Analysis of Factors Affecting Community Participation Expectations on Sustainability Urban Farming in Jakarta City

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Abstract

To meet the nutritional needs of the people of Jakarta, urban agriculture is one of the food supply solutions. This study analyzes community expectations for participation in sustainable urban agriculture in Jakarta. The latest developments of this study provide results on the impact of economic, health and environmental variables on people's expectations for the sustainability of urban agriculture in Jakarta. The novelty of this study is that it considers the theme of the study, namely the inhabitants of the city of Jakarta, engaged in urban agriculture, a total of 112 respondents. The results of this study indicate that economic, health and environmental variables, simultaneously or in part, positively influence the expectations of community involvement in the sustainability of urban agricultural activities in the city of Jakarta. Based on these findings, it can be said that the expectation of community engagement in sustainable urban agriculture in Jakarta translates into greater productivity, knowledge, skills, awareness and understanding of the existence of clear regulations. The corrected R-square value is 0.704 based on the results of the coefficients that determine the impact of economic, health and environmental factors on community participation expectations in the sustainability of urban agriculture in Jakarta. In other words, 70.4% of community participation expectations in urban agriculture depend on economic factors, while health and other environmental factors depend on other factors. Expectations for community involvement in sustainable urban agriculture are already high and Jakarta's food security can be ensured later.

Keywords: Urban Agriculture, Community Participation Expectations, Farmers' Groups.

A. INTRODUCTION

Currently, more than half of the world's population lives in cities. In many developing countries, the urbanization process is increasing urban poverty and pollution, aggravating food insecurity and malnutrition, and high unemployment. Urban agriculture offers the opportunity to improve food supply, health status, local economies, social inclusion and overall environmental sustainability. Social, cultural, technological, economic, environmental and political factors affect the productivity of urban agriculture. The food security benefits of urban agriculture are highlighted by the fact that 100-200 million urban farmers around the world supply fresh vegetable crops to urban markets (Orsini et al., 2013). Urban agriculture is a broad term that describes the cultivation of food and livestock on urban, suburban or urban land. In addition to food safety, health and environmental functions, the critical geography of urban agriculture needs to be explored in order to integrate it into the urban landscape.
(Turnaghi, 2014). UA /Urban Farming is a development strategy for the poor through the expansion of the food web. In an urban context, the level of participation of households in NP, as well as the economic, political, historical and urban conditions, are important factors that encourage or hinder the activity and scale of NP. There is an important relationship between AU participation and food security. Household income and land ownership can modulate the impact of ALS on food security, with wealthier households benefiting more from the net food security benefits of ALS than poorer households (Frayne et al., 2014).

It cannot be overstated that urban agriculture plays a key role in reducing urban poverty and food insecurity. On the other hand, their role cannot be overlooked, especially in all countries where agriculture provides a large part of the income of the urban poor and some family groups essential basis of life. Finding fairly consistent evidence for a relationship between participation in urban agriculture and welfare outcomes (Zizza & Tasciotti, 2010). Urban agriculture (UA) is facing severe pressure from urbanization in terms of land and labor availability, which limits agricultural activity. However, urban agriculture has features that promote local food supply and multifunctional management of rural areas near cities. Urban agriculture (UA) compensates for the contraction of the land base by increasing labor intensity and increasing incomes and specializes in the development of horticultural products for the urban consumption market (Zasada et al., 2013). Land use change is a phenomenon that highlights major changes in the interaction between people and the natural environment. Declining households' economic profitability, labor shortages and demographic pressure on land are important factors in the conversion of agricultural land to other uses. It also leads to political conflicts and sectoral integration of inadequate policies and implementation strategies (Jose & Padmanabhan, 2016). The increase in agricultural land productivity in various ways is a factor directly proportional to the fight against poverty (Susilastuti, 2017).

