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Towards a Prosperous Indonesia: Building the Local Economy Through Food Estates in Sukodono, Gresik

Nurlaila Tria Agustina[1*], Aisyah Salsabila[2], Akmal Naufal[3], Novi Lailiyul Wafiroh[4]
Maulana Malik Ibrahim Islamic State University Malang
Corresponding Author: Nurlaila Tria Agustina ntriaagustina@gmail.com

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A B S T R A C T

Indonesia has a food estate program which is a program initiated to make Indonesia developed. Food estate program under the auspices of the government which aims to increase national food security. One of the food estate programs is established in Sukodono Village, because it has the potential to develop the local economy of the community. The aim of this qualitative research is to find out how the food estate program in Sukodono Village is run and how it impacts the community. This research uses a literature study approach which focuses on the data collection process through interviews, observation, documentation and literature study. The research results show that the Sukodono Village food estate program has made progress, but also has problems. Problems with the government, human resources (HR) which are still not fully supported, and problems with the distribution of agricultural products. The condition of other food estates is considered progress due to synchronization with the village green house program to improve economic welfare

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INTRODUCTION

Indonesia, one of the Southeast Asian countries, covers an area of 5,194,143 km², with one-third of its territory being land. Geographically, Indonesia is located between the continents of Asia and Australia, as well as between the Pacific and Indian Oceans. Astronomically, it is situated at 6°N-11°S latitude and 95°E-141°E longitude. This geographical positioning gives Indonesia a tropical climate, with stable sunlight exposure year-round, resulting in two seasons: the dry and rainy seasons. The tropical climate is a contributing factor in soil formation, which consists of approximately 20-30% water, 45% mineral matter, and 5% organic material. Due to these favorable conditions, Indonesia is endowed with abundant natural resources (SDA).

Given its vast land area, Indonesia should ideally be a self-sufficient nation in terms of food production. However, the country's human resources (SDM) have not yet fully harnessed its natural resources (SDA) to enhance local economic development. One example is the underutilization of extensive arable land across various regions in Indonesia. Observing this situation, the government initiated programs aimed at managing these resources to create food reserves, including the food estate initiative, one of the programs envisioned to advance Indonesia.

The concept of "Indonesia Maju" (A Developed Indonesia) reflects the national ideology, Pancasila, which guides the nation in strengthening sovereignty, unity, and the nation's ability to compete globally. Achieving this vision requires strategic initiatives across various sectors, with economic development being a priority. A high level of economic growth and security signifies an advanced economy, with GDP or per capita income commonly used as a metric to gauge economic progress. To attain such an economy, programs that aim to boost both domestic and international economic activity are essential to enable competition in the global market.

One such program, the food estate, focuses on enhancing national food production and achieving self-sufficiency by providing large agricultural land equipped with modern infrastructure. This initiative is also seen as a strategy to preempt the looming global food crisis, as predicted by the FAO, by establishing food production centers that serve as strategic logistic reserves for national defense. The government plays a central role in the food estate program, which aims to significantly increase national food security by expanding agricultural land and improving productivity. Additionally, the program promotes crop diversification to reduce dependency on food imports and achieve greater food self-reliance. According to Wulandani and Anggraini (2020), the food estate concept involves the development of various sectors, including agriculture, livestock, and plantations, in a given region . However, Ananta (2023) points out that large-scale land conversion for food estates risks environmental degradation, undermining government efforts to combat climate change .

LITERATURE REVIEW

Despite environmental concerns, proponents argue that food estates can address unemployment, create jobs, improve social welfare, accelerate development, and reduce social inequality. Detractors, however, argue that food estate programs may disadvantage farmers by imposing new agricultural practices and prioritizing corporate interests over local needs. They claim that modern agricultural practices, developed in partnership with corporations, often marginalize farmers and exacerbate inequalities .

While the food estate concept has existed since the colonial era, its implementation has yet to reach its full potential due to various failures, including environmental and social impacts such as land-use changes and the erosion of indigenous land rights. Nevertheless, during the COVID-19 pandemic in 2020, the program was reintroduced as a means of bolstering food security. The program has been implemented in several regions, with mixed results—some areas showing success in increasing productivity, while others experienced setbacks due to conflicts between the government and local communities, with limited opportunities for community decision-making . One of the regions where the food estate program has been implemented is Gresik Regency in East Java. Located northwest of Surabaya, Gresik covers an area of 1,191.25 km² and lies at 112-113°E longitude and 7-8°S latitude. Aside from the Panceng district, which is situated 25 meters above sea level, most of the regency consists of lowlands ranging from 2 to 12 meters in elevation. The tropical climate in Gresik, with an average temperature of 28.5°C and an annual rainfall of 2,245 mm, makes the region suitable for agricultural development. The local government, recognizing the region's potential, has designated Gresik as a key location for food estate development in East Java.

