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THE URGENCY OF INDONESIA'S NATIONAL FOOD SELF-SUFFICIENCY FROM A SUSTAINABLE NON-MILITARY DEFENSE ECONOMICS PERSPECTIVE

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ABSTRACT

Contemporary geopolitical dynamics have shifted the national-security paradigm toward economic resilience. Non-military threats, particularly disruptions to global supply chains and climate-related shocks, require Indonesia to accelerate food self-sufficiency. This study analyzes budget efficiency, identifies operational gaps, and evaluates civil-military collaboration in the new-rice-field development program during 2025–2026. A mixed-methods approach combines qualitative analysis of thematic audit and policy documents with quantitative evidence from farmer surveys and selected production and budget indicators. The qualitative findings indicate that hybrid collaboration between agricultural extension officers and the Indonesian National Armed Forces at the village level can operate as a force multiplier by shortening bureaucratic chains and supporting a more accountable logistics ecosystem. However, program sustainability is constrained by weak initial spatial-data validity, reflected in Survey, Investigation and Design (SID) contracting of only 32%, as well as limitations in micro-irrigation networks. Importance Performance Analysis (IPA) places wetland water management and subsidized diesel supply for agricultural machinery in Quadrant I as the main priorities. Cost-Benefit Analysis (CBA) nevertheless indicates that the IDR 8.75 trillion investment in new rice fields outside Java is economically efficient, with a Benefit-Cost Ratio (BCR) of 1.30. The study recommends stronger penta-helix collaboration, digitally integrated agrarian data, and reinforcement of a maritime food-security belt.

Keywords: Non-Military Defense Economics; Food Self-Sufficiency; Civil-Military Collaboration; Economic Resilience; Sustainable Development

A. INTRODUCTION

Contemporary geopolitical and geo-economic dynamics have shifted the national-security paradigm from a predominantly conventional military orientation, associated with kinetic warfare, toward multidimensional national resilience in an era of hybrid warfare. In the current landscape of global volatility, non-military threats such as global supply-chain disruption, extreme climate events that trigger crop failure, and the weaponization of strategic commodities have become immediate risks to sovereignty. Regional conflicts, food protectionism by producer countries, and economic embargoes demonstrate that dependence on imported staple commodities is a strategic vulnerability capable of weakening a country without direct military confrontation.

From the perspective of defense economics, national defense can no longer be understood only through the ownership and financing of conventional military equipment. It is also rooted in the capacity for economic resilience. Food is therefore not merely an economic commodity for meeting nutritional needs; it is also a non-physical deterrence instrument. Indonesia's concept of a total people's defense and security system (Sishankamrata) places national food resilience within the logistical foundation for responding to a wide range of threats. When food resilience is fragile, domestic socio-economic stability can be disrupted through inflation and shortages, which may in turn weaken political stability and reduce the fiscal capacity available for conventional defense.

In response to this urgency, the Indonesian Government under President Prabowo Subianto has placed food self-sufficiency among the main pillars of national transformation under Asta Cita. The source manuscript records regulatory reforms to simplify subsidized-fertilizer distribution, the establishment of new coordinating structures in the food sector, and an integrated food-security budget of IDR 164.4 trillion in the 2026 State Budget. At the operational level, the policy is implemented through the expansion of rice-growing areas and technology-oriented agricultural extensification. One major program cited is the development of more than 83,030 hectares of new rice fields in South Papua (Merauke) by mid-2026, accompanied by land optimization programs in wetland and tidal areas of Sumatra and Kalimantan.

Implementation, however, faces multidimensional structural constraints that may affect long-term sustainability. The source manuscript highlights discrepancies in Survey, Investigation and Design (SID) spatial data, delays in secondary irrigation infrastructure, limitations in local farmer capacity, and the potential for agrarian conflict related to customary land rights. These challenges require strong cross-sector collaboration. The Ministry of Agriculture performs the civil technical-agricultural role, while territorial units of the Indonesian National Armed Forces, including Babinsa personnel, are positioned as a force multiplier for infrastructure acceleration, logistical security, and direct assistance at village level.

