Public Perception of the Food Estate Program of Cassava Cultivation as a Strategic Logistic Reserve in Realizing Regional Food Security in Gunung Mas Regency, Central Kalimantan

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Abstracts

This research examines the implementation challenges of Indonesia's Strategic Logistics Reserve Development Program (CLS), specifically focusing on cassava cultivation in Gunung Mas Regency. Launched as part of the 2020-2024 National Strategic Program (PSN), the initiative aims to address potential food security issues exacerbated by the COVID-19 pandemic, land degradation, and climate change. The program's primary goal is to develop food estates to enhance national food security. The study employs a mixed-methods approach, including interviews with key stakeholders, analysis of program documentation, and community surveys to assess the program's effectiveness and impact. Key findings reveal significant obstacles, including policy misalignment, unsuitable land conditions for cassava, inadequate infrastructure, and a top-down implementation strategy that lacks local community involvement.Results indicate that while the program has led to some positive outcomes, such as job creation and increased food independence, it has also faced severe criticism. Issues such as suboptimal cassava growth, environmental damage, and socio-cultural impacts have led to negative public perceptions. The failure to issue a crucial Presidential Decree, poor inter-governmental coordination, and inadequate understanding of the program by local communities have compounded these challenges.Analysis suggests that the program's shortcomings are due to a combination of regulatory delays, environmental mismatches, and insufficient stakeholder engagement. To address these issues, the research recommends a comprehensive evaluation of the program, restoration of damaged lands, enhanced community participation, and stronger environmental safeguards. Improved collaboration between central and regional governments and better alignment of policies and infrastructure are essential for the program's success in achieving its food security objectives.

Keywords: Pregnant Women's Perception, Gestational Diabetes Mellitus, Early Detection Behavior.

Introduction

Law Number 18 of 2012 mandates "That National Food Security Must Be Built Based on Food Sovereignty and Food Independence". Indonesia, which is known as an agricultural and maritime country covering more than 17 thousand islands, has an abundance of natural resources. Optimal management of abundant natural resources will have an impact on the benefit of all its people. There are vast opportunities and possibilities for this nation to use its natural resources to fulfill food sufficiency and ensure national food security (Ahmad, 2022). Food policy was launched by President Joko Widodo as a priority program to create conditions for food independence so that regional resilience can be realized (Yuniar, 2020). It is also hoped that food independence will be able to provide real benefits to society directly in reducing poverty, improving the welfare of farmers and providing food stocks so that they can be self-sufficient in food. The high importance of food independence prompted President Jokowi to instruct three relevant Ministers to realize a food security program, namely the Minister of Defense, Minister of State-Owned Enterprises (BUMN) and Minister of Public Works and Public Housing (PUPR) (Sofia, 2020).

Food security is an inseparable part and has a very strategic role in a country's defense. The Minister of Defense said that the strength of food security is currently no less important than the strength of weapons, food security has a deterrent effect on a nation's defense, because the strength of food reserves determines how a country will overcome prolonged threats (prolonged war, widespread disease outbreaks and embargoes) and natural disasters (Kemhan.go.id, 2020). A prolonged war situation using guerrilla warfare tactics by the TNI and the universal people's defense doctrine (Hamkamrata), requires logistical support which includes defense equipment, food and medicine (Tanjung, 2022). Cassava (cassava) is a food crop that is widely distributed in Indonesia and in the future is capable of becoming a crop that guarantees food security (Pitaloka et al., 2021). Nasir Saleh., et al (2016) explained that "cassava can grow well in all regions in Indonesia, most cassava is planted on dry land with dry climates and dry land with wet climates". In addition, people's need for cassava is increasingly massive along with changes in food patterns. The trend in changing people's "food patterns" is towards increasing consumption of wheat flour compared to consumption of cassava or other carbohydrate sources (corn, potatoes, sago, etc.) (Sutrisno and Edris, 2009). The raw materials for wheat flour are all imported and cannot be grown in tropical climates, while cassava can be grown in tropical climates (Sunarminto and Rozaq, 2010).

Based on data from the Central Statistics Agency (2018), the amount of solid cassava imports reached 308 tons in 2018. This amount is relatively much lower than the value of Indonesian cassava exports which reached 1,433 tons in the same year. However, if we look at the pattern in the last 10 years, the number of imports has experienced an increasing trend. The average import of cassava for the 2014-2018 period reached 4,070 tones/year, which is much greater than the average for the 2009-2013 period which was only 3,064 tones/year. On the contrary, exports show a pattern of shrinkage. In the 2014-2018 period, the average cassava export was only 26,561 tons/year, much smaller than the 2009-2013 period which was still 117,236 tons/year. In 2018, BPS recorded those 375,590 tons of cassava starch worth US$ 185.6 million entered Indonesia as imported goods. Meanwhile, the number of exports in the same period was much smaller, only 8,090 tons or US$ 5.28 million. This means that the ratio of cassava starch imports

reaches 45x that of exports. Similar to cassava solids, the trend of imports of cassava starch has also increased in the last 10 years. The increase in the need for imports of cassava starch is the impact of insufficient domestic production. Not only is it lacking, but cassava production since 2014 has continued to decline.

Based on the 2018 Agricultural Statistics book released by the Ministry of Agriculture, in 2018 cassava production only reached 19.05 million tons, even though in 2014 Indonesia could still produce 23.4 million tons of cassava. This is inseparable from the area of cassava harvested land which also continues to decrease. In 2018, the area of cassava harvested land was only 793 thousand hectares, which is much reduced from 2014 which was still 1 million hectares. This phenomenon is crucial to be resolved by developing upstream to downstream aspects of national cassava development with the consideration that Indonesia has potential food production resources that are prospective enough to be developed. Based on the things above, by increasing national strategic food reserves this can be done through a non-rice food procurement program, namely cassava in new land with relatively cheap investment.

The cassava cultivation development program is a series of actions or strategies established by the government to encourage and increase production and development of cassava cultivation. This policy aims to strengthen the cassava cultivation sector as a source of food, industrial raw materials, and improve community welfare. The overall cassava cultivation development policy aims to increase productivity, efficiency and sustainability of cassava cultivation, as well as improving community welfare. By implementing holistic and integrated policies, it is hoped that a strong cassava cultivation sector can be created that will contribute positively to the country's economy and food security. The Indonesian government has taken several policies related to food in Indonesia. In 2022, the President of the Republic of Indonesia also ratified Presidential Regulation number 125 of 2022 concerning the Implementation of Government Food Reserves. This regulation is based on several previously existing policies such as Law Number 18 of 2012 concerning Food, Government Regulation Number 17 of 2015 concerning Food Security and Nutrition, as well as Government Regulation Number 13 of 2016 concerning Public Companies (Perum) BULOG. These various regulations are a response from the government regarding the need to control and manage Government Food Reserves (CPP), so it is necessary to establish strengthening regulations through a Presidential Regulation on the Implementation of Government Food Reserves (Rahmawati, 2024).

Food Security or Food Estate itself is a popular term for large-scale plant cultivation business activities (>25 ha) (Karso, 2024). Food Estate is carried out with an industrial agricultural concept based on science and technology (IPTEK), capital, and modern organization and management (Agricultural Research and Development Agency, 2011). The food estate program is implemented in various regions in Indonesia, namely North Sumatra, Central Java, West Java, East Java, Central Kalimantan, NTT, Papua and South Papua (Widiastuti et al., 2022). Developing food security is the government's effort to resolve the threat of a food crisis and aims to boost national economic recovery.

The food estate program which will be implemented starting in 2021 in Gunung Mas with an area of 600 ha in the form of production forest with cassava commodities has been declared a failure (Kompas.id, 2023; Bbc.com, 2023; Liputan6.com, 2023; Finance.detik.com, 2024). After

two years, many cassavas did not grow ideally (Kompas.id, 2024). Cassava that is two years old grows stunted, even its roots grow above the ground (Kompas.id, 2023). Of the 600 ha, the Gunung Mas food estate only harvests cassava on 3 ha (Liputan6.com, 2024; Agriculture.go.id, 2024).

Apart from crop failure, Indonesian people's perception regarding food estates is divided into two camps, namely the camp that considers it successful and the camp that opposes it. Based on general trends and content that appears on social media platforms such as Instagram, Twitter and TikTok, there are several perceptions of the Indonesian people regarding the cassava food estate in Gunung Mas. Several communities welcomed the cassava food estate initiative because of its potential to increase local food production and contribute to national food security. They believe that this is a positive step to reduce dependence on food imports. However, some people have concerns regarding the environmental impact of developing land for food estates, especially in areas that may be ecologically sensitive such as Gunung Mas. They are worried about deforestation, land degradation, or other environmental damage that could arise from this project. Some people are concerned because land use for food estates can compete with other important land uses, such as land for nature conservation or other local interests. Some people are also skeptical about the success of the cassava food estate, doubting the implementation, management or maintenance of the project. According to the Regional Secretary of Central Kalimantan Province, Fahrizal Fitri, this skepticism may have arisen from the trauma of the failure of the Million Hectare Land Program several years ago in this area (Jurnalborneo.co.id, 2020).

Based on the data and facts above, research on the cassava cultivation food estate program as a strategic logistics reserve to achieve regional food security, with a case study of community perceptions in Gunung Mas Regency, Central Kalimantan, is important to carry out because it can analyze the extent of the food estate program. Cassava can contribute to achieving food security goals in the Gunung Mas Regency area both socially and economically. This is important to evaluate the sustainability of the program and ensure that its benefits are felt by all levels of society. Through this research, it can be evaluated to what extent the local community is involved in planning, implementing and supervising the food estate program. Community participation is very important in ensuring the success and sustainability of the program. So this research will be an important contribution in understanding the impact and effectiveness of the cassava cultivation food estate program as part of efforts to achieve food security in Gunung Mas Regency and perhaps also in other regions. The aims of this research are; understand the general description of policies and planning programs for developing cassava cultivation as a strategic logistics reserve in the district. Gunung Mas, Central Kalimantan, analyzed public perceptions regarding the cassava cultivation development program as a strategic logistics reserve in the district. Gunung Mas, Central Kalimantan, and analyzing the perspective model of the cassava cultivation development program as a strategic logistics reserve to realize regional food security in the district. Gunung Mas, Central Kalimantan.

Related Works

Food Estate

A number of experts and practitioners conveyed to the government that the problems and challenges in the field of agriculture and food security faced by the Indonesian community, nation, state and government are disruptions in food supplies, decreased demand for agricultural products, the threat of a food crisis and restrictions in production fields. Regarding these problems and challenges, the government has prepared anticipatory plans in the 2020-2024 RPJMN, one of which is the National Food Granary Program (Food Estate).

The Food Estate Program is a government program that has the concept of food development carried out in an integrated manner including agriculture, plantations and even animal husbandry in an area. This policy program is included in one of the 2020-2024 National Strategic Programs (PSN). The development of the Food Estate area is intended as land expansion to increase national food reserves. Currently the Food Estate program has been developed in several areas such as North Sumatra, Central Kalimantan, South Sumatra and East Nusa Tenggara.

Food Estate is a form of business in the integrated agri-food sector, between food, livestock, plantations and food industrial villages. Food Estate is a popular term for plant cultivation business activities carried out with the concept of agriculture as an industrial system based on science and technology (science and technology), capital, as well as modern organization and management on a scale of 785 hectares. Food Estate is directed towards an agribusiness system that is firmly rooted in rural areas based on the empowerment of indigenous/local communities which is the basis for regional development. The priority commodities that will be developed in this food estate are rice, corn, potatoes, cassava, sweet potatoes, peanuts, onions, garlic, and cattle or chickens.

The basic concept of Food Estate is based on the integration of sectors and subsectors in an agribusiness system. Utilizing resources optimally and sustainably, managed procedurally, supported by quality human resources, using appropriate technology, environmentally friendly and with strong institutions. Food estate is directed at an agribusiness system that is firmly rooted in rural areas and based on the empowerment of indigenous communities or local residents which is the basis for regional development (Astika, 2019).

Public Policy

Public policy is everything that the government chooses to do or not do (Dye, 2017). The government does many things, including managing conflict within society, organizing society to conduct conflict with other societies, distributing various kinds of symbolic rewards and material services to members of society, and taking money from society, most often in the form of taxes (Dye, 2017). Thus, public policy can regulate behavior, regulate bureaucracy, distribute benefits, or levy taxes or all of these things at once.