Constraints for both urban and rural farmers, such as shortages, storage and processing problems, are some of the factors that hinder productivity growth. Providing loans to farmers reduces barriers to access to credit schemes, improves farmers 'access to land, promotes agricultural policies that increase farmers' productivity, and provides farmers with nutritional advice. Governments are encouraged to provide non-formal learning through services and activities. Those who bring non-farm income (Som, 2016). Investment subsidies and job offers for the sustainable development of universal access (Basavaraj, 2018). Foreign investment in agriculture is determined by economic factors, market size, inflation, poverty, exchange rates and infrastructure (Rashid et al., 2016). Support agricultural programs, increase active participation, improve productivity of self-sufficiency, universal access to services and the socio-economic status of farmers (Esmaeili et al., 2013). Structural change increases aggregate income and reduces poverty faster with stronger support from agriculture (Webb & Block, 2012). Farmers can create bargaining positions to achieve farmers’ welfare, including not only material benefits, but also spiritual benefits (non-material benefits) (Pupitasari, 2015).
With an area of 664.01 km² and a population density of 15,900 people / km², Jakarta is one of the largest cities in the world with an expected population of 11,459,600 in 2035. This additional population is certainly a problem, if not expected in the future. One of these is the power problem. Food production must increase by at least 70% over the next 35 years to meet the needs of the people of Jakarta. Increasing food production is difficult. It was during this period that agriculture and agricultural land were reduced. Not to mention the problem of pollution, which reduces soil fertility and makes it difficult to grow food. While not easy, urban farming is a solution for food delivery as efforts to increase food production are not impossible.

**Table 1. Food crop collection area in Jakarta**

<table>
<thead>
<tr>
<th>Plant Type</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paddy</td>
<td>1,974</td>
<td>2,015</td>
<td>1,723</td>
<td>1,897</td>
<td>1,744</td>
</tr>
<tr>
<td>Corn</td>
<td>16</td>
<td>15</td>
<td>12</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Cassava</td>
<td>26</td>
<td>25</td>
<td>15</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Peanut</td>
<td>9</td>
<td>9</td>
<td>7</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Central Bureau of Statistics Jakarta

Table 1 shows that the acreage for food crops in Jakarta from 2009 to 2013 shows a decrease for each crop type. The harvest in 2009 was 1974 hectares and in 2013 it was 1744 hectares. The area sown with maize in 2009 amounted to 16 hectares and in 2012 it decreased by 3 hectares. In 2009 the cassava crop was harvested on 26 hectares and in 2013 it was reduced by 4 hectares. The peanut harvest area decreased from 9 hectares in 2009 to 1 hectare in 2013.

Urban agriculture requires special techniques and methods to overcome obstacles that are usually less important in rural areas. For example, limited land, sunlight, and problems with the availability of land and water for agriculture. However, with the development of technology, including agriculture, we will certainly be able to overcome this problem. For example, through vertical farming, hydroponics or hydroponics. Urban agriculture is nothing new for Jakarta. Not only many local people participated in the initiation of these events, but also governments such as the Ministry of Food Security, Maritime Affairs and Agriculture of Jakarta. But there is no good plan to centralize efforts to develop urban agriculture in the capital. Therefore, the Jakarta provincial government is currently drawing up a major 2017-2030 urban agriculture program and is working with many stakeholders to develop it. Efforts should be made to create a large-scale model of urban agriculture, which will serve as a framework for the development of urban agriculture. Therefore, in the future, the food needs of the people of Jakarta are expected to be met through fresher, healthier and more sustainable local agriculture. In addition to addressing nutritional issues, urban agriculture programs also need to address economic, environmental and health issues.
B. LITERATURE REVIEW

1. Food Safety

According to the Indonesian Food Law No. 7 of 1996, food security is clearly defined as a condition for satisfying the nutritional needs of families. This is reflected in the availability of sufficient quantities and qualities of food that is safe, fair and affordable. Definitions of food security vary widely, but reference is usually made to the World Bank (1986) definition. It is "the availability of sufficient food for a healthy life for all". Samahal (1997) considers food security as a situation in which all families have physical and economic access to food for all family members and families do not run the risk of losing access to food (Belinda, 2017).