Accordingly, a deeper scientific assessment is needed to consolidate policy instruments, public expenditure, and civil-military collaboration in a way that addresses operational constraints while maintaining accountability and preventing corrupt practices. From a non-military defense economics perspective, this study seeks to map, evaluate, and formulate strategies for Indonesian food self-sufficiency that go beyond short-term production targets and move toward adaptive, sustainable, and shock-resistant food sovereignty.

B. LITERATURE REVIEW

Global food crises are not new. The source manuscript traces systemic instability to the 1970s oil-price shocks and notes renewed pressures during and after 2020 arising from energy prices, interstate conflict, the COVID-19 pandemic, trade tensions between the United States and China, wars in the Middle East and Russia-Ukraine, and other geopolitical confrontations. Their effects are multidimensional, extending beyond economic performance to wider social and security consequences.

In non-military defense economics, control over essential food and energy resources is treated as a pillar of national independence, sovereignty, and public welfare. Domestic control of critical resources can create an adaptive, non-physical deterrence effect against asymmetric non-military threats, including food, energy, financial, cyber, and climate crises, while the principle of sustainability requires that these capabilities be developed without sacrificing fiscal capacity, social justice, or the environmental interests of future generations.

Food self-sufficiency is therefore framed as an urgent national priority. The source manuscript cites Indonesia's 2026 population at 287,198,400 and links state responsibility for the governance and utilization of food and energy resources to Article 33 of the 1945 Constitution. It also adopts the Food and Agriculture Organization threshold used in the manuscript, under which food self-sufficiency is associated with domestic production meeting at least 90% of national consumption needs (FAO, 2024).

Maslow's hierarchy of needs provides an additional conceptual lens. Food sits within physiological needs, the most basic layer of human survival. At the collective level, a state that cannot secure this foundation faces difficulty in sustaining safety, social order, political legitimacy, and the higher institutional capacities required for national defense.

Figure 1. Maslow's Hierarchy of Needs

Source: Wikipedia, as cited in the source manuscript.

In defense economics, national resources are allocated to balance prosperity and security. Limited economic resources must be governed, distributed, and allocated in ways that enable the state to respond to threats and build effective defense capabilities. Defense expenditure is therefore not interpreted solely as consumption; it can also serve as strategic investment through dual-use technologies and broader multiplier effects across civil and military sectors.

The central paradigm is that military strength does not stand independently of macroeconomic stability, industrial capability, and fiscal efficiency. Strong national resilience requires a balanced relationship between defense and welfare—the classic 'guns and butter' problem. Stability in supply, distribution, and household income can itself function as a non-military defense barrier, while global crises can be transformed into incentives for domestic capability and reduced import dependence. Keupp (2021) emphasizes the institutional roots of economic problems in military organizations and the importance of evaluating real capabilities, while Yusgiantoro (2014) highlights the application of economic analysis to the allocation of national resources for security and sovereignty.

In contemporary strategic and defense studies, the source manuscript proposes Sustainable Non-Military Defense Economics as a paradigm that places economic endurance, ecological resilience, and domestic self-reliance at the center of national defense. In an era of hybrid warfare, sovereignty may be weakened through supply-chain weaponization, cyber disruption, and food or energy crises rather than direct invasion. The paradigm thus emphasizes the allocation of scarce national resources to build adaptive non-physical deterrence without undermining fiscal space, social equity, or environmental sustainability. The manuscript further links Indonesia's total-defense doctrine with green development through the concept of Green Total Defense.

C. METHOD

This study employs mixed methods by combining descriptive qualitative and quantitative approaches in an exploratory sequential design. The approach is intended to combine contextual interpretation with numerical assessment within the analytical framework of defense economics. The qualitative component uses document-based evidence, thematic analysis, and source triangulation to identify policy patterns, institutional collaboration, operational constraints, and governance issues.

