

CHAPTER I INTRODUCTION

A. Research Background

As an agrarian country, Indonesia relies on agriculture as a cornerstone of national development and public welfare. Even during the Covid-19 pandemic, the sector demonstrated remarkable resilience, it continued to absorb a large share of the labor force, generated substantial foreign-exchange earnings through the fast-growing agribusiness industry, and supplied raw materials for downstream manufacturing (BPS, 2024). These contributions underscore agriculture's enduring capacity to stabilize the national economy, reduce poverty, and safeguard food security.

However, in urban areas, particularly the Special Capital Region of Jakarta, the role of agriculture is relatively minor. In Jakarta, the agricultural sector ranks as the second-lowest contributor to Gross Regional Domestic Product (GRDP) (Appendix 1). This reflects the city's dominant function as a center of government, trade, and industry, which continues to attract population growth and drive urbanization.

Rapid urbanization in Jakarta has created economic and social challenges, such as limited agricultural land and pressures on food availability (Wijaya et al., 2020). Increasing population raises food demand and the need for socio-economic infrastructure, which drives the conversion of agricultural land into residential and industrial uses (Gusti, 2018). This issue intensified by the lower economic value of agricultural use compared with alternative uses, making farmland highly vulnerable to urban expansion (Irawan, 2005). Moreover, competition from non-agricultural sectors also accelerates the loss of farmland and weakens local food systems (Zoomers et al., 2017), ultimately posing a threat to urban food security (Abass et al., 2018 in Teoh et al., 2024).

Nevertheless, agriculture remains present in Jakarta. Based on the 2023 Agricultural Census (ST2023), there are 13,798 agricultural units in DKI Jakarta, with approximately 97.25 percent managed by individual farmers. On average, each individual farming unit operates on just 0.12 hectares (BPS, 2024). Despite this small scale, these practices contribute to Sustainable Development Goal (SDG) 2 –

Zero Hunger and SDG 11 – Sustainable Cities and Communities (Somanje et al., 2020). Moreover, urban agriculture helps enhance local food availability (Specht et al., 2014), trim greenhouse-gas emissions from long-distance transport, create employment, and improve community welfare (Kafle et al., 2023).

Within this urban agricultural landscape, the horticulture subsector stands out as one of the top three most prominent types of agricultural activity in DKI Jakarta (Appendix 2). Its importance lies in its short production cycles, high market value, and its contribution to food diversification. Saragih (2010) emphasizes that horticulture plays a critical role in driving local economies, particularly in highland and peri-urban areas, by boosting farmers' incomes and generating employment. In Jakarta, horticultural practices such as vegetable cultivation also contribute to the development of green open spaces (*Ruang Terbuka Hijau*, RTH), which provide important ecological services and recreational areas within the city (Sampeliling, 2011).

According to BPS data, East Jakarta is the leading producer of horticultural commodities in the province (Appendix 3). Kangkong, Amaranth, and mustard greens rank as the top three crops by production volume, highlighting the strategic role of urban horticulture in East Jakarta's food system and land-management strategies.

Yet, urbanization and continuing land conversion likewise threaten the viability of farming livelihoods in Jakarta. As land becomes increasingly scarce and valuable for non-agricultural purposes, many urban farmers are compelled to scale down or abandon cultivation. Parallel to this, Jakarta's diversified economy offers a wide array of alternative jobs, from informal services to formal industrial work, prompting younger generations to shift away from agriculture in search of more stable or lucrative employment. These dual pressures raise critical questions about whether urban farming can still deliver competitive, sustainable returns. They therefore motivate this research, which probes the feasibility and profitability of urban farming enterprises in a rapidly changing metropolitan landscape.

Moreover, to ensure that urban farming genuinely benefits practitioners, a rigorous farm-business analysis is required. Farm-business analysis examines how farmers allocate resources efficiently and profitably (Soekartawi, 2006). In practice,

many urban farmers do not systematically record production costs or revenues, making it difficult to judge the viability of their activities. Without such analysis, farmers, particularly those in low-income urban settings, may be unaware of whether their cultivation efforts contribute meaningfully to household income (Odriani, 2021).

