

*Research Article***Benefits and Costs of Legal Policy for the Food Estate Program in Indonesia****Ahmad Redi^{1*}, Kosuke Mizuno²**¹**Faculty of Law, Universitas Borobudur, Indonesia**²**Center for Southeast Asian Studies, Kyoto University, Jepang*****ahmad_redi@borobudur.ac.id****ABSTRACT**

To ensure food availability across Indonesia and mitigate potential food crises, the government introduced the Food Estate program under Presidential Regulation No. 109 of 2020. This initiative aims to strengthen national food security through the effective management of food reserves. This study analyzes the legal aspects of the Food Estate concept in Indonesia using a normative juridical approach, which includes a literature review, analysis of relevant laws and regulations, and an examination of legal cases related to the Food Estate program. The findings indicate that the legal framework governing the Food Estate program has undergone several revisions, beginning with Minister of Environment and Forestry Regulation No. 24 of 2020 and later amended by Minister of Environment and Forestry Regulation No. 7 of 2021. The Food Estate program presents both benefits and challenges. While it enhances food security, attracts investment, and increases farmers' incomes, it also poses risks such as land conflicts, environmental degradation, deforestation, and shifts in agricultural practices that may threaten food sovereignty. Additionally, concerns arise regarding land conversion and the potential for price manipulation by financial stakeholders.

Keywords: Benefits; Costs; Legal Policy; Food Estate; Food Security.

A. INTRODUCTION

The increasing demand for food in Indonesia corresponds with the rising levels of food consumption. However, the observed increase in agricultural land productivity does not exhibit a proportional trend, as evidenced by studies conducted by Henley (2007) and Haidir et al. (2021). In fact, there is a tendency for agricultural production to decline. The literature identifies several contributing factors, including a decline in irrigation quality, soil degradation, and extreme weather events such as floods and droughts (Fitzpatrick, 1997; Bedner & Arizona, 2019).

Perhaps the most significant factor contributing to the decline in agricultural productivity is global warming. Rising air temperatures due to global warming directly impact crop yields and promote the proliferation of pests. Furthermore, research indicates that a 2°C increase in air temperature could lead to a 40% decrease in food crop production (Suranny, Evi, & Rahardjo, 2022).

To mitigate the decline in agricultural productivity, the Ministry of Agriculture has introduced superior crop varieties that are more resilient to temperature fluctuations caused by climate change. Indonesia is predominantly an

agrarian nation, with a workforce of tens of millions employed in agriculture, forestry, and fisheries. However, growth in this sector remains sluggish, contributing only 12% to Indonesia's overall economy. Despite its agricultural identity, Indonesia continues to rely on imports of several key commodities, including rice, sugar, and beef (Rahmah, 2017; Bohnes et al., 2020).

In addition, several factors contributing to agricultural productivity issues stem from human intervention. These factors include population dynamics, the marginalization of certain groups, poverty levels, challenges related to land ownership, political instability and mismanagement, prevailing social and economic conditions, health concerns, and inadequacies in agricultural development strategies (Van der Eng, 1996; Yamamoto et al., 2019). These issues have been widely discussed in the literature.

Beyond productivity challenges, Indonesia's agricultural sector also faces socio-political issues that exacerbate its vulnerability. One major concern is the declining agricultural workforce, which coincides with a surge in food imports—such as rice, garlic, and soybeans—that could otherwise be produced domestically. This trend is largely driven by the higher costs of domestic production compared to the more competitive prices of imported alternatives. According to Jeon (2011), addressing this issue requires an agricultural transformation through

technological advancements and skill development in the agricultural workforce.

Food is a fundamental human necessity that must always be ensured. Article 27 of the 1945 Constitution and the 1996 Rome Declaration recognize the right to food as a basic human right (Henkin, 1995; Kent, 2005). These principles provided the foundation for the enactment of Food Law No. 8 of 2012. As a fundamental need and a human right, food plays a crucial role in the survival and stability of a nation. Insufficient food availability can lead to economic instability, and if food security is compromised, it may trigger significant social and political unrest. In extreme cases, food insecurity can even threaten economic and national stability (Hanjra & Qureshi, 2010; Dawe & Timmer, 2012).

Ensuring food availability in Indonesia requires strong food security measures. While Indonesia's food security index improved in 2022, it remains lower than in the period between 2018 and 2020 (Tono, Mewa, & Suryana, 2023). In 2022, the Global Food Security Index (GFSI) was recorded at 60.2, an increase from the previous year's score of 59. However, Indonesia's highest GFSI level in the past decade was recorded in 2019. The GFSI assesses national food security based on four main indicators: food price affordability, food supply availability, the nutritional quality and safety of food, and the resilience of natural resources (Barinda & Ayuningtya, 2022).

