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ARAŞTIRMA MAKALESİ **RESEARCH ARTICLE**

Evaluation of Urban Farming System Sustainability in Central Province of Jakarta, Indonesia

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Abstract

The objective of the research was to evaluate the degree of sustainability of urban farming development in Petamburan, Central Jakarta. This research used a descriptive methodology approach using a qualitative approach (1) research preparation stage (2) collection stage (3) data analysis stage to check the degree of sustainability of urban agriculture using the Multi Dimension Scaling (MDS) approach. The study results indicate that urban agriculture in the special capital region of Jakarta is well known and is strongly supported by the residents of Petamburan Village, Tanah Abang District, Central Jakarta. Urban residents generally already have knowledge and insight about urban agriculture. The community support for urban agricultural activities uses their yards to cultivate vegetables, herbs, and other seasonal fruit crops. The development of urban farming in Petamburan, Tanah Abang, Central Jakarta results from the analysis of four dimensioned model MDS is not sustainable. The analysis results of each dimension consist of the ecological dimension 14.55%, the economic dimension 13.85%, the social dimension 13.94%, and the technological dimension 13.43%. In the future, urban farming should pay attention to the supporting factors of the sustainability of agricultural development. The factors include the yard area, types, and variations of cultivated plants, the application of innovation and technology that urban communities can accept and develop, increased counselling and community development, and intensive and tax-free provision for yards with urban farming. The study show that index of urban agriculture sustainability in Petamburan Village, Tanah Abang District, Central Jakarta is very low, including the destructive and unsustainable category depending on the results of multidimensional analysis of both economic, ecological, social, and technological dimensions so that improvements are needed through counselling and motivation for urban agriculture actors.

Keywords: Sustainable, Multidimensional Scaling, Urban Farming, Jakarta

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1. Introduction

The government of the special capital region of Jakarta in Indonesia (here after called as Jakarta) will contribute in spatial planning of the area by allocating a large amount of money in the budget for 2018-30 period for spending in the Research and Development activities related to Urban Farming business. (DKI Jakarta Provincial Government, 2017). These activities will revitalize agricultural sector and support sustainable urban progress with elevated life style, clean lines of environment and promote organic agriculture, beautifying urban landscapes, environmental education facilities for city dwellers, hobbies/pleasures, as well as livelihoods for the urban poor (Abdullah et al., 2017), with varying from crop, livestock and poultry production to aqua cultural practices (Drechsel and Dongus, 2010; De Bon et al., 2010).

Urban farmers streamline resource use by integration of the crop and fish farming sub-sector to increased harvesting of the benefits (Victor et al., 2018). Agricultural conditions in urban areas, especially the special capital region of Jakarta, and their relationship to various environmental problems, need to be designed and formulated comprehensive policies for the development of sustainable farming. Their role in sustainable role in agricultural progress and development in existing conditions have 48.70 % index value or less sustainability (Sampeling et al., 2012). The conversion of agricultural land in urban areas and the occurrence of urbanization to urban areas has resulted in many problems including social, cultural, environmental and economic instability (Peerzado et al., 2019). The ecological function of open space is decreasing due to the increasing expansion and distribution of the built-up area. The concept of urban farming system acts as an alternative to improve the existing conditions in the urban areas and their socio-economics conditions (Abdullah et al., 2017).

Urban farming issues usually revolve around economic food production and foster community welfare, social capital, and involvement of community in food producing systems. (Kullu et al., 2020). Increased infrastructure development in urban areas, growing a large population due to urbanization, have negative impacts on the life styles of the people. It is also observed that agricultural lands around cities are decreasing and with the passage of time less number of people are getting involved in cultural production. Cultivation of beneficial is very necessary for public consumption and improve the supply of oxygen, antidote against air pollution and to stop deterioration of soil (Indrawati, 2017). Biophysical characteristics such as geology and land use have a high sensitivity to the coefficient of erosion intensity produced (Devianti et al., 2023). Biophysical characteristics will influence the response to rainfall that falls in the basin. This response affects the magnitude or small value of characteristic hydrological parameters, such as evapotranspiration, infiltration, surface runoff, and soil water content (Sattari et al., 2020). Understanding the urban life style and agriculture in Jakarta is very important towards the formulation of appropriate government policies for formulation of development plans and integrate urban agricultural systems into an urban lifestyle (Chandra and Dhiehl, 2019).