The food estate initiative in Gresik, specifically in the Panceng district, targets a 1,000-hectare area of underutilized land. The program focuses on Sukodono village, which boasts fertile agricultural land spanning 625 hectares, with highly productive alluvial soils and abundant clean water resources. The local workforce is also robust, making it possible for the government to involve the community in realizing the food estate vision. By utilizing the natural and human resources effectively, the food estate in Sukodono promises to stimulate local economic growth, generate income for the community, and contribute to the region's—and the nation's—economic development. On August 22, 2022, President Joko Widodo officially approved the food estate program in Sukodono, which focuses on mango production. Accompanied by the Governor of East Java, Khofifah Indar Parawansa, and the Regent of Gresik, Fandi Akhmad Yani, the president inaugurated a mango farming zone during his third visit to Gresik in 2022. The mango estate, covering an area of 1,000 hectares, aims to produce 2,000 quintals of high-quality mangoes for both domestic and international markets. The president's endorsement of the program underscores the potential of Gresik's mangoes, known for their sweetness and low water content due to the region's unique soil composition .

According to research conducted by Dr. Gunawan, S. TP, M.Si, and Ratih Sandrakirana, SP, M.Sc., the food estate initiative in Gresik, supported by a corporate farmer model, holds great potential for enhancing the region's productivity and global competitiveness. The "NAWA KARSA" program, introduced by the Regent of Gresik, further emphasizes sustainable, environmentally friendly, and modern agricultural practices . In conclusion, the food estate program in Gresik demonstrates the collaborative efforts of the government and local communities to boost agricultural productivity and compete in international markets. With its focus on mango production, the food estate is poised to make Gresik a leading region for high-quality mangoes both nationally and internationally, contributing to Indonesia's goal of becoming a prosperous and self-sufficient nation.

METHODOLOGY

This research adopts a field research methodology, utilizing a descriptive qualitative approach with a focus on comprehensive data collection, supported by a literature review. The objective of this study is to provide an overview of the impact and implementation of the food estate program in empowering the local economy. The subjects of this research are the residents of Sukodono Village, Panceng District, Gresik Regency. In this context, the researcher acts as the primary instrument, while the data is collected through interviews, observations, and document analysis (literature review). The primary source of data is the community of Sukodono Village.

Data was collected through the following activities: 1) structured interviews with the people of Sukodono Village, 2) observation of the implementation of the food estate program, 3) document analysis related to the food estate program in Sukodono Village, and 4) analysis of several previous research sources. For data analysis, the interactive model of Miles and Huberman was employed, following these steps (Sugiyono, 2008): 1) Data reduction, to sharpen, classify, and eliminate unnecessary data related to the focus of the problem, specifically the implementation and impact of the food estate program in Sukodono Village; 2) Data display, which involved classifying the issues concerning the execution and influence of the food estate program on local economic empowerment, thereby contributing to Indonesia's development; and 3) Verification and conclusion drawing, wherein the organized data is intellectually interpreted, and conclusions are drawn from the analysis.

RESULT AND DISCUSSION

Implementation of the Food Estate Program in Sukodono Village

The implementation of the food estate program in Sukodono Village is a critical government initiative aimed at maintaining national economic stability by ensuring the fulfillment of citizens' economic needs. This initiative, known as the National Food Barn Program (Food Estate), serves to provide essential food supplies for the survival of the nation and its people. According to the journal article titled "Analysis of Food Estate Program Implementation as a Solution for Indonesia's Food Security" by Nurkhayati et al. (2015), the history of food estate development in Indonesia can be traced back to the 1950s, particularly through the Peatland Development Program (PLG) in Central Kalimantan, which aimed to transform one million hectares of peatland into rice fields. However, this initiative faced numerous challenges and was ultimately deemed unsuccessful, leading to its termination in 1999 through Presidential Decree No. 80 of 1999.