Policy studies often focus on how policies are made, rather than on their content or causes and consequences. The study of how policy is made generally considers the set of activities, or processes, that occur within a political system. The policy process focuses on how policies are made, not on the substance or content of policies (Baumer et al., 2013). This process identifies

various activities that occur in the political system, including problem identification and agenda setting, formulation of policy proposals, policy legitimacy, policy implementation, and evaluation of its effectiveness (Baumer et al., 2013). Agenda setting is deciding what will be decided; that is, what issues will be covered by the media, brought to the attention of decision makers, and identified as problems requiring government solutions (Dye, 2017). The depiction of "bottom-up" policy making emphasizes the role of public opinion in determining the agenda of policy makers. Events, and media coverage of these events, can focus public opinion on issues, problems and crises. But it is not always clear whether opinion shapes policy or policy creates opinion. The "top-down" model of policy making emphasizes the role of national leadership in creating problems and formulating policies (Dye, 2017). The general public has no opinion on many specific policy questions. In opinion polls, Americans express doubt that the government understands that their thinking or actions are in the best interests of everyone.

Mass media, especially television networks, play a major role in agenda setting. By deciding what to report, the media sets the agenda for political discussion (Godwin et al., 2012). Much policy formulation occurs outside formal government processes (Godwin et al., 2012). Policy planning organizations bring together leaders from the world of business and finance, mass media, foundations, leading intellectuals, and top government officials.

The activities of the closest policy makers, the president, congress, executive agencies, and so on attract the attention of most commentators and political scientists (Dye, 2017). But non-governmental leaders, in business and finance, foundations, policy planning organizations, mass media, and other interest groups, may have set the policy agenda and selected major policy goals. The activities of proximate policy makers tend to center on the means of public policy, not on the ends of public policy. The President is expected to provide the initiative in making laws in Congress. Presidential initiatives are usually outlined in an annual state message and followed up (Dye, 2017).

Policy implementation is an important component in the policy making process. Bureaucrats create policy when they are engaged in implementation tasks—making regulations, trying cases, and exercising their discretion. The combination of professional and personal motives biases bureaucrats in expanding the powers and functions of their institutions and increasing their budgets, especially their discretionary funds.

Food Security (Food Security)

Food security is the availability of food and a person's ability to access it, so that the person concerned is not in a state of hunger or feels threatened by starvation (Akhadi, 2022). Various social and political upheavals can occur if food security is disrupted. This condition could also endanger national stability and even bring down the government in power (Bulog.go.id, 2014). If the Government always strives to increase food security for the community, both from domestic production and additional imports, then disruptions to food security and social insecurity which endanger economic stability and national stability can be reduced or even avoided (Bulog.go.id, 2014).

In Indonesia, the concept of food security is outlined in Law No. 7 of 1996 concerning Food. This definition emphasizes five parts in the concept of food security, namely:

1 The provision of sufficient food in terms of quantity (availability aspect), namely that food is available and in sufficient quantity for the community, both vegetable and animal.

2 Fulfillment of food quality (health aspect), namely that the food available or provided meets good quality standards and is suitable for human consumption. This is related to meeting nutritional needs to meet the need for carbohydrates, protein, fat, vitamins and minerals.

3 Safe (health aspect), namely that the food consumed meets health standards for the body and does not contain ingredients that can endanger human health.

4 Equitable (distribution aspect), namely that food is guaranteed to be distributed evenly to each region so that food is easily obtained by the community.

5 Affordable (access aspect), namely that food is possible for people to obtain easily and at reasonable prices.

The Indonesian government through the Food Security Council in collaboration with the World Food Program (WFP) created a district level Food Insecurity Atlas (FIA). The Food Insecurity Atlas was first launched in 2005, then updated again by creating the Food Security and Vulnerability Atlas (FSVA) in 2009 which was based on the approach: food availability, food access and food utilization (Food Security Council, 2009).

Food availability is the physical availability of food in a region, obtained either from domestic production, imports/trade or food aid. Food availability is determined by domestic production, the entry of food through market mechanisms, food stocks held by traders and the government, as well as food assistance from both the government and food aid agencies. Food availability can be calculated at the national, provincial, district or community level (Food Security Council, 2009)

Food utilization refers to the use of food by a household, and the individual's ability to absorb and metabolize nutrients (efficient conversion of nutrients by the body). Food utilization also includes ways of storing, processing and preparing food including the use of water and fuel during the processing process as well as hygienic conditions, culture or feeding habits, especially for individuals who require special types of food, distribution of food within the household according to the needs of each individual (growth, pregnancy, breastfeeding, etc.), and the health priorities of each household member (Food Security Council, 2009).

Cultivation and Utilization of Cassava

According to Haryadi (1995) "Cassava is a plant that can adapt quickly to various environmental conditions and does not require a complex irrigation system on its land so that cassava can grow in various regions in Indonesia. The physical components of cassava consist of the outer skin, inner skin followed by cambium and tuber flesh. Cassava plants have good starch content so they can be used in processed food products. This starch functions as a carbohydrate constituent in cassava plants which is found in the tuber flesh. Starch is of great technical functional importance, namely its ability to form gels and increase viscosity. These functional properties are largely determined by the amylose and amylopectin content in starch. "The high amylopectin content of cassava starch makes it have good gel-forming ability and viscosity." According to

Haryadi, 1995, "Cassava plants are an important source of carbohydrates after rice, corn and sago. In Indonesia, cassava is included in the food crop group even though this commodity can be used for various industrial and feed purposes. Half of cassava production in Indonesia is used for the food industry (51.9%), while the rest is used for industry/export (39.4%), direct consumption (4.3%), and others (Balitkabi, 2017). As a food ingredient, cassava can be consumed directly after being burned, boiled, fried, or after being fermented into tape. Cassava is also usually processed into various foods such as getuk, sawut, gatot, gobet, Kremes, or chips with various flavors and in the form of semi-finished products in the form of starch (tapioca flour), cassava, chips, cassava flour, or MOCAF flour (modified cassava flour). These semi-finished products can then be processed into various foods including crackers, wet cakes/crackers, bread, noodles and cassava rice."

National Strategic Food Reserves

Strategic food supplies that are managed or controlled by the state are the definition of national strategic food reserves. National strategic food reserves must be able to be stored for a certain period of time, have good quality, and be suitable for consumption. The Central Government, Regional Government, and society are the basis for the formation of national food reserves. Apart from being able to be consumed directly, cassava can be processed into raw materials for the food industry so that it is suitable to be used as a national strategic food reserve. Cassava can also be used as a means to accelerate the diversification of food consumption as stated and become an important direction in Presidential Regulation Number 22 of 2009 concerning the Acceleration of Food Diversity. Cassava can be used as a means to implement Ministerial Regulation No. 65/Permentan/Ot.140/12/2010 concerning Minimum Service Standards for Provincial and Regency/City Food Security, providing minimum provincial food reserves of 200 tons of rice equivalent, and Regency/City food reserves minimum 100 tons of rice equivalent.

The importance of food reserves in facing a prolonged war situation plays a very important role, the TNI will apply guerrilla warfare tactics and the state will apply the doctrine of universal people's defense (Hankamrata) which requires the availability of sufficient supplies of food reserves, therefore in addition to defense equipment, medicines and food became an important and determining factor in supporting the tactics and doctrine of the war.

Food ingredients are produced as strategic food reserves to expand the availability of national staple food stocks for 120 days in 2024/2025. With an estimated population of 280 million people and a standard carbohydrate nutritional intake (AKG) of 300 grams/day/head, 10 million tons of carbohydrates equivalent to 40 million tons of cassava can be used to increase the availability of a country's staple food for 120 days, which is the goal of the Food Reserve Program. National Strategic. Cassava-based food ingredients in the form of tapioca flour and MOCAF flour, which function as a substitute for imported tapioca and as a flour mixed with wheat, are the products produced from this program. Procurement of strategic food stocks is carried out in accordance with company principles under the responsibility of the Strategic Logistics Reserve Center (PCLS) which is managed militarily by the Reserve Forces (KOMCAD).

Perception

According to Triana (2015:36), perception is a process that occurs within individuals when responding to their environment through thought and feeling processes which then become the basis for considering their behavior. Perception can also be interpreted as a person's view of their environment which is influenced by the personality and characteristics of a person in their environment. If the object of a person's perception of the environment has a positive value, it can influence the perceiver's values, both physically and psychologically. So, in turn it can provide motivation for positive community behavior towards the environment.

According to Martono (2010:27) perception is a way of looking at a problem, and a certain point of view used in observing a phenomenon. Perception is a conceptual framework, a set of assumptions, a set of values, and a set of ideas that ultimately influence an action in a situation. Perception first arises as a result of sensory stimuli and is assisted by experience. Because each person has different experiences, of course there will be various perceptions and messages regarding something that is observed. According to Khaliq Syukhairi, perception can be defined as a person's view of interpreting objects around them. In this case, this view is defined as a person's assessment of the objects they see and feel (Robbins, 2015: 8).

From the opinions of the experts above, it can be concluded that in perception, even though the stimulus is the same, due to different experiences, a person's ability to think is also different, the frame of reference is different, there is a possibility that the results of perception between individuals and others are not the same. . There are two main theories studied about how to understand perception. First, the theory of constructive perception, states that humans "construct" perception by actively selecting stimuli and combining sensations with memory. Second, namely the theory of direct perception, states that perception is formed from obtaining information directly from the environment (Solso, 2017: 120).

Factors That Influence Public Perception

Factors that influence perception are divided into two factors, namely internal factors and external factors. Internal factors include feelings, experiences, thinking abilities, motivation or frame of reference. Meanwhile, external factors include the stimulus itself or the environmental conditions where the perception is occurring. So, the clarity of the stimulus will have a big influence on perception. If the stimulus is in the form of non-human objects, then the accuracy of perception lies more in the individual making the perception because there is no attempt to influence the perceiver in the objects being perceived. According to Robbins (2015), there are three factors that influence public perception, including:

1 The Perceiving Actor, if someone looks at an object or interprets what he sees, that interpretation is greatly influenced by the personal characteristics of the perceiving actor.

2 The target or object, characteristics or targets to be observed can influence what is perceived. Targets are not viewed in isolation. The relationship of a target to its background influences perception such as our tendency to group objects that are close together and are considered similar.

3 The situation, looking at the context of the object or event in this case is very important, because environmental elements influence our perception.

Thus, in essence, public perception is a process that begins with receiving information with the senses regarding a stimulus. The stimulus is then received by a group of people who influence each other in the social process, thereby producing something meaningful for the individual regarding the information received in their environment.

Methodology

This researcher used a case study research method carried out with a descriptive approach. Case study research consists of contextual analysis of conditions or several events and their interrelationships (Cooper and Schindler, 2017). Descriptive research is carried out by collecting data in a structured and systematic manner, existing facts and the latest information according to the conditions or description at the time the research was carried out. This research was conducted in Gunung Mas Regency, Central Kalimantan. While the approach used depends on the type of data, this research is considered qualitative research (Moleong, 2006). The object studied in this research is the public's perception of the cassava cultivation development program as a strategic logistics reserve to realize regional food security in the district. Gunung Mas, Central Kalimantan. The research stages carried out in Gunung Mas Regency, Central Kalimantan in this study are in accordance with Figure 1 below.