Feasibility and profitability assessments help farmers determine net income and long-term viability. It may help them understand their income potential and improve resource allocation. They also provide valuable insights for policymakers, funders, and financial institutions interested in supporting urban-agriculture initiatives. A clear understanding of profit potential can guide rational resource allocation, targeted extension services, and the up-scaling of successful models. Therefore, this study expected to describe the feasibility and profitability of urban horticulture in East Jakarta.

B. Research Problem

According to BPS, Cakung Sub-district is the leading producer of seasonal vegetables in East Jakarta (Appendix 4), making it a key area in the region's urban agricultural landscape. Within this sub-district, there is a Farmer Group known as Jaya Mandiri PIK Farmer Group cultivates vegetables commodity approximately two hectares of land in Penggilingan, Cakung. The site, which was previously idle and unused, is managed by *Unit Pengelola Kawasan Pusat Pengembangan Usaha Kecil Menengah dan Pemukiman Perkampungan Industri kecil* or UPK PPKUMP PIK (PIK area management unit) and has been made available to the community for farming purposes. Although it is technically a form of land allocation, the group has been utilize the land without paying rent. The farmers primarily grow Kangkong (*Ipomoea reptans*), Amaranth (*Amaranthus* spp.), and occasionally mustard greens (*Brassica juncea*).

The farmland of Jaya Mandiri PIK Farmer Group is situated within *Perkampungan Industri Kecil* (PIK) (Appendix 5), a densely populated area characterized by a mix of residential, commercial, and industrial activities including public schools, food stalls, and a temporary waste disposal site (*Tempat Penampungan Sementara*, TPS). According to the group leader, Mustofa, the land has been cultivated since the early 2000s without any rental payments. Rather than

being accessed through formal contracts, land use has been based on long-standing personal relationships and mutual understanding within the community. This type of access illustrates a common pattern in urban agriculture, where access to underutilized land is often negotiated through social ties rather than legal contracts. Further investigation is needed to clarify how such land use is granted, what criteria determine who can farm it, and how this kind of land, which is technically idle or unused, is managed by local authorities or land management unit (UPK PPKUKMP PIK) in an urban setting.

This rent-free land has so far supported the economic feasibility of the group's farming activities. However, the absence of formal agreement brings considerable uncertainty. Should the landowner (local government) decide to impose a rental fee in the future, the group's profitability and even its continued operation could be significantly threatened. In East Jakarta, the cost of leasing agricultural land can reach around IDR 30,000–35,000 per square meter per year, which for a land area of two hectares could amount to over IDR 600 million annually. Although currently not paid, this figure represents a high imputed cost that would critically affect their business calculations if formalized. Given already narrow profit margins and rising input prices, the imposition of such rent could render the farming enterprise economically unsustainable. Faced with such pressures, farmers may be compelled to shift to alternative livelihoods that offer more stable income, thereby putting the continuity of urban agriculture in the area at risk.

Agriculture practitioners in urban area including the Jaya Mandiri PIK group, face a complex set of challenges that threaten the viability and profitability of their farming practices. Soekartawi (2006) emphasized that farmers' income is highly influenced by the volume of production, selling price, and farming expenditures. Farmers are now further burdened by rising prices of critical inputs such as seeds, fertilizers, and pesticides, compounded by high labor costs, which significantly increase production expenses and reduce profit margins.

One of the most pressing economic issues is the rising cost of fertilizers, especially for non-subsidized types. Despite government efforts to allocate fertilizer subsidies in the 2024 national budget amounting to IDR 26.68 trillion, with an additional proposed allocation of IDR 14 trillion, various problems persist. These

include distribution fraud, a mismatch between demand and supply, and the ineffectiveness of the subsidy in increasing agricultural productivity (CNBC, 2024 as cited by Carolina & Wulandari, 2024)).