The existence of urban agricultural land/space has a significantly important role in the agricultural production system and maintains environmental quality and agricultural production maintaining the existence of land/space is not only for the sustainability of the agricultural production system but also for maintaining the quality of the environment. In this case, urban farming provides employment and becomes an additional source of community income and is a buffer for economic stability in critical situations and is directly related to poverty alleviation efforts and a sustainable environment (Sampeling et al., 2012). Urban farming has potential and could be executed yards of residential areas. The function of the garden ecosystem strongly supports the realization of the concept of sustainable urban landscape architecture.

The concept of developing a productive urban landscape can create a sustainable built environment and support food security. Limited land for urban settlements can take advantage of the concept of optimizing very narrow, narrow, medium, wide and very wide land yards (Irwan and Sarwadi, 2015). In socio-economic construction, socio-economic diversity and employment have become sub-constructions for urban agriculture variables. First, socio-economic diversity refers to the variety of business sectors that urban communities can generate through urban farming (Salleh et al., 2021). Therefore, the sustainability in urban farming and its development is significantly influenced by the role and behavior of the components, who support systems. The purpose of this study was to make an analysis of sustainnability level urban farming establishment in Central Jakarta.

2. Material and Methods

2.1. Study area

The research was carried out for 3 (three) months from May to July 2022 in Petamburan Village, Tanah Abang District, Central Jakarta. This area is located at 2.60 meters above sea level (*Figure 1*).

Figure 1. Map of study site

2.2. Research Procedures

Both primary and secondary data were used in the study. The primary data was collected in the form of information on biophysical aspects, economic aspects, and social aspects. Primary data collection was field observations and surveys by distributing questionnaires, and the survey was conducted with 20 respondents involved in urban agriculture, which were taken by simple random sampling. Secondary data was obtained from the previous research based literature and agencies, namely the Petamburan sub-district, Tanah Abang district office, Central Jakarta office, and Central Jakarta City forestry service office.

The level of sustainability of urban agriculture was determined in multi-dimensional way, namely: ecology, economy, social, and technology with the MDS (Multi-Dimensional Scaling method). The MDS method is a computer-based statistical analysis using RALED-SBH (Rapid Assessment Techniques for Local Economic Development-Sugen Budiharsono) Budiharsono (2007). Software (Local Economic Development Team, BAPPENAS, 2007). The analysis method used is MDS (multi-dimensional scaling) and Rap-Ur-Agri (Rapid Appraisal for Urban Agriculture). The primary factor analysis using leverage factor was followed by the sustainability index (*Table 1*) and agricultural development policy scenario using prospective analysis method. The data analysis stage to see the sustainability of urban farming uses the Multi Dimension Scaling (MDS) approach; the MDS method uses an ordination process which is a modified result of the Rapid Assessment Techniques for Fisheries (RAPFISH) method, then the results were further analysed for several dimensions, namely technological, social, economic and ecological dimensions as presented in the kit diagram.

Table 1. Criteria Index and Sustainable Status

Index Value	Index Category Value
00 – 24.99	Poor : Unsustainable
25 – 49.99	Less : Less sustainable
50 – 79.99	Adequate : Fairly sustainable
80 – 100.00	Good : Very sustainable

Source : Fauzi and Anna (2005)