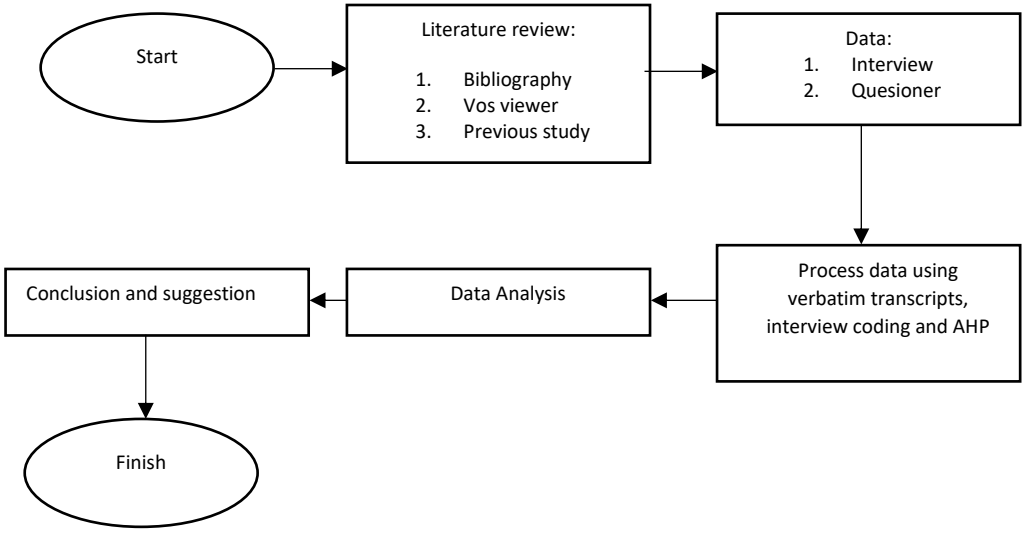


Figure 1 Research Flow Diagram

This research was conducted in Gunung Mas Regency, Central Kalimantan. The Cassava Program as a National Strategic Food Reserve is planned on potential land for cassava land that has not been optimized. One of the locations planned and in accordance with these criteria is in

Gunung Mas Regency, Central Kalimantan, with an area of 30,536.61 ha, of which 536.61 Ha will be implemented in 2020 and 30,000 Ha will be implemented in 2022 which has land fertility and potential conditions as a cassava plantation. . Next, the author took research sources and data from the Ministry of Defense (PCLS), PUPR, KLHK, the Regional Government of Gunung Mas Regency and the Community of Gunung Mas Regency, Central Kalimantan. Researchers use AHP (Analytical Hierarchy Process) as a research instrument. AHP is an important instrument for making decisions on complex multifactor or multicriteria problems. There are several stages in decision making using the AHP method:

1 Determine the main problem and expected solution.

Create a hierarchical structure starting with the main goal. After the main objective at the top level has been arranged, the next step is to determine suitable criteria (sub-criteria can be added if necessary), then determine alternative decisions. In accordance with figure 2.

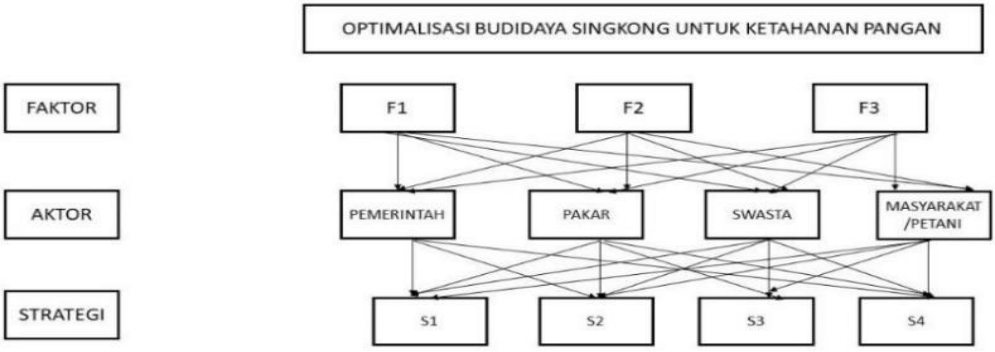


Figure 2 Decision Analysis Hierarchy

Source: Saaty (1980)

Create a pairwise comparison (paired comparison matrix) to determine the influence of each element on the main objective or criteria at the level above it. This matrix is simple because comparisons are made through judgment from respondents by assessing the level of importance of an element compared to other elements. The results of the comparative assessment of each element are in the form of a number from 1 to 9 which shows the comparative level of importance of an element. The value 1 is given when an element in the matrix is compared with itself. Meanwhile, a value of 9 has definitely been proven to be acceptable and the intensity between the elements can be differentiated. The results of the comparison are listed in the cell corresponding to the element being compared.

Perform an eigenvector consistency test. Priority can be said to make sense if the matrix derivative results are consistent or close to consistent. Therefore, it is necessary to carry out a consistency check. After carrying out pairwise comparison, inconsistencies can be found. For example, if there are three criteria to be compared, the decision maker assesses that the first criterion is slightly more important than the second criterion, and the second criterion is assessed as slightly more important than the third criterion. Inconsistency occurs if the decision maker

assesses that the third criterion is as important as the first criterion or the third criterion is judged to be slightly more important than the first criterion. The eigenvector consistency test can be shown with the consistency index (CI) with the formula in the following equation

According to Sugiyono (2014) the data source is qualitative, and will develop later after researchers are in the field. The resource person is a person who has authority over the social situation and object under study, and data sources are selected purposively. Primary data is obtained through interviews, direct observation in the field and documentation within the Ministry of Defense (PCLS), PUPR, KLHK, Regency Regional Government Gunung Mas and the Community of Gunung Mas Regency, Central Kalimantan related to cassava cultivation activities in Gunung Mas Regency, Central Kalimantan, as well as other related components. The primary data taken in this research are people selected according to the field of research and who master the material and have capacities related to PCLS, namely: Head of PCLS Ministry of Defense of the Republic of Indonesia, Head of Security and Public Relations Division of PCLS Ministry of Defense, Head of Planning and Development Division of PCLS Ministry of Defense, Head of PCLS Plant Management Division, Ministry of Defense, Head of PCLS Facilities and Infrastructure Division, Ministry of Defense, Ministry of Agriculture Staff, PUPR Staff, KLHK Staff, Head of Gunung Mas Subdistrict, Head of Gunung Mas Subdistrict, Field implementers of the cassava cultivation program, Community Leaders and Farming Community, workers and those around the cultivation location cassava. Sugiyono (2014) said "secondary data sources are researchers obtaining data sources indirectly, for example: through other people or through documents". This data was obtained through collecting literature or literature studies, which are related to the Cassava Cultivation Program in Gunung Mas Regency, Central Kalimantan by the Ministry of Defense in Efforts to Prepare Strategic Logistics Reserves.

This research uses purposive sampling to ensure that the selected sample has knowledge, experience, or views that are relevant and rich in the research context. Some common reasons for using the purposive sampling method with sources are because they have special knowledge or expertise that is relevant to the research topic, so they can provide in-depth and informative insights. Sources are selected to represent certain groups who have experiences or perspectives that are important to understand in research, such as key figures in an organization or community. The resource persons consist of 4 elements, namely (Government, Experts, Private, Community/Farmers). Where each element is as follows:

a. Government (Sepang District Head, Gunung Mas Regency and Sepang City Village Apparatus)

b. Sepang District Head Mount Mas = Mr. Sayusdi, S.Pd., M.Pd

c. Sepang City village officials = Blessing

d. Sepang City village officials = Since

e. Expert (Head of TU PCLS Ministry of Defense, Head of Plant Management PCLS Ministry of Defense, Manager of PLN UP3 Palangkaraya, Central Kalimantan)

f. Kemhan TU PCLS Kemhan = Colonel Czi Wahyu Widisetyanta, S.Si., M.Si,

g. Head of PCLS Plant Management Division, Ministry of Defense = Colonel Czi Dwi Hariyono

h. Manager of PLN UP3 Palangkaraya = Erwin Gunawan

i. Field Supervisor = Lieutenant Colonel Inf, Drs. Sukarjohan Sitompul, M.Si,

j. Self-employed

1. Entrepreneur 1 = Delfris. i. Dohong

2. Entrepreneur 2 = Asmak Siswanto, S.H

3. Entrepreneur 3 = Kristian E.Manan

4. Entrepreneur 4 = Beautiful

K. Farmer

1. Farmer 1 = Upik S.

2. Farmer 2 = Hermanto

3. Farmer 3 = Hermaklis Rusidi

4. Farmer 4 = Small

The data collected or obtained is mostly qualitative data, which comes from interviews, so the analysis technique also uses qualitative techniques. However, there is quantitative data on the value of survey results for those interviewed in determining the percentage weight value of criteria and alternative decisions using the AHP method, as well as quantitative data from the company's internal financial documents. Analysis with qualitative and quantitative data has the aim of producing an idea or value that is represented to competent parties and is directly involved in the company's project and financial activity processes. Interpretation of what is found and drawing final conclusions using logic or systematic reasoning. The following are the stages of data analysis carried out.

Not all data obtained by researchers is always correct or valid according to existing reality. Therefore, researchers must check whether the data obtained is valid or not. There are four criteria for checking data validity (Moleong, 2020). According to Moleong (2002) there are four types of triangulations to check the validity of data, namely:

a. Source triangulation: testing the credibility of data by comparing different sources. In this research, source triangulation was carried out by conducting interviews with several different people to obtain the same data results

b. Technical triangulation: testing the credibility of data by comparing several different techniques against the same source, in this research by comparing interview results with observation and documentation results.

c. Researcher triangulation: testing the credibility of data by using other researchers or observers to double check the data obtained. This use of other observers really helps reduce the

possibility of distortion in data collection caused by the inclusion of subjective elements from the researcher.

d. Theoretical triangulation: testing the credibility of data by utilizing theory with the assumption that certain facts cannot be checked for the degree of confidence with one or more theories, meaning that if the researcher has carried out an analysis that produces a pattern of relationships and explanations then it needs to be compared with other explanations with the same theme. through an inductive approach or by using logic.

Results and Discussion

Data Processing Results

The Tolerance Validity value limit for AHP weighting is ≤ 10% (0.1) (Mustakim, 2018). From the strategy inconsistency results above, it was found that the strategy results were valid because ≤ 10% (0.1). So that a ranking can be made for the strategies above. The next step is to calculate the ranking weights for the selected alternatives using super decisions. So, the list of strategies based on the weight of the resource person is as follows:

1. Analyzing Efforts and Obstacles in the Cassava Cultivation program (0.371691)

2. Analyzing the socio-economic impacts of society (0.278055)

3. Analyzing financial feasibility by comparing results in cassava cultivation by the local Ministry of Defense (0.181876)

4. Analyzing the impact caused by food security (0.168379).

So that all strategies to achieve food security for cassava commodities in Gunung Mas Regency, Central Kalimantan are valid because all the values are ≤ 0.1. General Description of Policy and Planning for the Cassava Cultivation Development Program as a Strategic Logistics Reserve in the District. Gunung Mas, Central Kalimantan

Cassava is another food crop that is being developed by the Government in Gunung Mas. In the process, several stakeholders are involved in the framework of becoming a strategic logistics reserve food crop. Yuliati et al., (2019) explained that cassava or cassava plants have a large role in trade and consumption both domestically and abroad. Zuhry et al., (2012) stated that cassava is the third staple food in Indonesia after rice and corn and is needed to support animal feed, industry and pharmaceuticals.

Cassava is a tuber plant that can grow in the lowlands with not too high rainfall. Usually, this plant is harvested after it is around 10 months old. Indonesia's cassava production ranks fifth in the world. Indonesian cassava production in 2018 reached 19.34 million tonnes with a planting area of 0.79 million ha (Pusdatin Ministry of Agriculture, 2020). This number has made Indonesia one of the largest producers of cassava in the world. However, if we look at the development of harvested area and cassava production in Indonesia, in the 2013-2018 period there was a decrease in harvested area from 1.07 million ha (2013) to 0.79 million ha (2018) and a decrease in cassava production from 23.94 million tones (2013) to 19.34 million tones (2018).

Various tubers such as cassava and yam have quite broad prospects for being developed as substitutes for rice and for being processed into prestigious foods. This activity requires support for the development of process and processing technology as well as good marketing strategies to change the image of inferior food to normal or even superior food. Efforts to increase added value through agro-industry, apart from increasing income, also play a role in providing diverse and quality food.

Aspects of safety, quality and diversity are conditions that must be met to fulfill the population's food needs adequately, evenly and affordably (Rachman and Ariani, 2002). Agro-industrial activities which are an integral part of the agricultural sector have an important contribution to the industrialization process, especially in rural areas. The effect of agro-industry is not only transforming primary products into processed products but also the work culture from traditional agriculture which creates low added value to a modern industrial work culture which creates high added value (Suryana, 2004). Agro-industry development policies, including investment policies, technology and location of agro-industry, must receive primary consideration (Yusdja and Iqbal, 2002).

National Cassava Production

Basically, the growth and production of cassava is based on several important things a) Climate, and b) Soil. Hidayati and Suryanto (2015) explained that there are important elements that play a role in increasing agricultural success and productivity, including climate and soil. Rohimah et al., (2015) explained that in research climate plays a major role in agricultural production results in an area.