2. Urban Agriculture

In general, urban agriculture is any form of commercial or non-commercial activity related to the production, distribution and consumption of food or other agricultural products, carried out in an urban context (Setiawan, 2002). These activities include the cultivation, harvesting and sale of various foodstuffs, as well as various forms of farming that use the land available in urban areas. Urban economy is usually carried out in abandoned places. According to Agriculture 21 (1999) by Belinda, N. (2017), urban agriculture can be interpreted as a cultivated agricultural activity taking into account the scarcity of resources such as land, water, energy and energy in urban communities. According to Novo and Murphy (2001), urban agriculture is based on a community-community-community production model that describes a producer-production-marketing-consumer cycle. Urban agriculture was also developed with the idea of reducing the distance between producers and consumers in the context of maintaining stable food availability in urban areas.

3. Expectations Theory of Motivation

Vroom in Hubeis (2015) People are motivated to do certain things to achieve their goals if they believe their actions will lead to those goals.

a. Expectation is the belief that an action will result in a particular opportunity or that an attempt is likely to produce an expected result.

b. Valence is the result of a certain behavior with a certain value / dignity (strength of motivation / value) for each participant. In other words, valence is the result of how much a person desires the reward / value associated with that person relative to the expected outcome.

c. Associations (tools) are a person’s ideas about the expected results of the first level, which a person has due to the desire to follow goals and achieve results, as well as the belief that achievement leads to a reward.

Expectation theory postulates that at some point in time there is a desire to do work in accordance with specific goals and a person’s understanding of the value of work as a tool for achieving these goals (Hubeis, 2015).
4. Health Factors

The World Health Organization defines health as "a state of complete physical, mental and social well-being that is not simply the absence of disease or illness and is not an economic or social artifact". On the other hand, the Health Law n. 23/1992, General provisions, article 1, paragraph 1, defines health as physical, defined as a state of mental and social well-being (Syafiq, 2007). According to Puspitaningrum & Istiqomah (2021), the greatest benefits of organic / urban agriculture are physical and mental health, food independence and sustainability.

5. Environmental Factors

Belle & Ratne (2018), "the environment is the area or area in which it extends". Understanding ecology means that "the environment itself is where organisms grow and includes important elements such as soil, water and air and is essential for the life of all organisms. It is involved or affected. People are affected, react, and imitate or learn from different things in their environment Puspitaningrum & Istiqomah (2021) The presence of vegetation in an urban environment makes the atmosphere more natural green foliage and trees in the street give the impression of freshness and softness: plants can change the atmosphere also due to pressure, high temperatures, air pollution and urban noise.

6. Economic Factor

According to Arvani (2017), economics is a social science that studies human activities related to the production, distribution and consumption of goods and services. According to Situwan & Rahmi in Puspitaningrum & Istiqomah (2021), the economic factors associated with urban agriculture are more important if urban communities can meet their own food needs and help others a lot of money will be used, interests such as health, education and housing. A study of Philadelphia terraced farms found that low-income communities with excess land could save an average of $ 150 per farmer on food.

C. METHOD

1. Research Fields Are Defined

The methodology for identifying research areas and respondents was targeted. Namely, urban farmers / SMEs in the Jakarta area of Jakarta. Up to 112 farmers were selected with the following parameters: 1). Examples of use of social networks such as: WhatsApp, Instagram, etc.). Like farmers who own or lease land, as farmers of agricultural products, farmers cultivate urban agricultural land in various types of agricultural systems.