3. Results and Discussion

3.1. The Population Distribution and Characteristics of Respondents

The population distribution in the Petamburan sub-district, Tanah Abang district of Central Jakarta administration city, is 40 938 people, consisting of 21 024 men and 19 914 women. The average population density in the Petamburan area, Tanah Abang district, Central Jakarta, is 45 487 people/km^2 (BPS, 2020). The increased urban population without supporting balanced provision of food and facilities for housing, employment and infrastructure, to support lives will be catastrophic with decreased food security and increased urban poverty (Lovell, 2010; Listya Cahya, 2014). The number of respondents in this study consisted of 20 respondents, five respondents who were involved in urban farming activities. Population status based on occupation consists of 6 900 people from trade, 18 002 private-sector employees, 136 civil servants, 55 police officers, 230 retirees, 78 carpenters, and 11 211 others. It is well established that the majority of the participants in the integrated farming in urban areas are households with multiple number of house hold members (Gallaher et al., 2013).

3.2. Support for Urban Agriculture

The existence of urban farming in the special capital region of Jakarta is well known and is strongly supported by residents of Petamburan village, Tanah Abang district, Central Jakarta. Urban residents generally already have knowledge and insight about urban agriculture. The form of community support for urban agricultural activities uses their yards to cultivate vegetables, herbs, and other seasonal fruit crops. The utilization of residents yards for urban agriculture will add aesthetic value, improve the micro-climate, and create a sustainable environment. Agricultural system innovations further contribute to the application of urban agriculture in limited areas (vertical cultivation), application with soilless cultivation (hydroponic techniques), and resource management practices (composting techniques) (Sharifi, 2016). The establishment of urban farming in the special province of Jakarta shows that economic factors are the strongest impact to do farming in urban areas, even though the business area is limited. This is influenced by the ease with which crops are marketed at relatively high prices compared to areas outside Jakarta (Mayasari et al., 2015). Based on interviews and observations at the research location, many residents wish to grow vegetables and other seasonal crops. However, limited land, cost, and time are the main obstacles considering the administration of the Government of the Jakarta, the urban village, is to improve urban agricultural programs, which are very useful for enhancing the environment and providing food for families, especially people with low incomes. The government also needs to carry out and improve regular counseling related to urban farming so that urban farming activities can be maximized in Petamburan sub district, Tanah Abang district, Central Jakarta.

3.3. Urban Agriculture Sustainability Status

Observations of the research location on the existing urban agriculture development show that urban farming patterns vary in Petamburan sub-district, Tanah Abang district, Central Jakarta. The community develops urban farming practices by utilizing simple technology and innovations such as planting in pots, polybags, verticulture, simple hydroponic systems, climbing and climbing systems on building walls, home gardens, and direct planting systems in the ground. Plants developed by the local community are ornamental plants, vegetable plants, food crops, annual plants, and herbal plants. The plant cultivation technology used is still very simple and has not utilized an intensive farming system. Urban agricultural development aims only as a hobby, environmental aesthetics, family needs, and a small part of the commercial.

The determination status sustainability of urban farming in Petamburan sub-district, Tanah Abang district, Central Jakarta, based on the attributes assessed on each dimension, namely ecology, economy, social and technology. In general, the condition of urban agriculture in Petamburan sub-district, Tanah Abang sub-district, Central Jakarta, has all dimensions of unsustainable status, namely the technological, social, economic, and ecological, dimensions (*Table 2*). Urban agriculture still requires improvement for sensitive attribute components that affect sustainability, but improvement interventions can be carried out by the government and urban agriculture stakeholders (Abdullah et al., 2017). The indicators for the sustainability of urban farming by selecting 4 dimensions as sustainability indicators have represented the indicators used to evaluate the sustainability of urban farming in Petamburan sub-district, Tanah Abang district, Central Jakarta.