The disparity between subsidized and non-subsidized fertilizer prices further exacerbates the problem. According to the Minister of Agriculture Decree No. 644/KPTS/SR.310/M/11/2024 on the Determination of Allocation and Maximum Retail Prices for Subsidized Fertilizers in the Agricultural Sector for Fiscal Year 2025, the HET (maximum retail price) for subsidized fertilizer is set at IDR 2,250/kg. In contrast, the non-subsidized price can be four times higher, ranging from IDR 8,000/kg to IDR 12,000/kg. Similarly, subsidized NPK is priced at IDR 2,300/kg, while the non-subsidized equivalent can reach up to IDR 10,000/kg, indicating a price gap of IDR 7,700/kg.

Unfortunately, horticultural commodities such as Amaranth and Kangkong are not prioritized in fertilizer subsidy allocations, making urban farmers like Jaya Mandiri PIK farmer group more vulnerable to these price disparities. These high input costs directly affect the profitability of their farming operations and pose a significant challenge to the sustainability of their livelihoods.

In addition to economic constraints, the Jaya Mandiri PIK farmer group also faces infrastructure-related challenges. Based on preliminary research and an interview with the group leader, Mustofa, the farmers rely on diesel pumps to extract water from the Buaran River during the dry season. This dependence entails additional operational costs, including fuel, equipment maintenance, and potentially extra labor, further straining their limited financial resources.

Compounding this issue is the fact that the Buaran River, their main irrigation source, is heavily polluted (Appendix 4). Pollution originates from various surrounding activities, including both domestic and industrial waste, contributing to severe environmental degradation. This poses serious risks to soil quality, crop productivity, and public health which lead to affecting both farming activities and the farmers themselves.

Despite these significant economic and environmental pressures, the Jaya Mandiri PIK Farmer Group continues to produce crops consistently over years. This persistence highlights the resilience and adaptive capacity of urban farmers, but also

underscores the urgent need for a comprehensive study on their farming practices and challenges. These interconnected challenges, high imputed land rent costs, rising prices of non-subsidized fertilizers, additional costs associated with irrigation, environmental pollution, dependence on contaminated water sources, and uncertainty over land access can all affect the income and profit earned by the farmers.

Therefore, it is very important to conduct a farm business analysis of these vegetable farming practices, cultivated by this group, to assess the profitability of their farming activities and evaluate whether they are sufficient to support the livelihoods of farmers and their households. This analysis can also provide valuable insights for relevant stakeholders, such as the government, the PIK area management, and urban agriculture support institutions, to help find solutions to these problems and assist farmers in maximizing their income and ensuring the sustainability of their farm businesses in East Jakarta. Based on these considerations, the author is interested in conducting a study entitled "Farm Business Analysis of Urban Vegetable Farming by Jaya Mandiri PIK Farmers in East Jakarta".

With these comprehensive background and clear research problem formulation, the research questions for this study are:

1. How are vegetables cultivation techniques implemented by the Jaya Mandiri PIK Farmer Group in Penggilingan Sub-district, Cakung District, East Jakarta?
2. How is the feasibility level from the cultivation of the Jaya Mandiri PIK Farmer Group?

C. Research Objective

Based on the formulation of the problem that has been explained earlier, the objectives of this study are:

1. To describe the urban vegetables farm cultivation techniques carried out by the Jaya Mandiri PIK Farmer Group in Penggilingan Sub-district, Cakung District, East Jakarta.
2. To calculate the feasibility of the urban horticulture by the Jaya Mandiri PIK Farmer Group.

D. Benefits of the Research

The expected benefits of this research are as follows:

1. For farmers, this research can provide insights into farm business practices related to vegetable cultivation, helping them understand their income and profit levels. The findings may also serve as a reference for improving farm management and maximizing profitability by comparing with existing studies and best practices.
2. For the government, this research can serve as a valuable input in formulating policies and development programs to support urban horticultural farming, especially for leafy vegetables such as Kangkong, Amaranth, and mustard greens.
3. For readers, this study may offer useful information and references to deepen understanding of vegetables urban farming systems and support the preparation of related research in the future.