The second era of food estate development introduced the Merauke Integrated Food and Energy Estate (MIFEE) project in 2010, aimed at accelerating agricultural growth in Papua. This program, however, sparked controversies regarding indigenous land rights and led to the marginalization and displacement of local communities. In 2011, the Delta Kayan Food Estate (DeKaFe) initiative was launched in Bulungan, North Kalimantan, with the objective of boosting food production through integrated agricultural development. Yet, DeKaFe also encountered significant issues, such as inadequate planning and assessment of the project's potential impacts, overlapping land claims, and a lack of local community involvement in both planning and execution (Setyo & Elly, 2018; Kamin & Altamaha, 2019). These factors contributed to the project's overall failure, highlighting the necessity of community engagement in agricultural development.

The third phase of the food estate initiative emerged as a response to the impacts of the COVID-19 pandemic, reinforcing food security as a vital concern. In 2021, the Indonesian government revived the food estate program, prioritizing regions such as Central Kalimantan and North Sumatra for agricultural development. Sukodono Village, located in Gresik Regency, was identified as a key area for this initiative, encompassing 630 hectares divided into five main hamlets: Karang Anyar, Krajan, Sukodono, Kramat, and Sentono. The local population primarily relies on agriculture and livestock for their livelihoods, engaging in rice cultivation, vegetable farming, and fruit orchards. The integration of sustainable agricultural practices has led to a rich and productive agrarian landscape (Mukti, 2020). Data collection from local sources, including Bapak Adit, Assistant Manager of PT Galasari, and Bapak Santo, a field worker and head of the village's BUMDES, emphasized the importance of sustainability in the food estate program managed by PT Galasari.

The food estate program, inaugurated by the President in 2022, focuses on mango cultivation, particularly the Chokanan variety, which is noted for its sweetness and distinctive aroma. While PT Galasari effectively initiated mango production, achieving a yield of 270 tons during the first harvest, the lack of clear government direction has created uncertainty within the community regarding future actions. Despite the absence of government intervention, PT Galasari has continued its efforts independently, planning to replant mango seedlings with various superior varieties for the second harvest, expected to be ready for distribution by the end of 2024. The need for governmental support is crucial for engaging local farmers and attracting foreign investment for exports. Currently, only a few local farmers participate in the program, opting instead to utilize their land independently (SUPRIANTO, 2023). By employing local farmers in quality control processes, PT Galasari aims to ensure that only the finest mangoes reach local, national, and international markets, thus promoting sustainable agricultural practices and enhancing local economic opportunities.

Smart Green House

The expansive development area of the mango-based food estate program in Sukodono Village incorporates several facilities designed to enhance the successful harvesting of mangoes. A notable feature of this initiative is the construction of a large reservoir, which serves to store significant amounts of water to ensure that mango crops receive adequate irrigation during dry seasons. Water is a crucial factor for mango cultivation, and the reservoir addresses this essential requirement. Additionally, within the food estate managed by PT Galasari, there exists a Smart Greenhouse operated by the Gresik District government. This facility is intended to further support agricultural innovation and productivity in the region.

The second informant, Bapak Imam, who oversees the Smart Greenhouse, provided insights into the program's operation in Sukodono. The Smart Greenhouse was established to offer the local community an educational platform focused on modern cultivation techniques. By learning to utilize their available land effectively, residents can promote sustainable economic development for individuals within the village. The Smart Greenhouse operates in collaboration with the village government (BUMDES) to align with PT Galasari's food estate program. However, while PT Galasari focuses on mango production, BUMDES emphasizes the cultivation of premium melons. This collaboration allows for the synchronization of both programs, ensuring that both PT Galasari and the village government derive mutual benefits from their respective agricultural endeavors.

Equipped with modern facilities, the Smart Greenhouse enables monitoring through installed CCTV systems and the simultaneous cultivation of three different types of seedlings within a single greenhouse. The primary focus of the Smart Greenhouse is on melon seedlings, with personnel from the Gresik District Agriculture Office providing instruction on cultivation practices to community members. Before each planting period, local residents receive training on greenhouse planting techniques. Interested participants can access the Smart Greenhouse within the PT Galasari area for hands-on learning. Throughout the planting, maintenance, and harvesting processes, continuous education is provided, allowing community members to witness the successful outcomes of greenhouse cultivation. It is anticipated that this experience will encourage them to implement similar practices in their home gardens.