Table 2. Index value and sustainability status of urban farming in Petamburan Village, Tanah Abang District, Central Jakarta Administration City

Dimensions of	Dimensions of	Dimensions of	Dimensions of
Ecology	14.55%	Unsustainable	Petamburan sub district
Social	13.85%	Unsustainable	Tanah Abang district
Economy	13.94 %	Unsustainable	Central Jakarta City
Technology	13.43%	Unsustainable	

Source: MDS Analysis Urban Farming Petamburan Central Jakarta, 2022

Furthermore, analysis of the results of the sustainability of urban farming in every technological, social, economic, and ecological, dimensions in Petamburan village, Tanah Abang sub-district, Central Jakarta using the method is multi dimension scaling presented as follows:

3.4. The Ecological dimensions

Urban farming sustainability in Petamburan sub-district, Tanah Abang district, Central Jakarta, the results mentioned by the analysis of the ecological dimensions show a sustainability index of 14.55%. If viewed from the sustainable category on a scale of 0-100, furthermore, it includes the Bad: Unsustainable criteria. The results of the analysis of the ecological dimensions of the MDS (*Figure 2*).

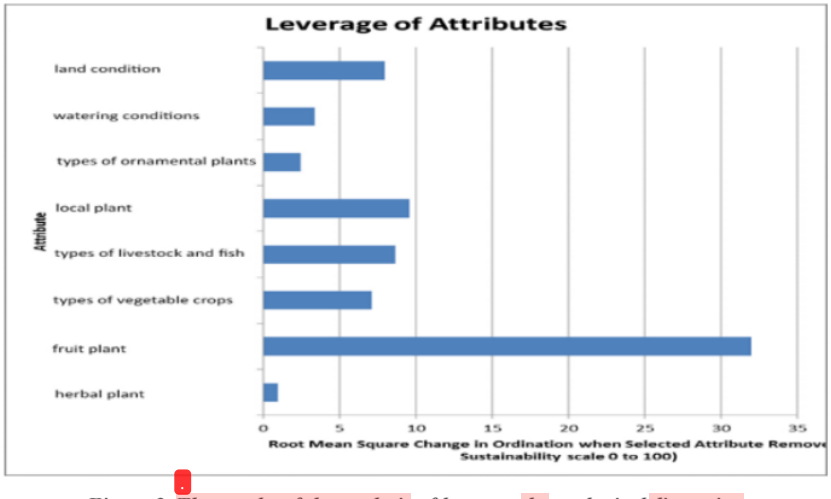

Figure 2. The results of the analysis of leverage the ecological dimension

This environmental condition needs to be maintained or further improved so ecological functions can have a more beneficial impact on a sustainable basis (Abdullah et al., 2017). The attribute values that affect the sustainability index on the ecological dimension with 8 (eight) attributes, including the yard's condition, irrigation conditions, types of ornamental plants, local plants, types of livestock and fish, vegetable crops, and fruit plants and herbal plants. According to Wulandari et al., (2018) the ecological dimension is the most delicate and susceptible attribute, both the area of green open space and the diversity of vegetation; to increase the sustainability of the ecological dimension, it is important to intervene or improve the sensitive attributes.

3.5. The Economic Dimension

The economic dimension of urban farming sustainability in Petamburan sub-district, Tanah Abang district, Central Jakarta administration city, shows a sustainability index value of 13.85%, including inadequate and unsustainable. The value related to sustainability index in economic dimension is smaller than the ecological dimension of 13.85%. In contrast, the other factors, namely the marketing of urban agricultural commodities and the provision of incentives, are presented in (*Figure 3*).