The quantitative component uses farmer questionnaire data measured on a Likert scale together with production figures, State Budget allocations, and GIS-related information on new agricultural areas. Analytical tools identified in the source manuscript include the Customer Satisfaction Index (CSI), location mapping, gap analysis using Importance Performance Analysis (IPA), and budget-efficiency assessment using Cost-Benefit Analysis (CBA). The design is used to connect qualitative findings on implementation with measurable priorities and investment efficiency.

D. RESULTS AND DISCUSSION

1. Food Self-Sufficiency

Food self-sufficiency is positioned in this study as a central pillar of national resilience. The collapse of food resilience can produce cascading effects beyond the economic sector and into social stability, human development, governance, and security. For that reason, food and energy self-sufficiency are treated as important components of non-military deterrence against global geopolitical shocks.

Historically, the source manuscript notes that Indonesia achieved rice self-sufficiency in 1984, when domestic rice production reached 25.8 million tons with a population of approximately 159.3 million. That achievement was associated with the Panca Usaha Tani approach, including the Bimas and Inmas programs, improved seed varieties such as IR36 and IR64, fertilizer use, agricultural mechanization, irrigation improvements, and regular agricultural extension. Large-scale irrigation, dams, and reservoirs helped increase cropping intensity, while BULOG's purchasing policy supported farm-gate absorption and price stability.

For the more recent period, the manuscript states that national rice production reached 34.71 million tons while national consumption was 31.1 million tons, resulting in a surplus of 3.61 million tons by mid-2026 (BPS, 2026). It also reports that domestic availability exceeded national requirements for eight major food commodities: rice, feed corn, consumer sugar, shallots, large chili, bird's-eye chili, chicken meat, and eggs. On this basis, aggregate food import dependence is described as having been pushed below the 10% threshold used in the study.

Farmer welfare indicators are also treated as part of resilience. The manuscript reports a Farmer Terms of Trade index (NTP) of 127.65 in June 2026, up from 125.35 a year earlier. An NTP above 100 is interpreted as an indication that agricultural receipts are growing faster than household consumption and farm-input costs. The manuscript links this condition to reforms in farm incentives, including higher government purchase prices for paddy and simplified access to subsidized fertilizer. From the perspective of non-military defense economics, improved rural purchasing power strengthens the economic foundations of national resilience.

The source also connects food policy with broader welfare indicators. It records a macro poverty rate of 9.03%, extreme poverty below 0.8%, and a policy target to reduce national stunting prevalence to 17.5% in 2026 from 18.8% in 2025. At the same time, it notes the continuing presence of wasting and overweight and therefore the need for more equitable nutritional intervention. These indicators illustrate

that food self-sufficiency should be assessed not only through stock and production volumes, but also through accessibility, farmer welfare, and human-capital outcomes.

Three collaborative pillars are identified in the manuscript: an integrated national food movement involving the TNI/Polri, including harvest and pumping activities; reform of farmer incentives through reduced fertilizer bureaucracy and a paddy purchase price of IDR 6,500/kg; and downstream strengthening of the sugar sector through large-scale sugarcane rejuvenation. The study argues that such achievements must be sustained across generations rather than treated as one-year production targets.

The risks of failure remain substantial. Food shortages may contribute to food inflation, social unrest, and political instability; producer-country protectionism can turn staple commodities into instruments of asymmetric pressure; and prolonged malnutrition can degrade human capital by reducing cognitive development, labor productivity, and the future quality of national reserve components. These risks support the study's argument that food security belongs within the wider architecture of national defense.

At the implementation level, hybrid collaboration between agricultural extension officers and Babinsa is described as a practical force multiplier that helps reduce bureaucratic friction and strengthen logistical discipline. Nevertheless, program sustainability is constrained by weak initial spatial-data validity—reflected in only 32% of SID contracts—and weaknesses in micro-irrigation networks. IPA places wetland water management and subsidized diesel for agricultural machinery in Quadrant I, indicating high importance but inadequate performance. CBA, however, shows that an IDR 8.75 trillion investment in new rice fields outside Java yields a BCR of 1.30, which the study interprets as economically efficient.