The produce harvested from the Smart Greenhouse is sold to PT Polowijo Galasari and local community members, with proceeds reinvested into the operational costs of the greenhouse for subsequent planting and educational initiatives. This cycle of learning and application aims to maximize community engagement and empower residents with practical agricultural skills. The introduction of the Smart Greenhouse is envisioned as a revitalization of local agriculture, enhancing economic conditions and improving the livelihoods of Sukodono Village residents. The establishment of such facilities is critical in fostering a sustainable agricultural framework that not only benefits individual farmers but also contributes to the broader goals of food security and economic resilience in the region.

Greenhouse

The third informant, Bapak Agus, a member of the Village-Owned Enterprises (BUMDES) responsible for managing the local greenhouse, shared insights regarding the implementation of the greenhouse program within the community of Sukodono Village. The introduction of the food estate initiative in East Java, particularly in Gresik, has garnered positive responses from the surrounding community. This program is perceived as an opportunity for agricultural enhancement, aligning with local interests and needs. The village head has proactively initiated a similar program that synchronizes with the food estate, collaborating with local government to establish a smart greenhouse. This strategic move aims to bolster local agricultural production and contribute to food security and economic development in the region.

The establishment of the smart greenhouse represents an innovative approach to modernize agricultural practices within the Sukodono community. By introducing advanced techniques and technologies in cultivation, the program seeks to empower local farmers with the necessary skills to enhance their productivity. The synergy between the food estate and the smart greenhouse initiative is anticipated to yield significant benefits, as both programs are designed to complement each other. By working closely with the local government, the initiative aims to create a supportive environment that encourages the adoption of sustainable agricultural practices among community members.

Furthermore, the implementation of the greenhouse program is expected to serve as a catalyst for innovation in agricultural methodologies within the community. The collaboration with the local government not only provides technical support but also fosters a sense of ownership among the villagers. As community members become actively involved in the greenhouse operations, they are likely to gain valuable insights into effective agricultural practices that can be applied in their own farming endeavors. This engagement is crucial in cultivating a culture of continuous learning and adaptation to modern agricultural techniques.

Synchronization of Food Estate Program, Smart Greenhouse and Greenhouse

The integration of the food estate program and greenhouse initiatives in Sukodono Village has significantly influenced the local community, particularly in enhancing the economic conditions of its residents. The food estate initiative creates numerous job opportunities, thereby addressing unemployment issues and increasing household incomes. This, in turn, contributes to an overall improvement in the quality of life for the villagers, fostering a sense of communal welfare. Additionally, the introduction of greenhouse practices equips the local population with valuable knowledge and skills, as ongoing educational programs ensure continuous learning. The local government actively supports residents interested in adopting greenhouse techniques, facilitating regular monitoring and guidance throughout the process.

The establishment of the smart greenhouse by the local government, in collaboration with agricultural departments, has provided substantial benefits to farmers in Sukodono. Through direct hands-on training, farmers gain practical knowledge about cultivating fruits and other crops. This educational approach not only enhances their understanding of modern agricultural practices but also prepares them to implement these techniques in the village-managed greenhouse operated by the Village-Owned Enterprises (BUMDes). The BUMDes-managed greenhouse serves as an educational hub for local farmers, showcasing practical applications of contemporary agricultural technology. Consequently, the expectation is that high-quality fruit and crop production will increase, positively impacting the local economy and bolstering food security in the area.

Despite the advantages brought about by the food estate program, there are notable challenges that have emerged within the community. Many local landowners feel that their lands have been taken over by corporate interests, leading to a sense of disenfranchisement among some residents who believe they can no longer operate their lands independently. Additionally, there exists a general hesitance among community members to seek employment within the food estate, stemming from skepticism about the long-term benefits and viability of this agricultural model. This perception raises concerns about the effectiveness of the food estate program in achieving its intended objectives of becoming a sustainable food source.

Moreover, the greenhouse initiative, intended to complement the food estate, also faces shortcomings, particularly in the marketing of its melon produce. The current promotional strategies have not effectively reached a broad market, hindering potential consumer engagement. Local aspirations to sell melons have not been fully realized, with sales achieving only 40% of the targeted 80%. This indicates a significant gap in market penetration that necessitates the development of more effective marketing strategies. Current promotional efforts are largely limited to social media platforms like Facebook and rely on word-of-mouth advertising, which restricts consumer reach. To enhance market visibility, it is essential to diversify marketing strategies, utilizing a broader array of social media platforms and forming collaborations with relevant stakeholders to expand market access and increase consumer awareness of the greenhouse's melon products.