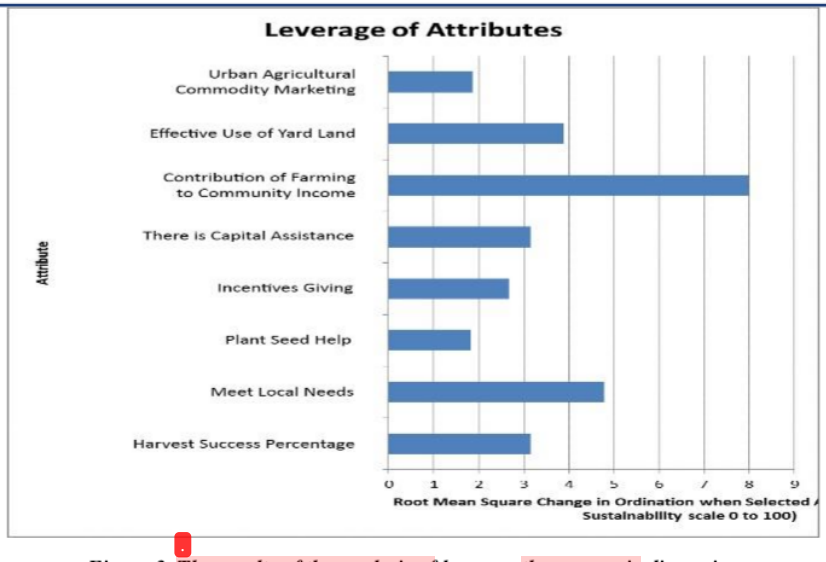

Figure 3. The results of the analysis of leverage the economic dimension

The development of urban farming in Petamburan Village, Tanah Abang sub-district, Central Jakarta implies that it is profitable from the ecological aspect compared to the economic aspect. Urban farming provides employment and becomes an additional source of community income and a buffer for financial stability in critical situations and is directly related to efforts (poverty alleviation) (Sampeling et al., 2012). Therefore, to increase the value related to sustainability index in economic dimension in the future, it is necessary to improve the attributes to increase the value of the index of the economic dimension. One of the minimal dimensions of the financial sustainability factor is the provision of assistance in the form of plant seeds.

3.5. The Social Dimension

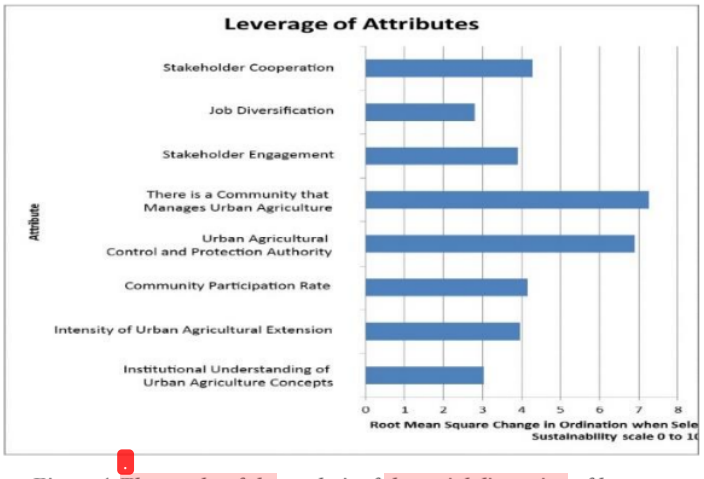

Figure 4. The results of the analysis of the social dimension of leverage

The sustainability index in social dimension was 13.94% less and which, required an increase in level of social dimension, and was necessary to improve attributes affecting its value. The poverty of farmers also causes a lack of sustainability in the social dimension; on average. Children of farmers are not interested and willing to continue farming. Therefore, they inherited their lands or convert their land for non-agricultural activities (Mawarsari and

Noor, 2020). The dominant factors on the sustainability of the social dimension based on the results of the leverage analysis are job diversification, agency understanding of urban agriculture, and the intensity of extension on urban agriculture. The attributes of the social dimension require good management: therefore, the value of this sustainability index could increase in the future (*Figure 4*).

The social service construct consists of three subconstructs: safety and security, community services, and labor or trade. First, security and security represent stakeholders, leaders, and urban communities (Salleh et al., 2021).

3.5. The Technological Dimension

Analysis of the sustainability dimension of the technology there is a sustainability index value of 13.43%, including the criteria for less and not sustainable. The dominant factor to the sustainability of the technological dimension is the result of the leverage analysis, which is the effort to develop commodities with simple and environmentally friendly technology and knowledge of technology and simple innovation and simple technology of irrigation systems (*Figure 5*).