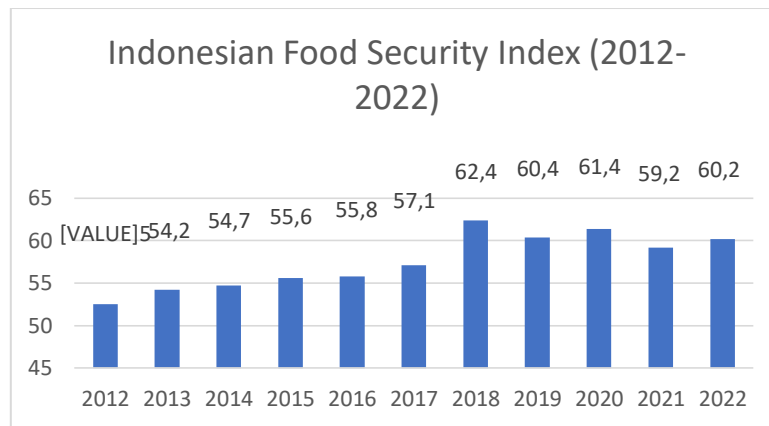


Figure 1. Indonesian Food Security Index 2012-2022

(Source: Statista, 2024)

Nevertheless, despite the observed upward trend, it is important to note that Indonesia's food security ranking in 2022 stands at the 69th position out of a total of 113 countries, placing it below the global average of 62.2. The average for the Asia Pacific region is also higher, specifically at 63.4. Nevertheless, in comparison to its neighboring countries, Indonesia has a rather robust level of food security. Indonesia's food

security is positioned as the fourth highest among member countries within the Association of Southeast Asian Nations (ASEAN). According to Sukereman et al., (2022), Singapore is often regarded as the ASEAN country with the highest level of food security. The subsequent positions are occupied by Malaysia and Vietnam, as depicted in the accompanying graph.

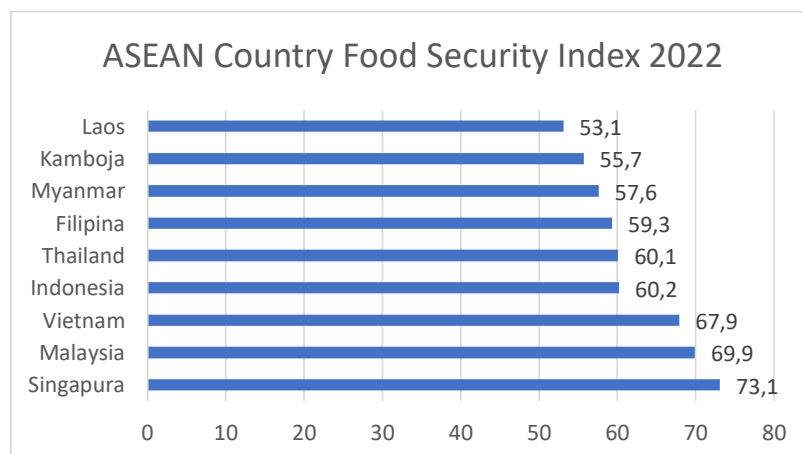


Figure 2. Food Security Index for ASEAN Countries 2022

(Source: Economist Impact, 2022)

The Food Estate initiative was developed by the Indonesian government as part of attempts

to promote food security in the country. This Food Estate concept entails the development of huge

amounts of land for integrated food production, such as agriculture, plantations, and animal husbandry (Napitupulu et al., 2022). This initiative is part of the National Strategic Project (PSN), regulated under Presidential Regulation No. 109 of 2020, which amends Presidential Decree No. 3 of 2016 on PSN acceleration. This proposal has existed from the 2014-2019 RPJMN, although its location was unknown at the time (Yestati & Noor, 2021). In response to the pandemic problem, President Joko Widodo suggested again in 2020 the construction of a Food Estate with the goal of boosting food security (Baringbing, 2021). The Job Creation Law mandates high-ranking officials such as Ministers, Governors, Regents/Mayors to streamline the licensing and non-licensing processes for PSN, such as land procurement for Food Estates, including indigenous and local community land (Wisnu, 2022).

Food Estates are planned to be established in four regions: Central Kalimantan, North Sumatra, South Sumatra, and Papua (Wirapranatha, Sutrasna, & Simbolon, 2022). The Ministry of Environment and Forestry (KLHK) initially enacted regulations to allocate forest areas for Food Estates. However, these regulations were later abolished and replaced with new ones (Dewi et al., 2021). The revised regulations introduced several adjustments. Previously, there were two mechanisms for providing land for Food Estates: changing the designation of forest areas or establishing Forest Areas for Food Security (KHKP). However, after

the previous regulations were revoked, Food Estate development could only proceed through the KHKP establishment mechanism, rather than by changing the designation of forest areas (Anugrah, 2022).

In addition to changes in the mechanism, there were also revisions regarding KHKP management and forest utilization. Previously, a Ministerial Decree on KHKP Management could serve as a Timber Utilization Permit (IPK), allowing trees in protected forest areas to be felled and used based on KHKP provisions (Danurdara, 2023). However, this contradicted the Forestry Law, which only permits the use of non-timber forest products in protected areas. As a result, the Ministry of Environment and Forestry revised the regulation to restrict timber use exclusively to non-forestry activities (Ayu, 2022).