1. Climate

Cassava or cassava grows optimally at an altitude of 10-700 m above sea level, rainfall 760-1015 mm/year, air temperature 18-35 oC, humidity 60-65%, sunshine duration 10 hours/day. For optimal production, cassava requires rainfall of 150-200 mm every 1-3 months, rainfall of 250-300 mm every 4-7 months, and rainfall of 100-150 mm during the next growing season until the pre-harvest phase. Based on rainfall from 1949 to 2009, cassava can grow well throughout Indonesia.

In Indonesia, cassava is mainly planted in dry land with a dry climate and dry land with a wet climate. Based on Oldeman's classification, production center areas have climate types C (5-6 months wet and 4-6 months dry), D (3-4 months wet and > 6 months dry) and E (< 3 months wet), several types B (7-9 months wet and 2-3 months dry). In dry climates, cassava is usually planted at the beginning of the rainy season (October-December), while in humid climates cassava can be planted at any time, depending on the distribution of rainfall.

2. Land

Dry land in cassava production centers has different types of soil and fertility. Suitable soil is sandy or dusty soil with a small amount of clay content. In general, cassava is very suitable to be planted in loose soil to optimize tuber development and make harvesting easier.

The main problems of cassava centers in Lampung, parts of West Java and Central Java are high soil acidity, leaching of nutrients and Al toxicity, low soil organic matter, low fertilization efficiency, susceptibility to erosion disease and very low potential and available P and K content. The main problems with Alfisol soil in East Java and Central Java are low soil organic matter, sensitivity to erosion, low P content, K content varying from very low to very high, soil pH varying from neutral to high (pH > 8.0). The optimum soil pH for cassava is .5-8.0, even though cassava is actually planted in acid soil in Sumatra and Kalimantan with a soil pH of around .0, and continues to grow well in the dry land of East Java with a pH >8.0, even though production results are less than optimal.

Strategic Logistics Reserve Program Policy (Food Estate)

The Strategic Logistics Reserve (CLS) is a form of implementation of Law Number 3 of 2002 concerning National Defense, the development of defense as a resource and effort to create a unified national defense with the aim of protecting the entire nation and all of Indonesia's bloodshed, advancing general welfare, and making the nation's life intelligent, participating in implementing a world order based on freedom, eternal peace and social justice, are important things that must be built on an ongoing basis.

The Indonesian government was aware long before there was a statement from the World Food Organization (FAO) that there would be a potential food crisis as a result of the prolonged Covid-19 pandemic, land decline and climate change. It is known that the Indonesian Government led by President Joko Widodo established the 2020-2024 National Strategic Program (PSN) to build food estates, as a form of concrete implementation to address building food barns in order to overcome problems that will occur.

In order for the process to run quickly and precisely, a number of ministries were deployed, including a) the Ministry of Environment and Forestry (KLHK) to deal with environmental issues, b) the Ministry of Agrarian Affairs and Spatial Planning for land ownership issues at food estate locations, c) the Ministry of Public Works and Public Housing for development activities, d) Ministry of Agriculture as the leading sector food estate program and e) Ministry of Defense as a logistics reserve program which will later be directed at food reserves in times of war or disaster.

Referring to Article 6 of Law Number 3 of 2002 concerning National Defense, it states that national defense is carried out through efforts to build and foster the deterrence capabilities of the state and nation, as well as dealing with every threat. In this law, it is understood that threats consist of military, non-military and hybrid threats. Defense Affairs is the main task of the Ministry of Defense of the Republic of Indonesia, abbreviated as Kemhan RI. The Ministry of Defense is led by a Minister of Defense. National defense is not just about providing weapons/alutsista, but maintaining and guaranteeing national defense and security because food reserves are a deterrent effect factor for defense, for this reason the Ministry of Defense formed a working unit under it called the Strategic Logistics Reserve Center.

The government's regulatory policy in the Food Security/Food Estate program actually already has a regulatory basis. Based on Law no. 18 of 2012 concerning Food explains that "Food security is the condition of fulfilling food for the country and individuals, which is reflected in

the availability of sufficient food, both in quantity and quality, safe, diverse, nutritious, equitable and affordable and does not conflict with religion, belief, and community culture, to be able to live healthy, active and productive lives in a sustainable manner. These regulations have been amended by Law Number 11 of 2020 concerning Job Creation (State Gazette of the Republic of Indonesia of 2020 Number 245, Supplement to State Gazette of the Republic of Indonesia Number 6573). Other policies that support this program are PP Number 17 of 2015 concerning Food Security and Nutrition, Presidential Decree Number 66 of 2021 concerning the National Food Agency, and Presidential Decree Number 125 of 2022 concerning the Implementation of Government Food Reserves. There are several other policies that are used as references

Looking at regulations related to food reserves, according to Hogwood and Gunn's (1986) approach, the cassava cultivation development program was not successful due to unfavorable external conditions accompanied by policies that were not in sync with previous policies. As explained in the previous table, the cassava cultivation development program implemented in Gunung Mas Regency has not yet seen the applicable regulations where the cassava commodity is not yet included in the government's food reserve type regulations. Apart from that, the policy relating to the cassava cultivation program is still in the form of a Policy Manuscript which legally does not yet have full legal force. This is a challenge in itself for the government, especially as this program involves many parties from the government to levels of society.

According to Grindle, the success of implementation is influenced by two major variables (Subarsono, 2011), including the content of the policy and the implementation environment. In terms of policy content, it can be seen in the table that policies relating to Government Food Reserves (CPP) and the development of Food Estate areas as well as regulations at the regional level are not in accordance with each other. This proves that there is no synchronization between policy makers at both the central and regional levels in implementing policies.

Meanwhile, in terms of the policy environment involving several interested actors in the implementation of the cassava cultivation development program, at least there has been an effort or support to accelerate the implementation of the Food Estate program as well as the synchronization of programs and activities at the BCLS (Strategic Logistics Reserve Agency) and PCLS (Strategic Logistics Reserves Program) Ministry of Defense. This effort was demonstrated by each interested institution. In 2020, of course, this is an indication that the government does not involve local communities in planning and managing food estate land, which is assumed to be more knowledgeable about land characteristics and agricultural patterns that are suitable for implementation. Cassava commodities planted in this area cannot grow well because the soil type is not suitable. The majority of the food estate land in Gunung Mas Regency is 70 percent sandy and rocky, so the cassava plantation covering an area of 600 hectares has stalled or the harvest has failed (BBC News, 2023). This has an impact on the community's economy where apart from the small profits that can be generated from the program, local communities also have to lose their livelihood from forest products due to the conversion of forest land into a food estate.

This top-down approach can also be seen from the central government, namely the Ministry of Defense, which does not involve the Regional Government of Gunung Mas Regency in planning or environmental studies of the food estate program. Basically, food estates are developed in

forest areas which become water reservoirs as well as upstream of the Tambi and Tambun Rivers. Clearing of forest land without considering the ecological impact caused flooding which hit four villages in the food estate area. Diversion of land use also causes environmental damage that can be detrimental to local communities, such as depleting water sources for community needs. The lack of involvement of local governments and local communities means that the side effects of this program are not considered by the Ministry of Defense when developing food estate areas.

Another problem is the limited facilitation of agricultural development, facilities and infrastructure in the food estate program. Local farmers do not receive assistance or socialization from the central government regarding the benefits of the program and land management so that farmers do not have sufficient knowledge to manage the land and food seeds that have been provided by the government (BBC News, 2023). Apart from that, the food estate program is not balanced with the availability of adequate agricultural infrastructure, such as irrigation, road access, and agricultural tools and machinery. Poor road access also hinders farmers in distributing fertilizer and seeds needed as a supporting aspect of cultivation, this means that many food crops also experience nutritional deficiencies. The reason for the limited facilitation is the lack of budget and the absence of regulations related to institutions that handle sustainable food estate development. These limitations can make land management and harvest results from food estate programs less than optimal and many of these can result in crop failure.

Another critical point is the risk of proletarianization of farmers, which also has implications for the loss of the family farming system based on local wisdom. This is because most of the capital for Gunung Mas Regency's food estate comes from private companies, namely PT Banua Gemilang which is affiliated with PT Agro Industri Nasional, so that the program has the potential to be fully managed by corporations, not farmers as planned by the government (Majalah Tempo, 2022). This will certainly threaten the sustainability of farmers who are oriented towards a family farming system because access to food commodity management will be more centralized in food estates managed by corporations. The program which initially aims to increase the bargaining power and independence of farmers in producing food loses its essence if agriculture is only managed by food companies (corporate based food and agricultural production), even though the program should actually be based on the needs of local farmers and indigenous communities who are also actors. main role in developing the food estate area. This is of course paradoxical with the aim of the food estate program, namely encouraging food security based on collaborative local wisdom. Based on this, the level of readiness for managing the food estate program in Gunung Mas Regency can be said to be quite low.

Public Perception of the Cassava Cultivation Development Program as a Strategic Logistics Reserve in Gunung Mas Regency, Central Kalimantan

Gunung Mas Regency Community Perception Regarding the Impact of Food Estates

Gunung Mas' agricultural profile has been mapped since 2016. The Central Statistics Agency has announced a moratorium on harvest area and food production because the calculation method is being revised. In 2018 it became clear that. The Central Statistics Agency is able to provide logging and production figures based on the results of the Area Sample Framework (KSA)

method. Based on KSF results, Gunung Mas Regency GKG rice production in 2020 was 1,494 tons and the harvest area was 889 hectares.

In 2020, Gunung Mas Regency's vegetable production will be dominated by long beans, cucumbers, chilies and eggplant. Compared with 2019, production without raw materials increased in 2020. Capizos production in 2020 was 244 cents, harvest area was 57 hectares, and average productivity was 4.28 quintals per hectare. Compared to 2019, production fell by 225 quintals, 47.97 percent), productivity fell by 53.48 percent, and harvested area fell by 11.76 percent. Regarding agricultural crops, oil palm was also the most widely produced crop in 2020. This is reflected in the total oil palm production in 2020 of 100,347 tonnes on an area of 72,760 hectares. It is known that plantation crops have the highest percentage compared to other crops. Which can be described in groups as follows:

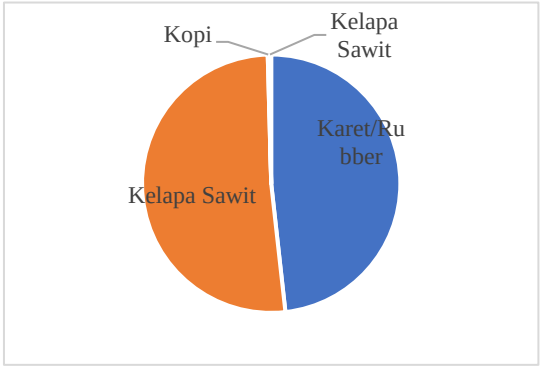


Figure 3. Gunung Mas Regency's Biggest Commodity

Source: Gunung Mas District Agriculture Office (2023)

Referring to the 2020 Policy Text for the Cassava Program as a National Strategic Food Reserve of the Ministry of Defense, the development of cassava cultivation is one of the programs implemented with the aim of becoming an alternative in terms of food reserves. This program is implemented in several areas, one of which is Gunung Mas Regency. One of the interesting things is how the local community perceives the Cassava Cultivation Development Program as a Strategic Logistics Reserve program. Of course there will be dynamics in society according to individual perceptions.

Field Supervisor for the Cassava Cultivation Program in Gunung Mas Regency, Lt. Col. Inf. Drs. Sukarjohan Sitompul, M.Si, said that the Cassava Cultivation program by the Ministry of Defense is a food security/food estate program initiated by the Ministry of Defense on direct orders from the President where the Minister of Defense is the leading sector, and the selection of cassava plants as plants to be developed, must go through a process study at the Ministry of Defense involving a team of experts/professionals from outside. As is known, the concept of developing a cassava cultivation program is an activity that starts from on-farm to product processing.