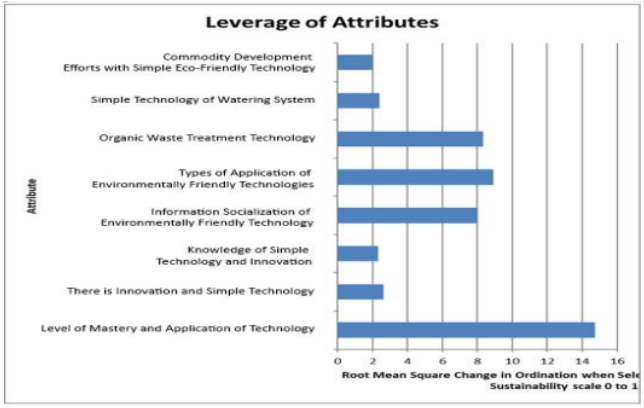

Figure 5. The results of the analysis of the technology dimension leverage

Space outside offices, schools, and residents yards is a potential for the development of urban farming. Changes in land use function in urban areas for the benefit of evolution and development, both industrial and residential, have resulted in shrinking land area. Land and urban space resources are opportunities for ecological, economic, socio-cultural utilization. Urban environmental conditions require capacity analysis and assessing sustainability of urban agriculture as a potential solution to urban problems related to urban life style. Sustainability of urban agricultural development of Petamburan village, Tanah Abang district, Central Jakarta with the MDS model, the results of the analysis of each dimension consist of the ecological dimension 14.55%, the economic dimension 13.85%, the social dimension 13.94%, and the technological dimension 13.43%. The results of the analysis of the level of sustainability on 32 attributes consist of 8 attributes of ecological dimensions, 8 attributes of economic dimensions, 8 attributes of social dimensions, and 8 attributes of the technology dimension. Multi-dimensional analysis results of the sustainability index presented in (*Figure 6*) show that the four dimensions analyzed resulted in all dimensions, including the lousy category of being unsustainable, the sustainability index ranging from 13.43% to 14.55%. The development of urban agriculture in Petamburan village, Tanah Abang sub-district, Central Jakarta requires counseling and motivation for residents to improve; if there is no progress by the local government, the idea of urban farming will continue to shrink. Natural resources and human resources strongly influence the sustainability of urban agriculture. Availability of land, sowing of crops, and available water, along with human resources that influence urban agriculture are the agricultural actors themselves, namely farmers (Mayasari et al., 2015).

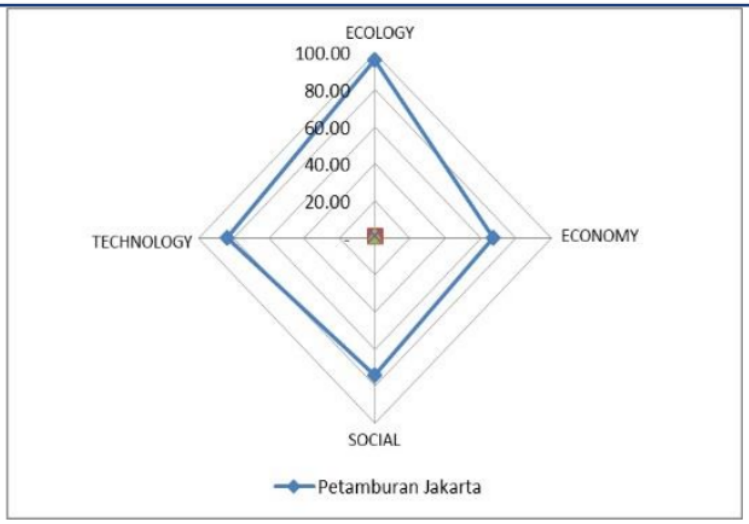

Figure 6. Index four dimensions of sustainability Petamburan urban agriculture in Tanah Abang, Central Jakarta

4. Conclusions

The development of urban farming in Petamburan, Tanah Abang, Central Jakarta results from the analysis of four dimensioned model MDS is not sustainable. The analysis results of each dimension consist of the ecological dimension 14.55%, the economic dimension 13.85%, the social dimension 13.94%, and the technological dimension 13.43%. In the future, urban farming should pay attention to the supporting factors of the sustainability of agricultural development. The factors include the yard area, types, and variations of cultivated plants, the application of innovation and technology that urban communities can accept and develop, increased counselling and community development, and intensive and tax-free provision for yards with urban farming. The results of this research will contribute to literature and provide important data for decision makers on urban farming development not only in Petamburan, Tanah Abang, Central Jakarta but also in other areas as an effort to develop urban farming progress.