The Food Estate concept refers to the large-scale and integrated development of food production, including agriculture, plantations, and livestock farming, within a designated geographical area (Santosa, 2014). The establishment of Food Estates has been identified as a key component of the food security strategy implemented during the COVID-19 pandemic and the 2020-2024 National Strategic Program (PSN) (Wulandani & Anggraini, 2020). Additionally, the program was initiated as a proactive measure in response to the projected global food crisis, as predicted by the Food and Agriculture Organization (FAO). Its primary objective is to establish food production centers that serve as

strategic logistic reserves for national defense purposes (Yestati & Noor, 2021).

The Food Estate model focuses on empowering rural indigenous and local communities as a means of fostering regional development. This includes optimizing land use, supporting the agricultural workforce, and improving infrastructure to promote food self-sufficiency in rural areas (Fitriana & Marni, 2021).

Food estates will be established in several regions, including West Kalimantan (120 thousand ha), Central Kalimantan (180 thousand ha), East Kalimantan (10 thousand ha), Maluku (190 thousand ha), and Papua (1.2 million ha) (Agam, 2017). In Central Kalimantan, a small portion of land will be allocated for rice cultivation, while the rest will be used to grow cassava, corn, and other crops, depending on land conditions and market demand. Additionally, the government plans to develop a food estate in Humbang Hasundutan Regency, North Sumatra Province, with a particular focus on chili, garlic, and potatoes for industrial purposes (Sianipar & Tangkudung, 2020).

The food estate will be developed on land previously used for the Peatland Development (PLG) project in Central Kalimantan Province, as well as in several areas funded by the state budget (APBN). The justification for utilizing this land is that it has already been cleared, making rehabilitation costs lower than those associated with opening new land. Furthermore, initial agricultural activities have been planned and

partially implemented, although not optimally. Consequently, the region was relaunched as an integrated, modern, and sustainable food production area under the National Strategic Program (PSN), with a people-centered development approach supported by professional human resources and advanced technology (Sianipar & Tangkudung, 2021).

According to Fadillah, Sisgianto, and Loilatu (2021), food estate development must consider several feasibility factors, including land and agro-climatic conditions, infrastructure, technology, socioeconomic aspects, water management—which is crucial for agricultural development—environmental impact assessment (AMDAL) planning, and human resource capacity (worker skills).

However, concerns have been raised regarding the location of food estates, as Ministry of Environment and Forestry Regulation Number 24 of 2020 permits the use of protected forests for the food estate program. According to Article 1, Point 8 of Law Number 41 of 1999 on Forestry, protected forests serve a crucial role in maintaining life-support systems by regulating water flow, preventing floods, controlling erosion, preventing seawater intrusion, and preserving soil fertility. Azkiya & Irawati (2024) argue that Regulation Number 24 of 2020 contradicts Article 26 of Law Number 41 of 1999, which governs the use of protected forests. While Article 19, Paragraph (2) of Regulation Number 24 of 2020 specifically targets degraded protected forests

with the aim of restoring their core functions, concerns remain valid. Azkiya & Irawati (2024) caution that misuse of the food estate program in protected forests could lead to severe deforestation, ultimately rendering the forests incapable of fulfilling their ecological functions.

Food estate development has the potential to reduce national poverty rates (Yestati & Noor, 2021), as economic growth driven by the agricultural sector is generally more effective in alleviating poverty compared to growth led by the construction and manufacturing sectors (Loayza & Raddatz, 2006). According to Agam (2017), the expected benefits of food estate development include:

1. Increasing the added value of local agricultural production,
2. Raising agricultural labor absorption by approximately 35%,
3. Enabling farmers to expand their businesses and develop entrepreneurial skills on a larger scale,
4. Establishing integrated production, processing, and trading centers,
5. Creating opportunities for food exports to international markets, and
6. Lowering food prices due to increased production.

However, previous food estate programs, such as those implemented during the Soeharto and Susilo Bambang Yudhoyono (SBY) administrations, failed due to inefficient land use

and low crop yields. The challenges faced included (Yestati & Noor, 2021):

1. The use of former PLG land in Central Kalimantan, much of which is unproductive and contains toxic sulfidic materials,
2. The need for extensive irrigation network rehabilitation,
3. Limited human resources and conflicts with local communities,
4. Issues in land certification, including overlapping claims, boundary inconsistencies, and disputes, and
5. Concerns that an influx of migrants could threaten the existence of local communities.

This research aims to analyze the costs and benefits of the legal aspects related to the food estate policy in Indonesia. Policy can be defined as a series of decisions made by an individual, a political group, or a government entity to select specific goals and the means to achieve them. Public policy, in particular, consists of decisions made by the government or governmental institutions to address specific issues, implement certain activities, or achieve objectives in the public interest. While laws can enforce or prohibit behaviors, policies serve as guidelines for actions that are most likely to produce the desired outcomes. In this context, policy can refer to decisions made by officials, institutions, or groups to address a particular problem (Silviana & Fuadi, 2023).

