling agricultural products to the surrounding community as suppliers to restaurants and supermarkets specializing in organic vegetables. Meanwhile, irregular income is generated from selling vegetables based on seasonal demand or waiting until harvest. In addition, irregular income can come from educational events, workshops, exhibitions, or planting results sponsored by the government and private companies interested in sustainable urban agriculture (Gulyas dan Edmondson).

7. Based on Income Range

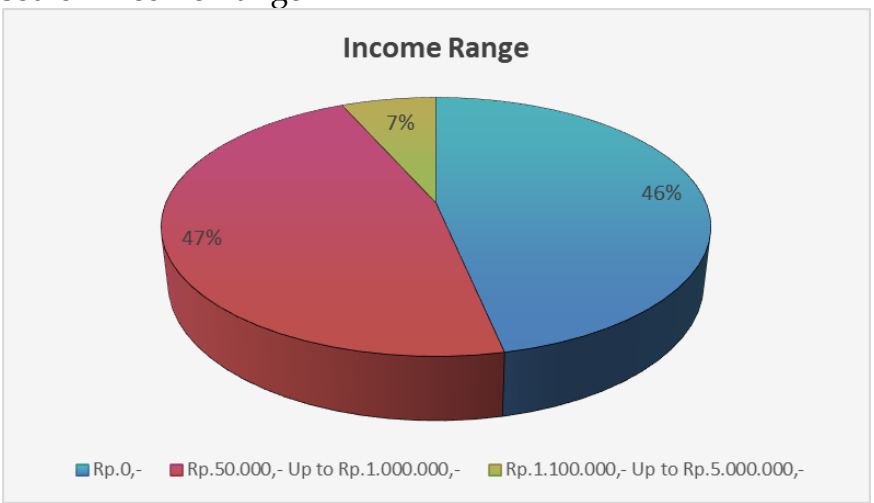

Figure 8. Diagram Based on Farmers' Income Range

From the graph above, it can be illustrated that the income from urban farming is still relatively small to be used as the main livelihood. Increasing the income of Urban Farming farmers can be achieved by first, diversifying vegetable and fruit crops that are in high demand, planting crops that can be harvested at different times of the year, offering Urban Farming classes while promoting agriculture, conducting collaborations and partnerships as raw material suppliers for restaurants and organic vegetable supermarkets, fifth adopting technology to increase space and land availability, for example vertical farming and sixth using data analysis to optimize planting schedules, crop rotations, and resource management, thereby increasing efficiency and profitability (Surya et al.). With the various strategies described above, the income of urban farming farmers is expected to increase.

CONCLUSIONS AND RECOMMENDATIONS

The World Food and Agriculture Organization (FAO) has identified 27 countries, including Indonesia, at risk of food crisis. Several studies have examined the potential of urban agriculture (UA) to address the food crisis and its impact on food security, family income, psychology, society, and the environment. Urban agriculture applied in developed and developing countries effectively increases commercial-scale food production on urban land by utilizing production technology.

The novelty of this research is that urban agriculture farmers with narrow land are likely to be business-oriented by accessing zakat financing and planting on their land or utilizing waqf land with technical assistance from the Food Security Office. Analysis of the results of data processing found that people who practice Urban Farming are helped in terms of urban farming skills, food security, creation of green open spaces, entrepreneurial opportunities, fulfilment of nutritional needs, creation of bonding between community members, educational benefits and awareness of mental health and the environment

ADVANCED RESEARCH

Still doing further research to know more about Urban Agriculture as a Food Security Solution Through a Green Economy Approach

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