Ethical Statement

There is no need to obtain permission from the ethics committee for this study.

Conflicts of Interest

The authors declare that they have no known competing financial interest or personal relationships that could have appeared to influence the work reported in this paper. We declare that there is no conflict of interest between us as the article authors.

Authorship Contribution Statement

Concept: Rini FITRI, Achmad Yozar PERKASA; Design: Hinijati WIDJAJA, Olivia SEANDERS; Data Collection or Processing: Rini FITRI, Reza FAUZI; Statistical Analyses: Olivia SEANDERS, Reza FAUZI; Literature Search: Rini FITRI , Achmad Yozar PERKASA; Writing, Review and Editing: Hinijati WIDJAJA, Achmad Yozar PERKASA.

References

Abdullah, Boceng, A., Latif, J. and Takwina, E. (2017). Analysis of the Sustainability of the Development of "Lorong Garden" (Aisle Farm) as an Effort to Optimize the Utilization of Urban Open Space in Makassar City. *Prosiding Seminar Ilmiah Nasional Teknik Sipil Universitas Bosowa, Sinaltsub* – I, 4 Desember 2017. Makassar. (In: Indonesian).

Abdullah, Dirawan, G. D. and Pertiwi, N. (2017). Sustainability of ecology and economic of urban farming development: case study in Makassar City, South Sulawesi Province. *Ecology, Environment and Conservation*, 23(1): 125-130.

BPS, (Badan Pusat Statistik Kota Jakarta Pusat) Central Jakarta City Statistics Agency (2020). Tanah Abang District in Figures 2020. Available online at: www.KotaJakartaPusat.bps.go.id (Accesed Date: 22.07.2021). (In: Indonesian).

Budiharsono, S. (2007). PEL Status and Leverage Factor Determination Manual. Jakarta: Directorate Regional Economic BAPPENAS. (In: Indonesian).

Chandra, A. J. and Diehl, J. A. (2019). Urban agriculture, food security, and development policies in Jakarta: A case study of farming communities at Kalideres – Cengkareng district, West Jakarta. *Land Use Policy*, (89): 2-11. https://doi.org/10.1016/j.landusepol.2019.104211

De Bon, H., Parrot, L. and Moustier, P. (2010). Sustainable urban agriculture in developing countries. A review. *Agronomy for Sustainable Development*, 30(1): 21-32. http://dx.doi.org/10.1051/agro:2008062

Devianti, D., Ramli, I., Aryani, I., Satrio, P. and Thamren, D. S. (2023). Estimation of erosion and sediment using Gavrilović method in Krueng Jreu sub-basin, Aceh Province, Indonesia. *Journal of Tekirdag Agricultural Faculty*, 20(2): 430-440.

DKI Jakarta Provincial Government (2017). Grand Design of Urban Agriculture for the Special Capital Region of Jakarta Province 2018-2030. Provincial Government of the Special Capital Region of Jakarta. Jakarta. (In: Indonesian).

Drechsel, P. and Dongus, S. (2010). Dynamics and sustainability of urban agriculture: examples from sub-Saharan Africa. *Sustainability Science*, 5(1): 69. http://dx.doi.org/10.1007/s11625-009-0097-x

Fauzi, A. and Anna, S. (2005). Fisheries and Marine Resource Modeling for Policy Analysis. Gramedia Pustaka. Jakarta. (In: Indonesian).