Land management policies for food estates are a form of public policy enacted by the

Indonesian government to promote national welfare, in accordance with Article 33, Paragraph (3) of the 1945 Constitution, which states, "Land, water, and natural resources contained therein shall be controlled by the State and utilized for the greatest prosperity of the people." The legal policy framework is intended to ensure fairness, protect all citizens without discrimination, and prevent unilateral harm in the pursuit of national welfare (Budi, 2019).

In formulating policies, decision-makers are motivated by the potential benefits such policies could provide to the public. The cost-benefit analysis method can be useful in achieving this objective, though its implementation can be highly complex (Roman, 2013).

This research emerged in response to the need for a deeper understanding of the legal aspects and their associated costs and benefits in food estate development in Indonesia. The increasing demand for food, coupled with declining agricultural productivity, highlights an urgent issue that requires immediate attention. Agricultural productivity has been constrained by several factors, including inadequate irrigation systems, declining soil quality, and extreme weather conditions exacerbated by climate change. These challenges have rendered existing strategies insufficient to meet the country's growing food demands.

To date, studies on the food estate program have primarily focused on the technical aspects of agriculture and economics, with limited

attention given to its legal dimensions. For example, a study on the effectiveness of the food estate program and its correlation with rice prices in Palangkaraya City analyzed the technical reasons why the program failed to stabilize rice prices in the region (Mahardika, Azkar, & Sopiana, 2024). By identifying, analyzing, and evaluating the legal aspects of the food estate program, this research aims to contribute valuable insights for designing more holistic and sustainable policies in Indonesia's agricultural sector. Strengthening legal frameworks can bridge existing gaps, enhance program effectiveness, and ultimately support the program's primary objectives: increasing food production and ensuring national food security.

Several previous studies (state of the art) relate to this research topic. In the first study by Sari, titled "The National Strategic Project Called Food Estate: Threats to Farmers' Autonomy and the Diversity of Local Food Sources in Umbu Mamujuk Village, Central Sumba," it was concluded that Indonesian food agricultural policies have never positioned farmers as actors with autonomy, from the Green Revolution to the development of food production center areas (KSPP) or food estates, and that the food estate program falls far short in meeting the staple food needs of local communities (Sari, 2024).

Furthermore, in the second study by Basundoro and Sulaeman, titled "Reviewing the Development of Food Estates as a National Resilience Strategy in the Covid-19 Pandemic

Era," it was concluded that food estates represent the embodiment of a national food security strategy integrated with the concept of national resilience. The implementation of food estate projects will support various other aspects such as the economy of farming communities and the realization of social justice (Basundoro & Sulaeman, 2020).

In the third study by Rasman et al., titled "Analysis of the Implementation of the Food Estate Program as a Solution to Indonesian Food Security," the research concluded that one of the main factors causing the failure of food estates in Indonesia is the lack of careful planning. Many food estates are built without considering factors such as the right location, water availability, suitable climatic conditions for the crops to be planted, technology, and synergy between the government and farmers. In addition, the issue of land ownership is another factor that causes the failure of food estates in Indonesia. Many food estates are built on land that does not have legitimate land rights, causing legal problems that hinder the sustainability of the project (Rasman, Theresia, & Aginda, 2023).

In the study written by Dewi et al., titled "Protected Forest Function Change Policy for Food Estate Land in Subang, Indonesia," the research results show that food estate development in Subang is a food development that is carried out in an integrated manner, covering agriculture, plantations, and even livestock in an area that previously existed but

was in productive forests. Meanwhile, the food estate program not only covers rice commodities, but also other commodities, such as corn, cassava, and sago, as well as livestock. The food estate project is carried out in a sustainable manner in terms of economic, social, agrarian, and ecological aspects (Dewi et al., 2021).

In the fifth study by Hanjra & Qureshi, titled "Global Water Crisis and Future Food Security in an Era of Climate Change," the research results show that population and income growth will increase the demand for food and water. Irrigation will be the first sector to lose water as water competition by non-agricultural uses increases and water scarcity intensifies. Increasing water scarcity will have implications for food security, hunger, poverty, and ecosystem health and services. Increasing food security requires governments and donors to strongly address the underlying issues driving food security, such as population growth, widespread poverty and income inequality, climate change, water scarcity, land degradation, and energy and food price inflation (Hanjra & Qureshi, 2010).

B. RESEARCH METHODS

This research employs a normative juridical approach, meaning the study is conducted by examining theoretical perspectives, legal concepts, and statutory regulations relevant to this research, also known as a statutory approach (Soekanto, 2003). Normative juridical research is a legal study that positions law as a structured

system of norms. This system includes principles, norms, legal regulations, agreements, and doctrines (Efendi & Ibrahim, 2018). The primary objective of normative research is to analyze legal systematicity, aiming to identify meanings and fundamental bases in law (Budi, Girodon-Hutagalung, & Irawati, 2024).