Beyond the large-scale agricultural extensification program in Papua/Merauke, the manuscript identifies four tactical upstream-downstream interventions: pumping programs to protect rain-fed rice fields in Java; fertilizer reform that reduces bureaucratic points and rent-seeking risk; stronger corporate downstream absorption of paddy through BULOG and non-collateralized KUR schemes; and the expansion of the National Food Brigade to approximately 1,100 brigades involving 26,325 people. The food-security agenda is also linked to energy self-sufficiency through B50 biodiesel and expanded sugarcane and cassava production for bioethanol.

2. Non-Military Defense Economics

From a defense-economics perspective, food self-sufficiency should not be measured only by production volume or BULOG stocks. Sustainable self-sufficiency is a manifestation of economic resilience that requires reliable spatial planning, fair commodity governance, and the transformation of traditional farmers into independent agribusiness managers capable of adapting to global change.

The food dimension is positioned as one of the most fundamental national-security variables. Through Maslow's hierarchy, physiological needs form the foundation upon which safety, social cohesion, esteem, and self-actualization are built. At the collective level, a state cannot maintain advanced defense capabilities when its population and personnel face basic food insecurity. Food inflation and scarcity can directly weaken the 'safety' layer by increasing social tension and crime.

This logic also explains the geopolitical significance of import dependence. Heavy reliance on food imports from strategic competitors may reduce bargaining power and expose a country to supply-chain weaponization. Conversely, the capacity to meet domestic needs strengthens sovereignty and international negotiating position. The same logic applies to long-term human capital: persistent nutritional failure can produce stunting, lower cognitive capacity, and reduced physical and mental

readiness, thereby weakening the ability of future generations to operate advanced military and cyber-defense systems.

3. Sustainable Development

Sustainable development is defined in the source through the Brundtland Commission's formulation: development that meets present needs without compromising the ability of future generations to meet their own needs (WCED, 1987). The manuscript links this principle to Indonesia's regulatory framework, including Presidential Regulation No. 111 of 2022 on implementation of the SDGs, Bappenas regulations issued in 2024 on data governance, monitoring and financing, and ministerial guidance on national SDG indicators.

By mid-2026, the manuscript reports that Indonesia had achieved approximately 62% of measurable Sustainable Development Goal targets. Within the present study, this progress is relevant because food self-sufficiency cannot be separated from poverty reduction, hunger eradication, health, water management, sustainable production, climate action, ecosystem protection, and partnership.

Accordingly, sustainable national food self-sufficiency from a non-military defense economics perspective must be planned comprehensively, holistically, and integratively. The policy framework requires responsibility across government, business, academia, communities, and media through penta-helix collaboration, while maintaining fiscal accountability, environmental sustainability, and intergenerational equity.

Figure 2. The Seventeen Sustainable Development Goals

Source: Bappenas SDGs portal, as cited in the source manuscript.

E. CONCLUSION AND RECOMMENDATION

1. Conclusion

1. Food self-sufficiency is an urgent national requirement because it secures the population's basic physiological needs and, from a non-military defense economics perspective, supports state sovereignty and long-term sustainability.

2. In the context of non-military defense economics, food self-sufficiency is a major pillar of economic resilience with multiplier effects across social, political, welfare, human-capital, and security dimensions.

3. Maintaining the 2026 self-sufficiency achievement requires sustained government commitment and stronger penta-helix collaboration involving all relevant national components.

2. Recommendation

1. The Ministry of Agriculture, supported by the National Food Agency and related ministries/agencies, should prepare a follow-up action plan to preserve and improve food self-sufficiency through stronger penta-helix collaboration, digitally integrated agrarian data, and reinforcement of a maritime food-security belt.

2. Regional governments should be actively integrated with the national food self-sufficiency working team so that central and local implementation becomes more coordinated and mutually reinforcing.

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