2. Populations, Samples and Sampling

The population in this study consisted of individual farmers or SMEs in Jakarta. The sample is a subset of the population, i.e. the Jakarta farmers or small and medium-sized urban farms located in areas such as Central Jakarta, South Jakarta, East Jakarta,
West Jakarta, North Jakarta and the Thousand Islands districts. The samples were identified through targeted sampling, consciously identifying farmers who met the criteria and could be approved based on Jakarta Forestry, Agriculture, Marine, and Farm Service (KPKP) data. The number of samples tested is determined by the quota. This means that at least 100 people/MPMIs can meet the statistical test requirements (30-500 samples) (Sugiyono, 2013).

3. Method of Data Collection
The data collected in this study consist of primary and secondary data. Primary data were obtained by directly interviewing respondents (urban farmers) using a series of questions (questionnaires) and field observations. Secondary data comes from reference materials such as books, journals, data from the Central Statistical Office and competent authorities.

4. Variables Operational and Definitions
In this study, the independent variables were economic factors (X1), health factors (X2), and environmental factors (X3). Community participation expectations (Y) are treated as a dependent variable. For the avoidance of doubt, some definitions and operational limits are defined as follows:

a. Community participation expectation variables are specific opportunities that arise from actions or perceptions that efforts can lead to expected results. Indications include (Surpacti, 2014): a) Labor productivity; b) broaden their knowledge; c) improve skills; d) have clear rules; and e) Initiative / awareness.

b. The variables of the economic factor are the human activities associated with the production, distribution and consumption of goods and services. Indications include (Osman et al., 2017): a) production; b) Income; and c) savings

c. Health variables are states of physical, mental and social well-being that allow all people to be socially and economically productive. Indications include (Osman et al., 2017): a) increase the level of nutrition; b) cope with stress; and c) better mental health

d. Changing environmental factors are the places where organisms grow, including key elements such as soil, water and air, and the environment itself is critical to the life of all organisms. Indications include (Osman et al., 2017): a) environmental improvement; b) reduction of pollution; and c) increase the aesthetic value

5. Method of Data Analysis
The data analysis method in this study consisted of several stages, including the following:
a. T test
Priyatno (2014) in Akila (2017) shows that when sig > 0.05, a t-test is used to determine whether each independent variable has a significant effect on the dependent variable.

b. Simultaneous significance test (with statistical test)
An F-test was performed to see the effect of variables X1, X2, X3, and X4 on variable Y as a whole. Consider the value of F (number of F). Look at the calculated F by looking at the result (Anova table) and comparing it to the F table. Then look at the probability level to determine the pass and fail criteria for Ho. That is, if a significance < 0.05 Ho is rejected and a significance > 0.05 Ho is accepted (Haslinda & Jamaluddin, 2016).

c. Coefficient of determination (R2) and control factor
R2 measures how well the model can explain the variance of the dependent variable. The value of the coefficient of determination varies from 0 to 1. A small value of R2 means that the ability of the independent variable to explain the variance of the dependent variable is very limited (Ghozali, 2006).

D. RESULTS AND DISCUSSION
1. F-test
F-test (joint test). Check if independent variables together affect the dependent variable.
   a. Accept Ho if value F < table F (= 0.05)α
   b. Accept Ha if F > table F (= 0.05)α

<table>
<thead>
<tr>
<th>Template</th>
<th>Sum of Areas</th>
<th>Lawyer</th>
<th>Means Square</th>
<th>Which</th>
<th>Signed</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>Conclusion</td>
<td>862 604</td>
<td>3</td>
<td>287 535</td>
<td>88 915</td>
</tr>
<tr>
<td></td>
<td>Rest</td>
<td>349 253</td>
<td>108</td>
<td>3,234</td>
<td></td>
</tr>
<tr>
<td></td>
<td>General</td>
<td>1211.857</td>
<td>111</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: data proceed
The influence of variable factors of the economy, health and the environment received sign values of 0.000 < 0.05. This means that economic, health and environmental variables simultaneously have a positive impact on the expectations of community involvement in sustainable urban agriculture. city of Jakarta. The resulting regression equation is

$$Y = 3.339 + 0.599 X1 + 0.369 X2 + 0.472 X3.$$  

2. T-test
T-test (partial test). Check if the independent variable independently affects the dependent variable.
   a. Accept Ho if t is a number < t table (= 0.05)α
   b. Accept Ha if t is numeric > t-table (= 0.05)α
Table 3. T-Test results