This research method was chosen to comprehensively examine the legal aspects of food estate development in Indonesia. The author utilizes this approach to analyze Minister of Environment and Forestry Regulation No. 24 of 2020 on the Provision of Forest Areas for Food Estate Development, which was subsequently revoked by Minister of Environment and Forestry Regulation No. 7 of 2021 on Forestry Planning, Changes in the Designation and Function of Forest Areas, and the Utilization of Forest Areas. Additionally, this study examines higher-level legal frameworks related to these ministerial regulations to determine whether any contradictions exist, including the 1945 Constitution of the Republic of Indonesia (as amended), Law No. 41 of 1999 on Forestry, and Presidential Regulation No. 109 of 2020, which amends Presidential Decree No. 3 of 2016 on the Acceleration of National Strategic Projects Implementation.

The data collection method in this research is based on secondary sources, also known as a literature review. This technique involves gathering data from books, documents, reports, and statutory regulations relevant to the research

subject. Once the data has been collected, it undergoes analysis. Data analysis refers to the process of organizing and interpreting data into meaningful information, facilitating problem-solving, particularly in the context of the research problem. This study employs a qualitative analysis method, which involves reviewing legal regulations and scholarly literature, followed by a descriptive presentation of findings (Vidyapramatya et al., 2023).

C. RESULTS AND DISCUSSION

1. Legal Regulations Regarding the Food Estate Program in Indonesia

The legal framework governing the allocation of forest areas for Food Estate development by the government has undergone modifications. Initially, Minister of Environment and Forestry Regulation No. 24 of 2020 served as the foundation for this allocation. However, this regulation was later repealed by Minister of Environment and Forestry Regulation No. 7 of 2021, which specifically addresses forestry planning, changes in forest area designation, modifications in forest area functions, and the utilization of forest areas. This regulation directly improves upon the provisions of Minister of Environment and Forestry Regulation No. 24 of 2020.

According to Minister of Environment and Forestry Regulation No. 7 of 2021, particularly Article 1, Clause 154, the concept of a Food Estate is defined as a large-scale initiative within the food industry that involves the extensive use

of natural resources, technology, capital, and other resources to support integrated food production. This integrated production covers multiple sectors, including agriculture, horticulture, plantations, livestock, and fisheries, all of which are carried out within forest areas (Raya, 2022).

The Indonesian government is revitalizing the Food Estate Program as part of its proactive strategy to address the projected global food crisis, as forecasted by the World Food Organization. According to Rozaki (2021), this initiative is expected to play a crucial role in ensuring national food security while also contributing to economic, political, and national stability. The Food Estate Program has been designated as one of the 201 National Strategic Projects, as outlined in Presidential Regulation No. 109 of 2020. This regulation amends Presidential Decree No. 3 of 2016, which aims to accelerate the implementation of National Strategic Projects (Yestati & Noor, 2021).

In response to this policy, the Ministry of Environment and Forestry issued Minister of Environment and Forestry Regulation No. P.24/MENLHK/SETJEN/KUM.1/10/2020, commonly referred to as Minister of Environment and Forestry Regulation No. 24 of 2020. According to Article 2 of this regulation, the allocation of forest areas for Food Estate development can be achieved through two mechanisms: (1) Changes in Forest Area Designation and/or (2) the designation of Forest Areas for Food Security (KHKP).

Changes in forest area allocation for Food Estate development apply to Production Forest Areas that are eligible for conversion under the Forest Area Release program. Meanwhile, the provision of Forest Areas for Food Estate development through the KHKP determination mechanism may apply to both Production Forest Areas and Protected Forest Areas. Under Minister of Environment and Forestry Regulation No. 24 of 2020, the Protected Forest Areas in question are those that no longer serve their designated protective function in accordance with statutory regulations.

According to the Forestry Law, the use of protected forest areas is restricted to non-timber products. If we refer to the definition of protected forests—areas primarily intended to protect life-support systems by regulating water resources, preventing floods, controlling erosion, preventing seawater intrusion, and maintaining soil fertility (Hutabarat et al., 2018)—this function would be compromised if trees within the protected forest were indiscriminately cut down. To apply for this scheme, authorized parties, including ministers, heads of institutions, governors, regents/mayors, or heads of other relevant agencies, may submit an application to the Minister of Environment and Forestry, with copies sent to the Secretary General and the Directorate General.

Minister of Environment and Forestry Regulation No. 24 of 2020 faced strong criticism from various parties, including the Indonesian Center for Environmental Law (ICEL). ICEL

argued that this regulation contradicts Law No. 41 of 1999, which stipulates that the Food Estate program should not be included under provisions regulating the utilization of protected forest areas (Materay, 2022).