Impact of Food Estate on the Agricultural Atmosphere of Sukodono Village

The implementation of the food estate program in Sukodono Village has had a significant impact on the agricultural atmosphere in the region, as articulated by Mr. Agam, the village head. The introduction of this program has facilitated the adoption of modern agricultural technologies, which not only enhance crop productivity but also improve the management of natural resources. As a result, local farmers are increasingly employing more efficient farming methods, including advanced irrigation systems and appropriate fertilizer applications. These changes foster local economic growth and improve soil quality, thereby creating a more dynamic and sustainable agricultural environment in Sukodono Village.

In response to the challenges arising from the evolving agricultural landscape, both the local government and village authorities have initiated similar programs to the food estate. This initiative aims to adapt modern agricultural technologies and best practices demonstrated in the food estate project to other areas requiring similar interventions. By engaging the community in planning and implementation processes, and providing training and technical support, the program aspires to enhance agricultural productivity, improve agricultural infrastructure, and strengthen local food security. This strategy not only holds the potential to extend the positive impacts already realized in Sukodono but also serves as a successful model for other villages facing similar agricultural challenges.

To address agricultural challenges and enhance crop yields, the local government and Sukodono Village have launched innovative programs featuring both smart greenhouses and conventional greenhouses. The smart greenhouse, equipped with advanced technologies such as automatic temperature and humidity sensors, along with data-driven irrigation systems, is designed to optimize plant growing conditions in real time, minimizing water use and reducing reliance on manual labor. Conversely, the conventional greenhouse serves as a training and experimentation facility for simpler yet effective agricultural methods. The integration of these two types of greenhouses aims to broaden community access to both modern and traditional agricultural technologies, ultimately improving productivity and the quality of agricultural outputs while fostering a more sustainable and adaptive agricultural environment.

The management of the smart greenhouse is directly overseen by the local government, supported by professional personnel from the Agricultural Office. The primary objective of this management strategy is to provide comprehensive education to farmers on effective and efficient farming techniques within the greenhouse context. Through a structured training program, farmers learn how to optimize the use of technologies such as automated sensors and advanced irrigation systems, as well as methods for managing crops that can enhance yields and resource efficiency. By facilitating direct engagement with experts, the initiative aims to empower farmers to apply their acquired knowledge to improve both the quality and quantity of their agricultural products, thereby enabling them to integrate modern technology into their daily farming practices. Furthermore, the conventional greenhouse, effectively managed by the village government and spearheaded by the Village-Owned Enterprises (BUMDes), serves as a practical training ground for community members to implement the knowledge gained from the smart greenhouse. This initiative not only bridges theory and practice but also enhances the community's capacity to manage sustainable agricultural practices effectively.

CONCLUSION AND RECOMMENDATION

Conlusion

The food estate program in Sukodono Village, Gresik Regency, is a significant initiative aimed at enhancing agricultural productivity and food security. This program seeks to optimize agricultural land use and increase productivity through the integration of modern farming technologies. However, the involvement of the government in this program's implementation has been criticized for its lack of clarity, which has resulted in uncertainty and delays in execution. The smart greenhouse and conventional greenhouse programs are synchronized with the food estate initiative, reinforcing agricultural development efforts in Sukodono Village. These greenhouses are designed to maximize community benefits and contribute to sustainable agricultural development. With better coordination and consistent support from relevant stakeholders, Sukodono Village has the potential to fully realize the benefits of the food estate program and modern agricultural technologies, thereby enhancing local economic welfare and strengthening food security.

Recommendation

To increase the effectiveness and sustainability of both the Food Estate and Smart Greenhouse programs in Sukodono, it is recommended that the government provide greater support and strengthen its coordination with private sectors and local communities. Establishing a clear, coordinated framework could accelerate the program's implementation, address emerging challenges, and ensure active participation from local residents. Moreover, the development of an integrated and aggressive marketing strategy for melon products from the Smart Greenhouse could expand market reach. Support for farmer training, better utilization of existing facilities, and improved transparency and communication between the government and stakeholders will be crucial to achieving the long-term objectives of these programs.

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