Most of the people of Gunung Mas Regency, through distributed questionnaires and brief interviews, know for certain about the Cassava Cultivation Program initiated by the Ministry of Defense. They clearly hope that the existence of a food estate will increase the economic welfare of local residents, although some residents reject the existence of a food estate. However, some communities or stakeholders do not fully understand the programs and concepts that will be developed. Even though as a field supervisor, Lt. Col. Inf. Drs. Sukarjohan Sitompul, M.Si said that at the beginning before the activity, there was outreach to the surrounding community regarding the Ministry of Defense's plan to develop cassava cultivation, including what the impacts and benefits would be if the program was running in the future. This is in accordance with the statement made by the Head of Sepang District, Gunung Mas Regency, Sayusdi, S.Pd., M.Pd. From the results of the interviews conducted, he did not fully know about the Cassava Cultivation Program initiated by the Ministry of Defense.

"I don't know much about the program, what I know is that there is a plan from the Ministry of Defense in the context of Food Security, wanting to develop cassava cultivation in Gunung Mas Regency." (Mr. Sayusdi, S.Pd., M.Pd. Head of Sepang District, Gunung Mas Regency).

Sayusdi said that several officials/representatives from the Ministry of Defense had met him and explained plans to develop cassava cultivation in Gunung Mas Regency, especially in Sepang sub-district. Next, they asked for permission to carry out outreach to the community around the land they planned to develop. Another goal is to get support from the community.

Figure 4. Field Supervisor's explanation (Sitompul, 2021.) regarding the development of the Food Estate Program in the District. Gunung Mas, Central Kalimantan

In contrast to Erwin Gunawan, Manager of PLN UP3 Palangkaraya, Central Kalimantan, Erwin knows clearly about the food estate in Gunung Mas Regency. “Food Estate is an integrated food development program between agriculture, plantations and animal husbandry in an area. This program was launched by the Government as an effort to prepare for national food security in response to Food and Agriculture Organization (FAO) data regarding early warning of the negative impact of the Covid-19 pandemic on food security. "The Cassava Cultivation Program by the Ministry of Defense is one part of the food estate program." (Mr. Erwin Gunawan, Manager of PLN UP3 Palangkaraya, Central Kalimantan).

Analysis of public perceptions of the policy plan for the Cassava Cultivation Development Program as a Strategic Logistics Reserve will vary greatly depending on various factors, including the level of information received by the community, the direct impact of the program, and the socio-economic conditions of the community in Gunung Mas Regency, Central Kalimantan.

Perception is a person's ability to organize observations, this ability includes: the ability to differentiate the ability to group and the ability to focus (Sarwono, 1983). Meanwhile, Leavit (in Sobur, 2003: 445) says that perception in the narrow sense is vision, how someone sees something, while in the broad sense it is view or understanding, namely about how someone looks or sees. One of the factors that influences the perception of the people of Gunung Mas Regency towards the cassava cultivation development program in the region depends on the impact they receive, both positive and negative impacts.

Perception of the Impact on Community Socio-Economics

The food estate project which has been running since 2020 is considered to be in line with applicable ethical principles and meets moral standards accepted in society, especially indigenous communities. Farmers who join are encouraged by the government to adopt an agricultural system involving hybrid seeds, fertilizers and pesticides (Patel, 2012; Fahira et al., 2022; Tempo, 2019) until there are indications of procuring free tools referring to the global market sector. Traditionally, farmers have a wide range of moral values and beliefs; However, their willingness to participate in agricultural industrialization shows that the role of farmers as entrepreneurs and technicians must take priority over as stakeholders who handle important aspects of agriculture in the public domain (Chelsy et al., 2023). Economically, if seen from public perception, there are three positive impacts, namely contributing to income, economic diversification, and increasing people's purchasing power.

"At the start of land clearing at the end of 2020 until March 2022, when people took part in work either as workers or as food sellers, economic and social changes were quite felt. However, after that the community no longer felt it, and we have high hopes for the cassava cultivation program carried out by the Ministry of Defense, so that it can have a positive impact on the economic and social aspects of the surrounding community. "Significant changes to the social and economic aspects of the community have of course not been felt by the community, but I am sure that if the program runs, it will have a very positive impact on the social and economic aspects of the people of Gunung Mas Regency, Central Kalimantan" (Mr. Sayusdi, S.Pd., M.Pd. Head of Sepang District , Gunung Mas Regency).

At the start of land clearing at the end of 2020 until March 2022, the local community admitted that many were actively involved in work. Other impacts are also felt by people who sell food. So that people directly feel the economic impact of having a food estate. Likewise with the opinion of the Head of the PCLS Plant Management Division of the Ministry of Defense, Colonel Czi Dwi Hariyono.

"If this food estate program is running, of course it will require a large workforce, of course the priority is the surrounding community, from the land clearing process to planting cassava later. Not to mention the need for factory employees, of course this also requires quite a large

workforce. "I am sure there will be big changes related to improving people's living standards in the economic sector and social changes in society related to cassava planting." (Colonel Czi Dwi Hariyono. Head of PCLS Plant Management Division, Ministry of Defense)

If viewed from the aspect of contributing to income, the successful development of cassava cultivation can be a contributor to income for the community so that it is hoped that it will be able to reduce dependence on other economic sectors. This program can also encourage economic diversification in the region by introducing or improving non-related agricultural sectors that support cassava cultivation. Another thing related to the positive economic impact is related to increasing people's purchasing power. If the cassava market is stable and prices are high, farmers and related business actors can experience an increase in purchasing power.

"Basically, the people are happy and even looking forward to their area becoming a place for food reserves, because as we know, the Gunung Mas area is an area where it is difficult to get food and even has to export it" (Mr. Sayusdi, S.Pd., M.Pd. Subdistrict Head Sepang, Gunung Mas Regency).

With the development of cassava cultivation as a strategic logistics reserve, it is hoped that there will be an increase in the income of farmers and society as a whole. This can improve economic prosperity and reduce poverty levels in the area. Public perception of this program will be more positive if they see real economic benefits.

"And as far as I know, until the land was opened, there was no opposition from the surrounding community. There are even some people who work there." (Mr. Sayusdi, S.Pd., M.Pd. Head of Sepang District, Gunung Mas Regency).

From the results of the outreach, it is felt that this Ministry of Defense program is very helpful to the community, especially when the inflation rate is quite high and in general the community's economy is increasingly difficult. Confidence in the positive impact of this program was also conveyed by the field supervisor Lt. Col. Inf, Drs. Sukarjohan Sitompul, M.Sc.

"If this cassava cultivation program runs, I am sure and confident that it will have a positive impact on the economic and social aspects of the surrounding community, and even have a wider impact on Central Kalimantan Province." (Lt. Col. Inf, Drs. Sukarjohan Sitompul, M.Si, Field Supervisor)

The cassava cultivation development program can open up job opportunities for the local community. With the large area of cassava cultivation land that has been provided, it is not impossible that labor absorption will also be greater. This is linear with the concept of poverty alleviation. By increasing the economic potential of cassava cultivation, it is hoped that it will be able to reduce poverty levels in the region. The third point that is a positive social impact of this program is increasing food independence. This program can increase regional food independence, because cassava is an important food source and can be used as a strategic logistics reserve in emergency situations.

Economic growth, especially in areas that receive a direct impact from this program, will be able to increase people's purchasing power. This increase in purchasing power can then also have a positive effect on tax revenues for regional income and from a social perspective, it will improve

education for local communities. By accepting 67,388 people as reserve components (KOMCAD), this program means increasing the provision of employment opportunities and reducing the number of unemployed in local communities. Likewise with the impact of the industry being developed, namely by producing intermediate products in the form of tapioca and MOCAF as well as derivative products which are very widely used both as precursors or components needed in various industries and as composite flour with wheat, this will have a positive influence on increasing reserves. foreign exchange through reduced imports of IDR 26 trillion.

However, public perceptions regarding policies also apparently have a negative impact, both from social and economic aspects. As is the opinion of the Head of Gunung Mas District and also several local residents. Residents said that after activities started to become inactive, the community's condition, both economic and social, no longer felt so good. The community has repeatedly said that they have high hopes for the resumption of the Cassava Cultivation Program spearheaded by the Ministry of Defense, with the hope that it will have a positive impact on the economy and social life of the surrounding community, as stated by the Head of Gunung Mas District.

"However, after that the community no longer felt it, and we have high hopes for the progress of the cassava cultivation program by the Ministry of Defense, so that it can have a positive influence on the economic and social aspects of the surrounding community. "Significant changes to the social and economic aspects of the community have of course not been felt by the community, but I am sure that if the program runs, it will have a very positive impact on the social and economic aspects of the people of Gunung Mas Regency, Central Kalimantan" (Mr. Sayusdi, S.Pd., M.Pd. Head of Sepang District, Gunung Mas Regency)

The factors above need to be considered in conveying information, dialogue with the community, and developing programs so that Food Estate can provide optimal benefits for all parties (Jaafar et al., 2021). Regional governments and related parties need to pay attention to influencing factors in designing effective communication policies and inclusive community participation efforts (Rangkuti and Maksum, 2019). Thus, increasing the public's positive perception of the policy plan for the Cassava Cultivation Development Program as a Strategic Logistics Reserve in the social and economic fields of the community.

From the results of interviews and analysis of Wilson's perception theory (2012), there are several conclusions that can be drawn, including that the food estate program in Gunung Mas Regency has had positive social and economic impacts, such as providing job opportunities, alleviating poverty, and increasing food independence. Apart from that, this program is also expected to increase the income of the local community and overall improve their economic standard of living. However, this program is also faced with various challenges and negative impacts, such as the potential for ongoing land conflicts and dependence on one commodity. Economic disparities can also be a potential problem, if programs are uneven in their benefits and risk increasing economic disparities in local communities. Overall, the food estate program in Gunung Mas Regency has the potential to provide positive social and economic impacts, but is also faced with challenges and negative impacts that need to be managed well.

Perceptions of the Impact of Financial Feasibility with Comparison of Results in Cassava Cultivation

Apart from the socio-economic impact, public perception is also growing as a result of the environmental impact. The Food Estate Project in Indonesia has a large environmental impact, including deforestation, land use change, and excessive water use (Chelsy et al., 2023). This is clearly not in line with the ethical principles of environmental sustainability. This perspective emphasizes that nature is something separate from humans; it exists for the survival and development of human society; what is meant is the human 'environment' and the set of resources that can be exploited for their benefit (Sólon, 2018).

In an interview with Mr. Sayusdi, S.Pd., M.Pd., Head of Sepang District, Gunung Mas Regency, he said that to date, there have been few problems regarding land cleared by the Ministry of Defense (Kemhan). He explained that the waste resulting from land clearing by the Ministry of Defense was piled up on community land. According to him, people are unable to clean the waste manually or with human power. In this context, Mr Sayusdi hopes that the Ministry of Defense will not ignore the needs and demands of the community regarding the impact of land clearing. Attention to the condition of society and efforts to reduce negative impacts on them are important in his view. Thus, he highlighted the need for better coordination between the Ministry of Defense and local communities to deal with the impacts of land clearing activities more effectively.

"Until now, there have been a few problems related to land cleared by the Ministry of Defense because land clearing waste is piled up on community land, because the community is unable to clean it manually/with human power, therefore I hope that the Ministry of Defense will not ignore the needs and demands of the community." (Mr. Sayusdi, S.Pd., M.Pd. Head of Sepang District, Gunung Mas Regency)

This causes peatland microorganisms to disappear and fall easily which will have implications for the condition of processed peatlands, these lands cannot hold rainwater well, resulting in flooding in the Gunung Mas area. The majority of respondents to the questionnaire, who came from the local community of Gunung Mas, said that clearing land for the cassava food estate area made rainwater flow more quickly, especially when the soil was sandy. The mixture of coarse sediment and wood debris at the site has clogged wetlands and waterways. This causes flooding, especially in the Tambun and Tambakung rivers, as well as the Kahayan tributary.

"Now it floods every time it rains in the newly opened cassava plantation area of the Ministry of Defense. Floods have occurred three times since the forest was cut down by the Ministry of Defense. Residents' property, including furniture and electronic equipment, has been damaged and destroyed" (Gunung Mas Farmer)

Based on a report from the Provincial Regional Disaster Management Agency (BPBD). In Central Kalimantan there are 3,642 housing units affected. District BPBD. Gunung Mas has distributed social assistance today to Kel. Teweh which has distributed 7,250 kg of rice. The flood emergency response status has been extended from 16 September to 30 September 2021. In the Minister of Environment and Forestry Regulation Number P.24/MENLHK/SETJEN/KUM.1/10/2020 concerning the Provision of Forest Areas for Food

Estate Development, it is stated that Food Estate is a large-scale food business so as a result it produces negative impacts, namely significant deforestation. Then it caused the peatland ecosystem to be damaged because at the beginning of the construction of the Food Estate program it did not implement new land clearing (Saputra, 2021).