Government Regulation No. 6 of 2007 on Forest Management and the Preparation of Forest Management Plans and Forest Utilization regulates the limited use of forest areas for cultivating medicinal plants, ornamental plants, breeding wild animals, and collecting forest products such as rattan, honey, resin, and fruit. Therefore, granting permits for timber utilization (IPK) in protected forest areas for the Food Estate program could lead to deforestation and timber extraction, potentially harming the ecosystem and compromising the area's protective function.

To address criticisms from various stakeholders, the Ministry of Environment and Forestry revised Article 30 of Minister of Environment and Forestry Regulation No. 24 of 2020 by introducing Article 496 in Minister of Environment and Forestry Regulation No. 7 of 2021. This revision limits timber utilization to cases where approval is granted for non-forestry activities. Furthermore, the allocation of forest areas for Food Estate development to support food security is now restricted to non-forest-covered areas within forest zones, specifically:

a) Areas under management rights granted to state-owned enterprises in the forestry sector, which are subsequently excluded from their management scope;

- b) Areas under Forest Utilization Business Permits, with a maximum allocation of 10% of the total work area, and excluded from the permit holder's designated work area;
- c) Areas not covered by Forest Utilization Business Permits, with a maximum allocation of 10% of the Forest Management Unit (KPH) management area; and
- d) Areas reserved for or already assigned under Social Forestry Management Approval or designated for the Agrarian Reform Object Land (TORA) program, with an emphasis on community-oriented and agrarian reform programs.

The provisions in Minister of Environment and Forestry Regulation No. 7 of 2021, which govern the Food Estate program, have undergone several modifications compared to the previous regulation, Minister of Environment and Forestry Regulation No. 24 of 2020. According to Regulation No. 7 of 2021, the allocation of forest areas for Food Estate development is now solely governed by the mechanism for determining Forest Areas for Food Security (KHKP). The previous mechanism for Changes in Forest Area Allocation, as stipulated in earlier regulations, is no longer applicable.

Additionally, modifications have been made to the regulations governing the management of KHKP (Kawasan Hutan Kemasyarakatan) and forest resource utilization. Under Article 30 of Minister of Environment and Forestry Regulation No. 24 of 2020, timber utilization was permitted

within the KHKP framework, allowing for the extraction and use of timber from protected forests under KHKP jurisdiction. However, this provision was inconsistent with the Forestry Law.

In response to these concerns, the Ministry of Environment and Forestry (KLHK) amended Article 30 of Minister of Environment and Forestry Regulation No. 24 of 2020, replacing it with Article 496 of Minister of Environment and Forestry Regulation No. 7 of 2021. This amendment clarifies restrictions on timber use by replacing the phrase "timber utilization permit" with "approval of timber utilization for non-forestry activities." The objective of this revision is to ensure that the use of protected forests complies with the Forestry Law and its associated regulations. These regulations restrict the utilization of protected forests to three specific categories: area utilization, environmental services, and non-timber product collection. At the same time, the primary function of protected forest areas—to sustain ecological balance and community well-being—must be preserved.

The government's commitment to strengthening the role of protected forest areas is evident in the issuance of Minister of Environment and Forestry Regulation No. 7 of 2021. Efforts are currently underway to develop a suitable framework for allocating forested land to support the Food Estate program (Sari, 2024). However, caution is necessary in implementing the Food Estate initiative, as it involves a large-scale food production program that requires meticulous land

management. The persistent issue of deforestation raises serious concerns, necessitating the resolution of potential conflicts between this program and policies aimed at mitigating climate change.

2. Impact of the Food Estate Program in Indonesia

The government is striving to rebuild food estates to enhance food security, considering that the Food Estate Program aligns with the second goal of the Sustainable Development Goals (SDGs), which is the realization of food security. However, from an environmental perspective, previously established food estates have raised significant concerns among environmental activist organizations. One major issue is ecological damage caused by the conversion of forests into large-scale agricultural areas. When developing a food estate, it is crucial to consider environmental carrying capacity and maintain ecosystem balance.

In general, the Food Estate Program has both positive and negative impacts. The following are some of the positive impacts of the program in Indonesia:

a. Expanding Agricultural Land to Increase Food Production

The Food Estate Program in Indonesia has a significant positive impact, primarily by opening new agricultural land, which enhances national food production (Sari, 2024). Through this initiative, the government aims to allocate additional land for agriculture, particularly land

that was previously underutilized. This is essential, given the increasing demand for food due to population growth. By expanding agricultural land, Indonesia has a greater opportunity to boost the production of staple commodities such as rice, corn, and soybeans, which are essential to the Indonesian diet.

Moreover, land expansion can help reduce pressure on existing agricultural areas that are vulnerable to degradation. In many cases, agricultural land suffers from overexploitation and soil degradation due to unsustainable practices. By designating new land for farming, the Food Estate Program can support long-term food production sustainability without depleting existing farmland. Additionally, this initiative has the potential to improve the quality and productivity of current agricultural land by alleviating the strain caused by intensive farming practices.

b. Attracting Investors and Stimulating Economic Activity

Another positive impact of the Food Estate Program is its potential to attract investors and stimulate economic activity, particularly in regions outside Java. By opening investment opportunities in the agricultural and agribusiness sectors, the government can create a more favorable environment for private investors and financial institutions to contribute to agricultural development. This initiative encourages the inflow of capital and new technologies into areas that have historically received limited investment.