<table>
<thead>
<tr>
<th>Template</th>
<th>Non-Standard Business</th>
<th>Unique Deal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B.</td>
<td>Venereal Illnesses. Mistake</td>
</tr>
<tr>
<td>One</td>
<td>3339</td>
<td>1.144</td>
</tr>
<tr>
<td>Economic Factor</td>
<td>0.599</td>
<td>0.110</td>
</tr>
<tr>
<td>Health Factor</td>
<td>0.369</td>
<td>0.076</td>
</tr>
<tr>
<td>Environmental Factors</td>
<td>0.472</td>
<td>0.120</td>
</tr>
</tbody>
</table>

Source: data proceed

Economic factors variables concerning community participation expectations have been assigned a guide value of 0.000 < 0.05, indicating that economic factors variables have a partial positive effect on community participation expectations for agricultural sustainability urban in Jakarta. Use the resulting regression equation Y = 3.339 + 0.599 x 1.

The sign value of the health factor variable on community participation expectations is 0.000 <0.05, indicating that the health factor variable has a partial positive effect on community participation expectations for the sustainability of urban agriculture in Jakarta, with the resulting regression equation Y = 3.339 + 0.369 X2.

Environmental variables received community participation expectations with sig values 0.000 < 0.05. This means that environmental variables have a partial positive impact on expectations of community involvement in sustainable urban agriculture in Jakarta. Regression formula y = 3.339 + 0.472 x 3.

3. Coefficient of Determination

The dominance factor is measured by the beta (β) value in the t-test of the non-standard data. With a beta value of 50%, this factor is dominant (Wirasasmita, 2016).

Table 4. Coefficient of the determination results

<table>
<thead>
<tr>
<th>Template</th>
<th>With</th>
<th>R square</th>
<th>Change square R.</th>
<th>Venereal Illnesses. Calculation Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>0.844 A_ -</td>
<td>0.712</td>
<td>.704</td>
<td>1798</td>
</tr>
</tbody>
</table>

Source: data proceed

Table 4 can show the results of the coefficients for determining the impact of social, economic, health and environmental factors on expectations. Community participation in sustainable urban agriculture in Jakarta results in an adjusted R-square value of 0.704. This means that the influence of economic determinants, health determinants and environmental factors account for 70.4% of community participation expectations in the impact on sustainability. Urban agriculture in the city of Jakarta.

4. Impact of Economic Factors on expectations of Community Engagement in the Sustainability of Urban Agricultural Activities in the City of Jakarta

The t-test results showed that social factor variables associated with community participation expectations received score values of 0.000 <0.05. This means that the
variables of the economic factor have had a positive impact on community participation expectations urban sustainability. Agricultural activities in the city of Jakarta. Based on these results, we can affirm that the economic factor has demonstrated the ability to increase the expectations of community participation in the sustainability of urban agricultural activities in the city of Jakarta. It is an economic factor used to increase household production, income and savings. In the resulting regression equation, \( Y = 2.904 + 0.334 \times X2 \). Studies on the impact of economic factors on community participation expectations are similar to those of Abd al-Rahman et al. (2013) stated that low-income city dwellers spend 40% to 60% of their household income on food annually, so growing food for themselves can save their family a lot of money.