Gallaher, C. M., Kerr, J. M., Njenga, M., Karanja, N. K. and WinklerPrins, A. M. (2013). Urban agriculture, social capital, and food security in the Kibera slums of Nairobi, Kenya. *Agriculture and Human Values*, 30(3): 389-404. http://dx.doi.org/10.1007/s10460-013-9425-y

Indrawati, E. (2017). Urban farming model in South Jakarta. *IOP Conf. Series: Earth and Environmental Science* 106(2017): 012052. http://dx.doi.org/10.1088/1755-1315/106/1/012052

Irwan, S. N. R. and Sarwadi, A. (2015). Productive Yard Landscapes in Urban Settlements in Creating a Sustainable Built Environment. 2015 National Science Technology Seminar. Faculty of Engineering, Muhammadiyah University Jakarta, 17 November 2015. (In: Indonesian).

Kullu, P., Majeedullahb, S., Pranayc, P. V. S. and Yakubb, B. (2020). Smart Urban Farming (Entrepreneurship through EPICS). *Procedia Computer Science* (172): 425-459.

Listya Cahya, D. (2014). Study of the Role of Urban Agriculture in Sustainable Urban Development (Case Study: Family Medicinal Plant Farming in Kelurahan Slipi, West Jakarta). J. Forum Ilmiah, Volume 11 Nomor 3, September 2014. (In: Indonesian).

Lovell, S. T. (2010). Multifunction urban agriculture for sustainable land use planning in the US. *Sustainability*, 2: 2499-2522. http://dx.doi.org/10.3390/su2082499

Mawarsari, A., and Noor, T. I. 2020. Level of Sustainability of Rice Fields in Setianagara Village, Cibeureum District, Tasikmalaya City, West Java. *Jurnal Pemikiran Masyarakat Ilmiah Berwawasan Agribisnis*, 6(1): 388-400. (In: Indonesian).

Mayasari, K., Sente, U. and Ammatilah, C. S. (2015). Analysis of Farmer Motivation in Developing Urban Agriculture in DKI Jakarta Province. *Buletin Pertanian Perkotaan*, 5(1): 16-24. (In: Indonesian).

Peerzado, M. B., Magsi, H., Sheikh, M. J. (2019). Land use conflicts and urban sprawl: Conversion of agriculture lands into urbanization in Hyderabad, Pakistan. *Journal of the Saudi Society of Agricultural Sciences*, 8: 423–428. https://doi.org/10.1016/jjssas.2018.02.002

Salleh, A. M., Harun, N. Z., Halim. S. A. 2021. Review article on theory of resilience: meaning, evolution, and construct in urban agriculture practices. *Alam Cipta*, 14(1): 31-45.

Sampeliling, S., Sitorus, S. R. P, Siti, N., Pramudya, B. (2012). Sustainable Urban Agricultural Development Policy: Case Study in the Special Capital Region of Jakarta. *Analisis Kebijakan Pertanian*, 10(3): 257-267. (In: Indonesian).

Sattari, M. T., Mirabbasi, R., Dolati, H., Sureh, F. S. and Ahmad, S. (2020). Investigating the effect of managing scenarios of flow reduction and increasing irrigation water demand on water resources allocation using system dynamics (case study: Zonouz dam, Iran). *Journal of Tekirdag Agricultural Faculty*, 17(3): 406-421.

Sharifi, A. (2016). A critical review of selected tools for assessing community resilience. *Ecological Indicators*, 69: 629–647.

Victor, K., Massawe, F. A. and Sikira, A. (2018). Contribution of integrated urban agriculture to household income: A case of Kinondoni Municipality, Tanzania. *The Journal of Agricultural Sciences - Sri Lanka*, 13(3): 237-246. http://dx.doi.org/10.4038/jas.v13i3.8397

Wulandari, S., Rifardi., Rasyad, A., Yusmarini (2018). Sustainability status of green open space as carbon stock in Pekanbaru City. *Jurnal Manusia dan Lingkungan*, 25(2): 73-80. https://doi.org/10.22146/jml.23817 (In: Indonesian).

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