Investment in the Food Estate Program also has the potential to generate substantial employment opportunities. Job creation in the agricultural and agribusiness sectors can improve local livelihoods and reduce economic disparities between Java and other regions (Sianipar & Nurish, 2021). Additionally, by attracting investment, the government can stimulate economic growth in less developed areas, reducing reliance on economic hubs concentrated on the island of Java.

c. Increasing Government Revenue and Farmers' Income in Food Estate Areas

The Food Estate Program also has the potential to enhance government revenue while simultaneously increasing farmers' income in designated food estate areas. By boosting agricultural productivity and food production, the government can generate additional revenue through various sources, including taxes, royalties, and other agricultural and agribusiness-related income (Fatahullah & Hilmi, 2024). These revenues can be allocated to finance infrastructure development, social programs, and other public initiatives that benefit the wider community.

Additionally, the program provides direct economic benefits to participating farmers. With technical assistance and infrastructure support from the government, farmers in food estate areas can improve their productivity and crop yields. Higher yields translate into increased income for farmers. Furthermore, the program

facilitates farmers' access to broader markets and better prices for their agricultural products, ultimately enhancing their overall earnings.

d. Strengthening Food Security in Indonesia

The Food Estate Program plays a crucial role in strengthening Indonesia's food security. By expanding agricultural land and increasing food production, the program contributes significantly to ensuring a stable and sufficient food supply for the population. Food security is a fundamental factor in national well-being, particularly in addressing challenges such as climate change, natural disasters, and global crises like pandemics. Increasing domestic food production reduces Indonesia's dependence on food imports, which can be vulnerable to fluctuations in international prices and supply chains.

Furthermore, the Food Estate Program helps mitigate food shortages in specific regions, particularly in areas outside Java that previously faced limited food supply. By implementing the program across various regions, the government can diversify agricultural production and establish more evenly distributed production centers, thereby reducing regional food supply imbalances. However, achieving sustainable food security requires careful attention to environmental conservation and sustainability. Sustainable agricultural practices and responsible natural resource management must be integral to this strategy to ensure that Indonesia's food security remains viable in the long term without causing environmental degradation.

Apart from the four positive impacts mentioned earlier, the Food Estate Program also has several negative impacts, particularly on environmental and socio-economic aspects. Below are some of the key negative impacts of the program:

a. Limited Land Ownership and Management by Farmers

The interplay between land ownership rights and relevant legal frameworks in Indonesia presents a complex challenge, particularly within the context of the Food Estate Program. On the one hand, Indonesia has vast agricultural land that has yet to be fully utilized by local farmers. On the other hand, various regulations, such as Law No. 25/2007 on Capital Investment (UUPM) and Presidential Regulation No. 77/2007 on Closed and Open Business Sectors, provide opportunities for investors, including foreign entities, to control a significant portion of agrarian resources, including agricultural land. This raises concerns regarding its impact on Indonesian farmers, particularly small-scale rice farmers, who are key contributors to national food production (WALHI, 2024).

In the context of the Food Estate Program, when foreign investors gain control over large portions of agricultural land, there is a risk that local farmers will lose access to the land they need to sustain national food production. The situation is particularly concerning for small-scale rice farmers, as regulations allow foreign investors to hold up to 95% capital ownership in

rice cultivation, potentially threatening their livelihoods. This could undermine food sovereignty and negatively impact the well-being of farmers, who are the backbone of Indonesia's agricultural sector.

Striking a balance between increasing agricultural productivity through investment and protecting local farmers' interests is crucial. The legal framework must provide adequate protection for farmers while promoting responsible and sustainable investment. Open discussions and collaboration among the government, investors, and farming communities are essential to finding solutions that enable the Food Estate Program to develop without harming farmers or jeopardizing national food security. Additionally, continuous evaluation and regulatory adjustments are necessary to ensure that legal provisions support sustainable agricultural development in Indonesia.

b. Increased Risk of Conflict

If government regulations on Food Estates favor investors over farmers, there is a significant risk that conflicts similar to those seen in large plantations will be repeated within the Food Estate Program. Land and natural resource disputes have been sensitive issues in Indonesia for decades, with numerous major conflicts arising between investors or large companies and local communities or farmers. Key issues include land access, fair compensation, and environmental degradation, all of which have historically been major sources of conflict.

Prioritizing foreign or large-scale investment in the Food Estate Program while neglecting the rights and interests of local farmers could exacerbate social tensions and conflicts. If farmers feel their rights are being ignored or that they are not receiving equitable benefits from the program, they may resist through protests or other forms of opposition. Such conflicts could negatively impact social stability, food security, and regional economic growth.