The approach used in the Food Estate Program is a large-scale farming system based on clusters and various commodities and developed based on an integrated production value chain from on-farm to off-farm by applying modern mechanization, digital systems and farmer corporations. Food Estate was established by utilizing all resources optimally and sustainably which are managed procedurally with the support of quality human resources, the application of appropriate technology and environmentally sound and strong institutions. FE is also directed at developing a rural agribusiness system based on the empowerment of indigenous communities or local communities. Production from the Food Estate Program is important to support national food security and exports (Ministry of Agriculture Planning Bureau, 2020).

The area of the former Central Kalimantan Food Estate program called Peat Land Development (PLG) which is potentially suitable for agricultural development is 770,600 hectares. Most of the former PLG program area consists of peat soil ecosystems which function as peat conservation ecosystems (885,517.18 Ha), cultivated peat ecosystems (497,133.23 Ha), and non-peat hydrological areas (87,618.95 Ha) (Ministry of the Environment and Forestry, 2020).

Food Estate design is characterized by: (a) improving agricultural infrastructure; (b) increase in production, productivity and cropping index; (c) commodity diversification (multi commodity); (d) increase in off-farm activities for these commodities; (e) on-farm and off-farm integration; (f) application of modern agricultural technology and digitalization; and (g) formation of farmer corporations. The Food Estates Program at a macro level is expected to strengthen national food reserves and improve farmers' welfare (Ministry of Agriculture Planning Bureau, 2020).

Farmers are organized into farmer groups or farmer group associations. These farmers are provided with all agricultural inputs. Farmers who form farmer groups/farmer group associations are formed for each cluster with investment capital coming from farmers as association capital (Fahmid et al., 2022). This combined farmer group is the management of the farmer corporation which includes pre-production, production, processing and marketing. A minimum of two farmer groups can form a limited liability company as a Farmer Company in one area (Fahmid et al., 2022).

In an interview with Mr. Sayusdi, S.Pd., M.Pd. as the Head of Sepang District in Gunung Mas Regency and also several people, especially farmers whose land is being used as food estate land, it was revealed that the community had concerns and questions regarding the implementation of the Ministry of Defense's Food Estate Program. The community revealed that although the land had been cleared and some cassava plants had been planted, until now, these plants had been left neglected and in a state of stagnation. People began to wonder about the fate of the cassava plants and doubted the seriousness of implementing the program. They concluded that the Ministry of Defense's Food Estate Program activities were deemed to have failed and damaged nature. One of the main reasons for this failure is that more than 600 hectares of forest have been cleared without providing significant benefits to local communities. The public's perception is that they

feel disappointed and have lost confidence in programs that should provide economic and social benefits for them. This highlights the importance of continuity and good management in the implementation of development programs such as the Food Estate, as well as the need for clear communication between the government and the community to gain support and trust.

"However, the community also wonders, after the land was cleared and some of the cassava was planted, but until now it has been left unmanaged and stalled, so that the public's trust in the activities of the Ministry of Defense's Food Estate Program is considered a failure and destroying nature, because approximately 600 Ha of Forest was cleared without there are benefits." (Mr. Sayusdi, S.Pd., M.Pd. Head of Sepang District, Gunung Mas Regency)

Apart from village and community officials, there are a number of Community Social Institutions (NGOs) who have criticized this activity. Some of them are WALHI Central Kalimantan, Greenpeace, LBH Palangkaraya, and Save Our Borneo. All of these NGOs/NGOs are united in raising the issue of the climate crisis regarding the programs being implemented.

"There are, from Walhi Central Kalimantan, Greenpeace, LBH Palangkaraya and Save Our Borneo which essentially raise the issue of the climate crisis" ((Lt. Col. Inf, Drs. Sukarjohan Sitompul, M.Si, Field Supervisor)

A search by BBC News Indonesia together with the NGO Pantau Gambut and the Central Kalimantan NGO WahanaEnvironment (Walhi) found that the National Food Granary project in this area only triggered new problems, flood disasters became more widespread and prolonged, and forced the Dayak people to change their planting habits. More than 1,500 hectares of forest, including carbon-rich peatlands, have been cleared in Central Kalimantan province for so-called food estate projects. Pantau Gambut's analysis found that the food estate project damaged peatlands. In fact, peatlands are an important ecosystem in mitigating and adapting to climate change. Peatlands store 20 times more carbon than mineral soil tropical rainforests.

The World Resources Institute (WRI) Indonesia said food estate projects should avoid areas with peat layers deeper than 1 meter, because they are intensive carbon absorbers and also less suitable for crop cultivation. WRI said project managers should avoid clearing peat with primary and secondary forest cover. Clearing such vegetation can release 62.25 metric tons of CO2 per hectare per year, equivalent to burning more than 26,000 liters of fuel. However, Pantau Gambut's spatial analysis, using GLAD Alert GFW data, found that 233 hectares of forest area had been cleared for food estate projects from January to October 2022. The analysis showed 137 hectares of secondary peat swamp forest in Pilang village, and 96 hectares of protected forest with the peat layer 2-3 meters deep has been opened.

This is in accordance with the Greenpeace Indonesia report which stated that the food estate project in Tewai Baru had accelerated rainwater runoff and caused flooding due to the loss of sandy topsoil. On the other hand, investigations by Pantau Gambut, Walhi Central Kalimantan and BBC Indonesia in March 2022 and February 2023 found that cassava plants in Tewai Baru Village were wilted, stunted and had small tubers. The investigation also found seven abandoned excavators that were no longer functional. Meanwhile, another investigation by Kaoem Telapak on the food estate project stated that around half of the food plantations in this village had been abandoned.

From the results of interviews and analysis of Wilson's perception theory (2012), there are several conclusions that can be drawn, namely negative public perceptions of the impact of the financial viability of the Gunung Mas Cassava Food Estate. People may feel disappointed, angry and lose trust in this program. This could worsen public perception of similar programs in the future.

It is important to conduct a thorough and transparent evaluation of this program to understand the causes of the failure and to prevent a similar incident from occurring in the future. When the land allocated for a food estate project does not produce the expected results, and is even deemed to have failed based on various predetermined criteria, re-evaluation becomes a necessity (Eryan, 2022). This evaluation is important to evaluate the sustainability of the project and its impact on the environment and local communities (Udayanto, 2024). At this evaluation stage, the permit holder is responsible for restoring the land that has been used back to its original condition, namely into a forest that is more ecologically useful. This restoration involves the process of returning damaged land to a natural habitat that supports biodiversity and healthy ecosystem function (Siburian, 2016). This step is a commitment to reduce the negative impacts caused by unsuccessful projects (Eryan, 2022).

Apart from that, in the context of land restoration, based on the Decree of the Minister of National Development Planning/Head of the National Development Planning Agency Number Kep. 18/M.PPN/HK/03/2023 states that the Government needs to actively involve the community in the decision-making process and implementation of major programs such as the Food Estate to build trust and gain community support. They can be involved in managing abandoned land to support their livelihoods. Through active community participation in land management, local economic potential can be increased and environmental sustainability can be maintained (Jaafar et al., 2021)

Thus, re-evaluating unsuccessful food estate projects and land restoration is an important step to ensure environmental sustainability and community welfare in the long term. Local communities must be involved in the decision-making process and implementation of programs related to their land and environment. Further research and development is needed to ensure the feasibility and success of the Food Estate program in the future.

Perceptions of the Impact of Cassava Food Estates on National Food Security

Food security is a strategic issue in a developing country (Simatupang, 1998). To achieve food security, the agricultural sector is very important because this sector is the main food provider (Sumastuti, 2010), especially in developing countries. However, they have a dual role, namely as one of the main targets of development and one of the main instruments of economic development. The function of food security as a prerequisite for ensuring access to food is the main determinant of innovation in science, technology and productive labor, as well as the function of food security as one of the determinants of a stable and conducive economic environment for development. Every country always tries to build a strong food security system. Therefore, it is very rational and natural for Indonesia to make the program to strengthen national food security its main development priority.

"This program has very good and big aims for the community and the country regarding food security/strategic logistics reserves" ((Lt. Col. Inf, Drs. Sukarjohan Sitompul, M.Si, Field Supervisor)

Food is a basic need for humans to live a healthy, active and productive life in a sustainable manner. Food must be available in quantity, quality, safety, variety, balanced nutrition, evenly and affordably to everyone throughout the territory of the Unitary State of the Republic of Indonesia (NKRI). Law Number 18 of 2012 concerning Food mandates that national food security be built based on food sovereignty and food independence. Indonesia, as an agricultural country which is also a maritime country, has relatively abundant potential food sources. Therefore, available natural resources need to be managed optimally for the benefit of all the people. Food security is an inseparable part and has a strategic role in a country's defense. National defense is not only a matter of the main weapons system (alutsista), but also includes adequate food and nutrition as mandated by Law no. 3 of 2002 concerning National Defense.

With the high rate of population growth (1.36% per year in the 2010-2016 period) where in 2020 alone the population is projected to be around 271 million people, it is necessary for Indonesia to develop an independent national food reserve system and also synergize between the center and the regions. so that it can reduce Indonesia's dependence on imports of staple foods which are currently experiencing price and supply fluctuations on the international market. The need for national food reserves is increasing, due to the increasing threat of a global food crisis, increasing volatility in world food supplies and prices, increasing threats of natural disasters, and the large number of poor and food insecure people in Indonesia.

As an agricultural country with high potential in the agricultural sector, Indonesia is still experiencing problems in food availability. This is related to rural development issues and the agricultural sector. As in Slovakia, agriculture has always been an important part. The promotion of commercial activities and sustainable employment in rural areas is essential to improve the quality of life and maintain rural population density (Nagyová et al., 2016). A corporate-based food estate is an area that integrates investment from upstream to downstream to increase food production for Indonesian people (Basundoro and Sulaeman, 2020). Food estate development is a program and synergy of all components in the central and regional governments with supervision and financing. This synergy starts from upstream, on-farm, downstream systems to market distribution to increase capacity and diversify food production (Nagyová et al., 2016). Furthermore, Dewi Wulandani and Anggraini, (2020) Agricultural tools and machinery (alsintan) are really needed to support the development of food estates.

Food commodities from this food estate will also be diverse, not just rice and corn. Production facilities and agricultural infrastructure will also be built, such as reservoirs, irrigation and modern post-harvest facilities. Food Estate is one of the government's efforts to maintain Indonesia's food security which is in synergy with the regional government's aim of creating regional economic activities through the involvement of investors and the community (Asti et al., 2016).

According to the 2019 BPTP Central Kalimantan annual report, Central Kalimantan, with an area of 154,267 km2 or 15,426,780 ha, consisting of dry land covering an area of 95,050 km2

and wetland (peat, tidal and lowland areas) covering an area of 59,146 km2, has the potential for the development of agricultural commodities, both food crops, horticulture, plantations and animal husbandry. Rice, corn, soybeans, cassava, peanuts, red chilies, mangoes, rambutan, bananas, orchids, durian, oranges, palm oil, rubber, coconuts, coffee, pepper, beef cattle, goats/sheep, pigs, free-range chickens and Ducks/ducks are a superior commodity. Rice is the main food crop commodity cultivated in Gunung Mas Regency. In 2019, the rice harvest area was 1,557.68 Ha with production of 3,817.57 tons, or reaching a productivity of 24.51 quintals/Ha. Productivity in 2019 increased compared to 2018 which reached 2,165.74 tons. Other food crop commodities such as cassava/cassava have good potential for development. Cassava plantation area recordedreaching 59 Ha. With production of 705 tons (productivity 119.49 quintals/Ha).

The Director General of Food Crops at the Ministry of Agriculture in 2012 explained that the choice of varieties to be planted depends on the objectives. Cassava with a good taste (not bitter, HCN ≤40 mg/kg fresh tubers) and soft tuber flesh texture is very suitable for direct and processed food consumption. Tubers with high HCN content can cause poisoning for humans and animals, so they are not recommended for direct consumption. For the food industry based on cassava flour or starch, it is best to choose cassava with white tuber flesh, high dry matter and starch content.