5. Influence of Health Determinants on Expectations of Community Involvement in Sustainable Urban Agriculture in the City of Jakarta

The \( t \)-test results showed that the Sage value for the awaiting community participation health factor variable was 0.008 <0.05. This means that the health factor variables have had a positive impact on community participation expectations. Sustainability of urban agriculture in Jakarta. Based on these findings, health factors have been shown to increase the expectation of community involvement in the sustainability of urban agricultural activities in the city of Jakarta, and it can be argued that this is done to improve mental health. -Universe. Using the resulting regression equation \( Y = 2904 + 0.338 \times X3 \), this shows that an increase in the health factor increases the expectation of community involvement in sustainable urban agriculture in the city of Jakarta by a factor of 3242 health determinants of people's expectations are similar to those of Davies et al. (2014) found that growing food and gardening is beneficial for health and well-being.

6. Impact of Environmental Factors on Expectations of Community Engagement in Sustainable Urban Agriculture in the City of Jakarta

The \( t \)-test results showed that the social factor variable for community participation expectations was Sage 0.000 <0.05 urban sustainability. Agricultural activities in the city of Jakarta. Based on these findings, environmental factors have been shown to raise the expectation of community involvement in sustainable urban farming activities in the city of Jakarta, and environmental factors have been shown to beautify the environment and reduce pollution. We can say that this is implemented to improve the environment total cost. Using the resulting regression equation \( Y = 2.904 + 0.489 \times X4 \), this means that a one-time increase in environmental factors results in a 3,393-fold increase in expectations of community involvement in sustainable urban agriculture in Jakarta. Studies on the impact of environmental factors on community expectations are similar to those by Berhanu & Akola (2016), which suggest that urban agriculture can help reduce heat islands and municipal waste and improve ambient air quality.
7. Impact of Economic, Health and Environmental Factors on Expectations of Community Engagement in Sustainable Urban Agriculture in the City of Jakarta

The results of the F test show that sig values of 0.000 < 0.05 indicate that social, economic, health and environmental variables are positive for the expectations of community participation in the sustainability of urban agriculture in Jakarta city. Using the resulting regression equation $Y = 2.904 + 0.313X_1 + 0.334X_2 + 0.338X_3 + 0.489X_4$, this is consistent with an increase in social, economic, health and environmental factors (simultaneously), which means a higher expectation of participation of the community to opportunities. The growth in the activity of urban farmers in Jakarta has increased 4,378 times. Based on these findings, it can be said that the expectation of community engagement in sustainable urban agriculture in Jakarta translates into greater productivity, knowledge, skills, awareness and understanding of the existence of clear regulations.

8. The Extent to Which Social, Economic, Health and Environmental Factors Influence Expectations of Community Involvement in Sustainable Urban Agriculture in the City of Jakarta

The results of the coefficients determining the impact of social, economic, health and environmental factors on community participation expectations in the sustainability of urban agriculture in Jakarta provided an adjusted R-square value of 0.724, which means that 72.4% of expectations for community participation in the urban agricultural economy depend on social factors and factors economic and medical factors. The remaining environmental factors are influenced by other factors.

E. CONCLUSION

Social, economic, health and environmental variables simultaneously or partially positively influence the expectations of community participation in the sustainability of urban agricultural activities in the city of Jakarta. Based on these findings, it can be said that the expectation of community engagement in sustainable urban agriculture in Jakarta translates into greater productivity, knowledge, skills, awareness and understanding of the existence of clear regulations.

The adjusted R-square value is 0.724 based on the results of the coefficients that determine the impact of social, economic, health and environmental factors on the expectations of community participation in the sustainability of urban agricultural activities in the city of Jakarta. This means that 72.4% of community participation expectations in urban agriculture depend on social, economic, health and environmental factors, while the rest depends on other factors. Expectations for community involvement in sustainable urban agriculture are already high and Jakarta's food security can be ensured later.

While the prospects for community involvement in Jakarta’s urban sustainability are bright, there are some barriers that need to be addressed immediately. In particular, restrictions on capital, seeds, fertilizers and land. More
advanced search. By carrying out this urban agriculture business, it is recommended to carry out expansion and expansion activities regularly so that the results of urban agriculture can be better and the population of Jakarta can thrive.

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REFERENCES