To prevent such conflicts, the government must ensure that Food Estate regulations fairly accommodate the interests of local farmers. This includes provisions for adequate compensation for affected landowners, protection of local communities' land rights, and transparency in the investment process. Open dialogue and consultation between all stakeholders—including the government, investors, and local communities—are essential for preventing disputes. With a balanced and sustainable approach, the Food Estate Program can contribute positively to national food security without compromising farmers' rights.

c. Shift in Agricultural Character and Weakening of Food Sovereignty

If regulations provide excessive privileges to corporations and wealthy individuals in managing Food Estates, Indonesia's agricultural sector risks shifting from a farmer- and family-based system to a corporate-controlled model. Under such circumstances, large investors may dominate agrarian resources, including land and

infrastructure, thereby reducing local farmers' control and access to their own land. This transformation could centralize decision-making about food production—what to produce, how to produce it, and for whom—based on profit motives rather than the need to ensure national food security and farmers' welfare.

This shift could significantly weaken Indonesia's food sovereignty. When food production is controlled by large corporations or private investors, the country becomes more vulnerable to global price fluctuations and foreign policies that may influence food supply. Furthermore, local farmers—especially those involved in staple food production—may face reduced access to crucial agricultural resources such as land and water, directly impacting their livelihoods and economic stability.

To address these concerns, the government must formulate balanced regulations that facilitate investment and agricultural growth without compromising food sovereignty or farmers' welfare. Policies should prioritize the protection of farmers' rights and promote family-based agriculture to ensure that Indonesia's food production remains under local control, thereby enhancing long-term food security.

d. Price Control by Investors

If the government fails to regulate the distribution of production from the Food Estate Program effectively, investors could become dominant market price setters. This occurs when they leverage their control over domestic sales or

exports to set prices that serve their interests. In such a scenario, financiers with substantial control over large-scale food production could exploit their market position to manipulate prices, often at the expense of consumers and local farmers.

This could lead to unfair pricing, where food prices are determined by corporate interests rather than the economic realities faced by farmers and consumers. Small-scale farmers, in particular, may be forced to sell their crops at extremely low prices to financiers, making it difficult for them to cover production costs and sustain their livelihoods. As a result, rural economic inequality could worsen, and the sustainability of farmer-based agriculture could be threatened.

To prevent this outcome, the government must implement regulations that ensure the fair distribution of Food Estate products, prioritizing national interests and the well-being of local farmers. Strict oversight of unfair trade practices and monopolistic control by financiers should be integral to the food distribution strategy. This will help maintain stable food prices, protect farmers from exploitation, and uphold Indonesia's food sovereignty.

e. Environmental Degradation

Although the Food Estate Program aims to boost food production, it has also sparked controversy due to its environmental impact. One of the most significant concerns is environmental degradation. Activities associated with the

program, such as deforestation and peatland conversion into agricultural land, have led to the loss of natural habitats for various plant and animal species (Mutawalli et al., 2023). Additionally, the excessive use of chemical fertilizers and pesticides can contaminate soil and water sources, disrupt aquatic ecosystems, and degrade overall environmental quality.

These challenges highlight the need to balance food production objectives with environmental conservation. The implementation of sustainable agricultural practices and green technologies is crucial to increasing productivity while minimizing ecological damage. By adopting environmentally friendly approaches, Indonesia can achieve the goals of the Food Estate Program while preserving its rich biodiversity and unique ecosystems.

It is essential to ensure that national food security does not come at the cost of environmental destruction. Sustainable agricultural development should be a core principle in implementing the Food Estate Program, integrating strategies that protect Indonesia's natural heritage while meeting food production needs.

D. CONCLUSION

Legal regulations related to the Food Estate Program in Indonesia have undergone several changes, starting from Minister of Environment and Forestry Regulation Number 24 of 2020 to its revision in Minister of Environment

and Forestry Regulation Number 7 of 2021. This program is a key government initiative aimed at addressing potential food crises and enhancing national food security. However, these regulatory changes have sparked controversy, particularly concerning the use of forest areas, especially protected forests.

Critics argue that the regulations are not fully aligned with existing laws, particularly regarding the utilization of timber in protected forest areas. Although revisions have been made to address these inconsistencies, careful consideration is essential when regulating large-scale land use, such as the Food Estate Program, to prevent excessive deforestation—which had already reached 2.8 million hectares by 2024—and to ensure consistency with climate change mitigation efforts.

The Food Estate Program in Indonesia has brought significant positive impacts, including opening new agricultural land, attracting investment, boosting the economy, and strengthening national food security. However, several negative impacts must also be taken into account, such as potential conflicts with local farmers, shifts in agricultural practices that could weaken food sovereignty, and the risk of price manipulation by financiers. Additionally, the program poses environmental risks, particularly deforestation and land conversion.

Therefore, it is crucial to develop well-balanced regulations that consider the interests of local farmers, uphold food sovereignty—which is

the second goal of the Sustainable Development Goals (SDGs)—monitor the fair distribution of agricultural products, and prioritize environmental sustainability to strengthen national food security.

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