The results of studies on cassava development documented by the Director General of Food Crops, Ministry of Agriculture (2012) show that "Local varieties such as sticky rice and butter, as well as superior varieties Adira-1 and Malang-2 have good taste. Varieties with high productivity and starch content (HCN≥50 mg/kg fresh tubers, bitter taste) such as UJ-5, UJ-3, Adira-4, Malang-4, and Malang-6 are suitable as raw materials for the flour and starch industry. The UJ-5 variety is also widely planted in Central Java. With good management, the productivity of superior varieties such as UJ-5 can reach 57 t/ha to 60 t/ha. Superior varieties are the main cultivation component to increase cassava productivity, and are generally easy for farmers to adopt.

The UJ-5 variety is a superior variety developed as a food variety developed in Gunung Mas, Central Kalimantan. The advantage of this type of cassava is that it is capable of high production and has a high starch content so that this type of cassava is able to escape from rafaction cuts (scale pieces) in the cassava factory later. Cultivation is not too complicated and is suitable as part of an investment to add to your future plans.

According to Nurjanah (2007), early-mature cassava can be harvested at 6-8 months, medium-mature cassava can be harvested at 8-10 months, and mature-mature cassava can be harvested at 10-12 months. Determining the harvest age is very important because it correlates with water content and starch content. The water content decreases as the tuber gets older. On the other hand, starch content increases with increasing plant age.

According to sources from the Akabi Production Directorate (2010), in Indonesia, 58% of cassava is used as food, 28% as industrial raw material, 2% as feed, and 8% is exported in the form of cassava. As a food ingredient, cassava can be consumed directly by boiling or frying. In simple processed forms such as gethuk, sawut, gatot, gobet, Kremes and chips with various

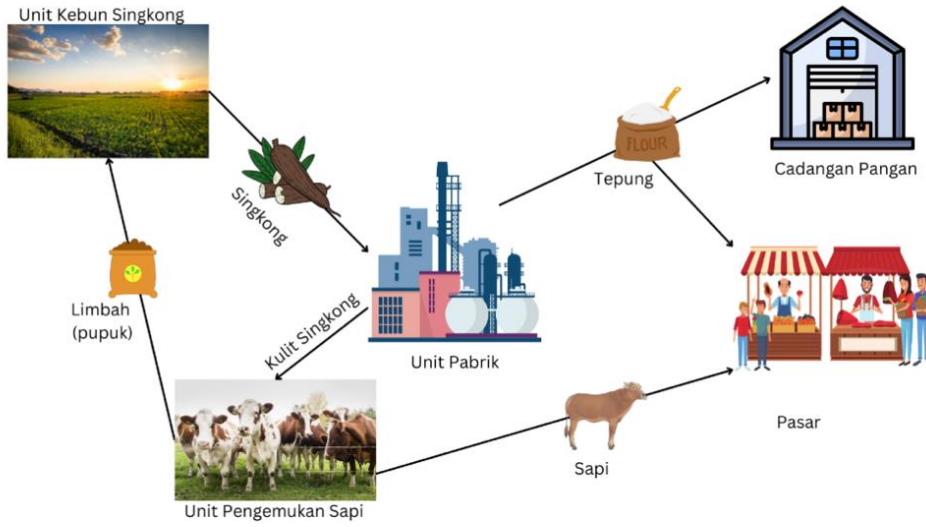
flavors. Food products made from flour, Mocaf flour (modified cassava flour), and cassava starch such as crackers, various wet/dry cakes, bread and noodles, synthetic rice.

Likewise, Asriani (2011) said that as an industrial raw material, cassava can be processed into various intermediate products and final products such as chemicals with high selling value. Until now, most of the cassava products exported are dried cassava (chips, sawut, cassava) and intermediate products (cassava flour and starch). Dried cassava products from Indonesia are mainly exported to Malaysia, Japan, China, Korea and European countries. For dried cassava products, Indonesia's position in the world market is as a leader in price movements and has quite strong bargaining power in determining prices on the world market. Indonesian starch is exported to the European Union, Japan, Korea and Malaysia, but its bargaining position in determining prices on the world market is weak. In 2009–2014, the trade balance for cassava was in surplus and starch products were in deficit (Table 5.3) because domestic demand tended to increase.

The National Strategic Food Reserve for Cassava production in Gunung Mas is known to be under the responsibility of the Strategic Logistics Reserve Agency, which is an agency under the Ministry of Defense. Management uses army principles. The mandate for Gunung Mas Regency currently covers a plantation area of 30,000 hectares, a Cassava Processing Factory into Tapioca or Mocaf with a capacity of 4,000 Tons/Day of Cassava raw materials and a livestock farm with a capacity of 19.5 thousand cows/year.

Human Resources (HR) that will be used in the processing process also follow the military pattern system. Where the human resources who will work in this program will become members of the Reserve Component (KOMCAD) with the existing career and rank system. There will also be a Supporting Component (KOMDUK) which will assist with the company's operational activities, the number of which will adjust to each stage of activity of each Brigade. As a result, cultivation and processing activities can run smoothly according to what has been designed by experts and leaders, to create a strong and sustainable strategic logistics reserve.

Production analysis is an important part of planning cassava cultivation development programs. The decision makers have formulated a big picture regarding the process of developing Strategic Logistics Reserves in Gunung Mas Regency. This can be seen from the schedule that has been prepared with the target of building 1 million hectares of cassava plantations. The cassava plantation production process takes an Integrated Farming approach. The basic concept of integrated farming is an agricultural system that combines several sectors, such as agriculture, animal husbandry and other sectors (plantations, fisheries and forestry) as a solution to increase land productivity and environmental conservation. In its implementation, it is known that there are three business units that must be managed optimally, namely a) cassava plantation unit, b) factory unit and c) cattle fattening unit.



Integration of Cassava Farming Development in Gunung Mas Regency

Referring to the picture, it is known that each unit has its own advantages in terms of product and is connected to each other. This shows that there are benefits created even though they are only by-products or waste. This is explained as follows:

1. The cassava plantation unit receives support in the form of fertilizer produced from the cattle fattening unit. The product produced from the garden unit is tubers (cassava).

2. The factory unit gets support in the form of tubers (cassava) from the garden unit. Later there will be two products produced, namely flour and cassava peel as waste.

3. The cattle fattening unit receives support in the form of cassava peel from the factory unit. The products produced include beef cattle ready for sale and fertilizer.

Operational activities have been prepared in detail, which has standard operational procedures. This is demonstrated by the planting process starting from planting, applying fertilizer and harvesting and re-maintaining the plantation area. Fertilizer use is calculated based on the need per hectare in order to simplify the estimation of need calculations.

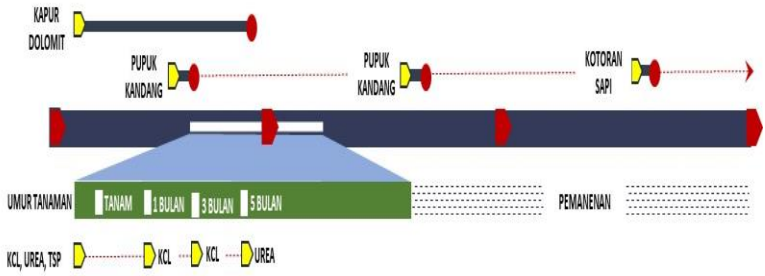


Figure 5 Planting Schedule

Referring to the picture above, it is known that management has arranged a series of work to achieve the expected success. Dolomite lime is the initial base used for preparation, then during the process drum fertilizer is applied gradually until the harvest process. On the other hand, it is known that standards for fertilizer use have also been prepared for each hectare. This is intended for the table on the amount of fertilizer used. The success of the Strategic Logistics Reserve in operational activities can be successful with support from infrastructure development. It is known that in the planning documents there are several infrastructure development plans for a) Main Road, b) collecting road, c) offices and housing, and d) port. The 4 main infrastructures are all aimed at making things easier, increasing effectiveness and efficiency.

Based on the Decree of the Minister of Agriculture of the Republic of Indonesia Number 484/KPTS/RC.020/M/8/2021, strategic logistics can have a significant impact on Indonesia's food security, such as long-term food availability, improving the community's economy, food independence, etc. Cassava cultivation as a strategic logistics reserve will guarantee food availability in the long term (Yuniar, 2022). Cassava has a relatively short harvest period and can be planted throughout the year (Ardini, 2020).

This cassava cultivation development program received support from the optimism of the Minister of Defense himself, where he said that there were indeed many polemics in food estate policy, however, these polemics were not an obstacle in implementing food security programs in the context of making society independent. It was also conveyed that so far the food estate development process has taken approaches to regional stakeholders such as direction and guidance from governors, regents, sub-district heads and local tribal chiefs.

"Indonesia can be strong if we are truly capable of producing our own food and producing our own energy, then we will not be dictated to by any country. Every development project has consequences; therefore it must be mitigated, not stopped. If this program is not continued, what is the alternative solution, importing food from abroad, depending on foreign countries? Yes, if someone wants to sell it, if not. What if we don't have our own production." (Prabowo Subianto)

Referring to this optimism, it is very possible that in the future this program will be implemented again and evaluated further so that the program will run according to the initial plan. The potential for this program to continue was also seen by Bambang Purwanto, member of Commission IV DPR RI.

"From the results of the discussion, we received information from farmers directly, as well as from regional heads, both the Governor of Central Kalimantan, represented by Deputy Governor Edy and also the Regent of Pulang Pisau, that this food estate has had a positive impact on the local community, especially farmers," he continued." (Bambang Purwanto) .

Apart from that, currently a review has been carried out followed by monitoring and evaluation regarding the cassava cultivation development program as a Government Logistics Food Reserve, several things that need to be noted regarding the commitment to the sustainability of this program in the future, including:

1. The Head of Dahian Tambuk Pendi Village welcomed the location of the food estate because it could be used as a livelihood for the local community.

2. The difficulties of the Ministry of Defense and the Ministry of Environment and Forestry in preparing land for developing cassava cultivation will soon be resolved.

3. Future plans are demonstration plots and reforestation which will be supported by the Ministry of Agriculture.

4. The Minister of Agriculture is ready to help plant 100 hectares of cassava to cover 640 hectares of open land under the Ministry of Defense's Special Care program to fertilize the soil.

5. The Ministry of Agriculture will collaborate with the Ministry of Defense to create cassava land outside the Ministry of Defense's property. The fertile land of the community and regional government covering an area of 300 hectares can be taken into consideration and become material for discussion with the regional government.

Cassava in this case can play an important role for food security in Indonesia as one of the main sources of carbohydrates besides rice and corn. Apart from that, the use of cassava is suitable as an industrial commodity, including the food and health industries. Cassava is also a plant that has very wide environmental adaptability, so its production still has the potential to be increased by utilizing sub-optimal land which covers an area of 149.5 million ha or around 78.2% of all land in Indonesia. Data from the Ministry of Agriculture shows that Bulog's rice stock at the end of 2018 was 2.1 million tons. With daily consumption of Indonesian people amounting to approximately 81,594 tons, national food reserves are only available for 26-29 days. So to increase this deadline to 150 days, 120 days x 300 g AKG x 280 million Indonesian population in 2025 = 10 million tons of starch per year are needed. The Cassava Program as a National Strategic Food Reserve will thus have a positive impact on providing food reserve needs and extending the period of availability of national food reserves.

Thus, this policy can help reduce fluctuations in food supply and maintain adequate food availability for the community, especially in crisis situations or natural disasters. By developing cassava cultivation as a strategic logistics reserve, Indonesia can create diversified food sources which can reduce dependence on other food commodities. This will help overcome the risk of food supply instability and increase national food security.

Obstacles and Perspective Model for the Cassava Cultivation Development Program as a Strategic Logistics Reserve in Gunung Mas Regency, Central Kalimantan

The Peat Land Development (PLG) Project in Central Kalimantan began in 1955 and became known as the Mega Rice Project in 1995-1999. This project failed due to poor planning and disregard for the condition of peatlands and the rights of local communities, causing environmental and social problems. Furthermore, the Merauke Integrated Food and Energy Estate (MIFEE) project in Papua in 2006-2011 also failed because there was no local community support and the land was not suitable for agriculture. This project causes land conflicts and socio-economic problems for indigenous communities. The Delta Kayan Food Estate (DeKaFe) project in North Kalimantan in 2011 also failed due to poor planning, overlapping land problems, and land unsuitability for agriculture. In 2013, Ketapang Food Estate (KFE) also faced land and labor conflicts, as well as crop failure due to inappropriate land clearing. The third era of food estate development begins with Presidential Regulation Number 86 of 2020, with the aim of recovering from the impact of the Covid-19 pandemic and increasing national food security. Priority locations are in Central Kalimantan and North Sumatra, as well as several other provinces. The cassava program as a national strategic food reserve is expected to increase 120 days of food availability with a target of 40 million tons of cassava in 2024/2025. This program is supervised by the Ministry of Defense and involves outreach to local communities to gain support. This process goes through several predetermined stages, namely:

1. Making blocks according to the contour of the land.
2. Implementation of imas and fall.
3. Land clearing process.
4. Carry out leveling to ensure the ground surface is level.
5. Blanket spraying to control weed growth.
6. Plow-1 and root collection-1 as part of land preparation.
7. Plow-2 and root collection-2 for further soil preparation.
8. The rake process to level the ground.
9. Application of dolomite and compost as organic fertilizer.
10. Building bunds to ensure good drainage.
11. Finally, cassava planting is carried out after all preparation stages are complete.

Colonel Czi Dwi Hariyono, Head of the PCLS Plant Management Division of the Ministry of Defense, also explained the same thing.

"The SOP related to cassava plant management is based on the SOP for land formation for large-scale cassava cultivation (Land Clearing & Land Preparing) No. P-010/2020 Revision-2. This SOP aims to obtain cassava cultivation land with high productivity and efficient operations by paying attention to environmental issues. The process stages of the SOP are Making Blocks according to the contour, Imas and Tumbang, Piling, Leveling, Blanket Spraying, Plow-1 and

collecting roots-1, Plow-2 and collecting roots-2, Harrowing, Application of Dolomite and Compost, Making Mounds, Planting." (Colonel Czi Dwi Hariyono, Head of PCLS Plant Management Division, Ministry of Defense)

Apart from the SOP, regarding cooperation with other agencies, Colonel Czi Wahyu Widisetyanta, Head of the TU PCLS Ministry of Defense, explained that although the Ministry of Agriculture remains the leading sector in the agricultural sector, they plan to coordinate regularly with the Ministry of Agriculture in accordance with the tasks and functions that have been determined. Apart from that, they have also recruited experts or professionals in the agricultural sector to assist in the supervision and management of cassava cultivation. This is possible because the organizational structure of the PCLS implementing unit provides an appropriate platform to support these collaborative efforts.

"Leading the agricultural sector remains with the Ministry of Agriculture, of course we will often coordinate with the Ministry of Agriculture because it is in accordance with its duties and functions, however we also recruit experts/professionals in the agricultural sector to help us in supervising and managing cassava cultivation, this is This is possible because it is accommodated in the organizational structure of the PCLS implementation unit" (Colonel Czi Wahyu Widisetyanta, S.Si., M. Si, Head of TU PCLS Ministry of Defense).

Based on the Decree of the Minister of National Development Planning/Head of the National Development Planning Agency Number Kep. 18/MPpn/Hk/03/2023 Concerning the Master Plan for the Development of Food Estates/Food Production Center Areas in Central Kalimantan Province, apart from the SOP strategy already owned by the Ministry of Defense, the Ministry of Defense is also obliged to carry out the following efforts:

Table 6 Policy Direction and Effort Strategy

Policy direction	Strategy of Efforts Made
Development of Geospatial Aspects: Developing Food Estate Areas/Food Production Centre Areas	1. Land Planning and Preparation 2. Connectivity Development 3. Support/Support Food State and Port access 4. Provision of agricultural inputs 5. Development of Food Estate Land/Food Production Center Areas 6. Development of water sources and flood control 7. Conservation and Restoration of Forest and Peat Ecosystems 8. Pest and OPT control 9. Increasing HR Capacity 10. Monitoring Institutional Assistance for Farmers 11. Supervision of Farmer Assistance by Students and Lecturers 12. Supervision of the circulation of agricultural facilities 13. Arrangement of Agricultural Infrastructure 14. Provision of livestock seeds/seedlings and forage sourced from other areas 15. Quality control, supply and distribution of plant seeds
Development of Off-Farm Aspects: Increasing the Welfare of Farmers in Food Estate Areas/Food Production Center Areas	1. Provision of Post-Harvest, Processing and Marketing Infrastructure and Facilities 2. Market Development 3. Increasing HR Capacity 4. Development of Farmer Economic Institutions

	5. Institutional Oversight of Farmers 6. Developing MSMEs to become strong and independent businesses so that they can increase job creation, income distribution, economic growth and poverty alleviation

Source: Decree of the Minister of National Development Planning/Head of the National Development Planning Agency Number Kep. 18/MPpn/Hk/03/2023

However, the efforts that have been made by the Ministry of Defense, apart from facing external obstacles from the public, media and NGOs, have also faced internal obstacles from the government itself. Colonel Czi Dwi Hariyono, Head of Plant Management PCLS Ministry of Defense, found significant challenges in managing the budget for cassava cultivation in Gunung Mas, Central Kalimantan. A number of factors, especially related to the fact that the Presidential Decree regarding the formation of the BCLS for the Ministry of Defense has not yet been issued, are the main obstacles. As a result, the budget of 500 billion that has been prepared and recorded in the 2022 PCLS Satker Dipa cannot be used because its status is blocked.

"The Presidential Decree regarding the formation of the Ministry of Defense's BCLS has not yet been issued, so the budget that has been prepared and is in the Dipa PCLS Satker for FY 2022 amounting to 500 billion is blocked so it cannot be used to manage cassava cultivation in Gunung Mas, Central Kalimantan" (Colonel Czi Dwi Hariyono, Head of PCLS Plant Management Division, Ministry of Defense).

The importance of the issuance of the Presidential Decree on the Establishment of the Ministry of Defense's BCLS in the context of food estate/food security becomes very clear, because this policy will have a direct impact on all program activities, including cassava development in Central Kalimantan.

Coordination meeting on January 18 2023 which discussed accelerating the determination of the legal basis for Food Estate and Implementation of Central Kalimantan Food Estate between Ministries/Institutions. During the meeting, it was detailed that there were 3 Presidential Regulations related to Food Estate that had been submitted to the Minister of State Secretariat, but up to now they had not been stipulated by the President. The Presidential Decrees include the Presidential Decree on the Program for Increasing National Food Supply through the Development of Food Estate Areas which was proposed by the Coordinating Ministry for Economic Affairs on 11 March 2022, the Presidential Decree on the Agency for the Management of North Sumatra Food Estate Areas which was submitted by the Ministry of Agriculture on 08 July 2022, and the Presidential Decree on the Strategic Logistics Reserve Agency submitted by the Ministry of Defense in July 2022.

The Ministry of State Secretariat on September 21 2022 sent a letter to the Cabinet Secretariat to hold an Internal Meeting to request the President's consideration regarding the submission of the three Presidential Regulations. After an Internal Meeting was held on October 4 2022 and the minutes were submitted to the relevant Ministries on October 12 2022, it was agreed that the President approved the proposal to simplify 3 Presidential Regulations into 1 Presidential Regulation regarding the "Program for Increasing National Food Supply through the

Development of Food Estate Areas" with the leading sector of the Ministry of Agriculture. Furthermore, based on the Presidential Decree that will be stipulated, the relevant Ministries/Institutions will formulate Food Estate regulations and mechanisms in accordance with their respective duties and functions through Ministerial Regulations or other means.

So, this can be an inhibiting factor in implementing the cassava cultivation development program in the form of unclear implementation guidelines. Lack of communication between central and regional governments regarding infrastructure and initial requirements for the program. The central government needs to inform infrastructure needs, which then respond to local governments based on current conditions. Next, Resources: There are two aspects that hinder it, namely natural and human resources. Natural conditions such as weather, climate and soil characteristics which are 70% sand in Gunung Mas Regency do not support cassava cultivation. In terms of human resources, even though there is an organizational structure, strong regulations do not yet cover their performance, and there are no clear personnel in the UPT PCLS organizational structure. The attitude of the Implementer who lacks thorough planning and budgeting. The absence of a Presidential Decree regarding PCLS has resulted in the Ministry of Environment and Forestry having difficulty granting permits to use forest land, resulting in infrastructure development being disrupted and the PCLS budget being blocked. Furthermore, the bureaucracy in the PCLS structure only involves one ministry as coordinator, so it needs to be supplemented with a task force structure from other ministries such as the Ministry of Agriculture and the Ministry of Environment and Forestry. A clear division of tasks and functions between program implementers is also needed. The issue of regulations or changes to the designation of forest areas for Food Estates through Minister of Environment and Forestry Regulation 24/2020 and then replaced by Minister of Environment and Forestry Regulation 7/2021 has generated criticism and rejection from various parties, especially indigenous communities who previously inhabited the area. This change has the potential to damage the ecology of forest areas, which is contrary to the Forestry Law.

The contents of the Forestry Law regarding forest areas with special purposes (KHDTK) are regulated in Government Regulation Number 23 of 2021 (PP 23/21) in the third part concerning Forest Areas with Specific Purposes (KHDTT) which reads "For certain purposes Forest Areas can be designated as: a) forest areas with special purposes; b) forest areas with special management; or c) forest areas for food security". PP 23/21 was used as the basis for LHK Ministerial Regulation 24/20 and replaced by LHK Ministerial Regulation 7/21. KHDTK and Food Barns are regulated in KHDTT in PP 23/21. KHDTK, which is basically the Forestry Law, is different from the discussion on Food Granaries. This means that the basis of the Food Estate program or national food barn cannot be linked to the KHDTK in the Forestry Law. In fact, the KHDTK in the Forestry Law is in conflict with the Food Estate program which in fact changes the main function of forest areas whose purpose is only for research and development, education and training, religion and culture.

According to Pasolong (2010), there are obstacles that influence the implementation of a public policy, including:

1. Political, economic and environmental barriers

2. Institutional weaknesses
3. Human resource incompetence in technical and administrative fields
4. Lack of technical assistance
5. Lack of decentralization and participation
6. Timing
7. Information system that is less supportive
8. Differences in goal agendas between actors
9. Continuous support.

Conclusions

The summary of research results highlights the implementation of the Strategic Logistics Reserve Development Program (CLS) in Indonesia, with a focus on cassava cultivation, aimed at overcoming a potential food crisis due to the COVID-19 pandemic, land degradation and climate change. The Indonesian government launched the 2020-2024 National Strategic Program (PSN) which includes the development of food estates as part of food security. The implementation of this program faces various obstacles, such as unsynchronized policies, unfavorable external conditions, and a top-down approach that ignores local community participation.

Criticism of the cassava food estate program in Gunung Mas Regency includes the mismatch between plant types and land conditions, lack of agricultural facilities and infrastructure, and the risk of farmer proletarianization. The social and economic impacts of this program, according to community perception, include positive impacts such as job opportunities and increased food independence, as well as negative impacts such as potential land conflicts and socio-cultural changes. Factors that influence public perception include the impact of the program, the novelty of the food estate concept, program development, as well as mass media stimulus and public opinion.

Interviews and analysis show the community's disappointment with the program which is considered to have failed and damaged the environment. Indicators of failure include suboptimal cassava growth, small harvested areas, and negative environmental impacts such as reduced biodiversity and damage to peatlands. Criticism from NGOs and other institutions highlights the negative impact on the environment and the imbalance of costs with results. In conclusion, public perception of this program tends to be negative due to its failures and negative impacts.

To improve the program, comprehensive evaluation, land restoration, community participation in decision making, and attention to environmental sustainability are recommended. The cassava food estate program in Gunung Mas aims to increase national food security by exploiting the potential of cassava farming. However, this program faces challenges such as crop failure and negative environmental impacts.

The government has taken strategic steps through Presidential Regulation of the Republic of Indonesia Number 86 of 2020 and Number 85 of 2021 to develop food estates in Central Kalimantan. The cassava cultivation process is supervised by the Ministry of Agriculture with cross-agency collaboration and strict supervision. The main obstacles in implementing this program include the unissued Presidential Decree regarding the formation of the BCLS, weak communication between the central and regional governments, and a lack of coordination between ministries. Other factors such as weather, climate, soil conditions, and lack of public understanding of the program are also obstacles. Joint efforts between central, regional and community governments are needed to overcome these obstacles and achieve national food security goals.

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