



The Effect of Food Security on National Resilience

Afifah Hanaa Nur Alaf^{1*}, Kasih Prihantoro², Suprpto³

¹⁻³Universitas Pertahanan Republik Indonesia, Indonesia

*Author Correspondence: afifah.alaf@mp.idu.ac.id

Article History:

Naskah Masuk: 13 November 2025;

Revisi: 27 November 2025;

Diterima: 10 Desember 2025;

Tersedia: 12 Desember 2025;

Keywords: Food Security;

Globalization; National Resilience;

National Security; Non-Traditional

Threats.

Abstract: National resilience serves as an important foundation for security as it allows a nation to both safeguard and maintain its core functions during disruptions. Many factors affect a nation's resilience but food security stands as a critical factor that is often overlooked. This element directly impacts public welfare, socio-economic stability, and effective governance. Issues in this sector lead to cascading impacts that undermine societal cohesion, weaken government capacity, and ultimately reduce national resilience. This study examines the relationship between food security and national resilience in Indonesia. Using a qualitative approach through a literature review, the research analyses academic works, institutional reports, and policy documents to explore how food security interacts with national resilience frameworks. The findings show that sustainable and stable food systems strengthen adaptability, social stability, and national unity, whereas disruptions in food supply or access may trigger social unrest, economic instability, and governance challenges. The study concludes that integrating food security into Indonesia's defence and security strategies is essential for strengthening national resilience amid emerging and complex global threats.

1. INTRODUCTION

National security has long been a concept that refers to the safeguarding of a nation's sovereignty, territorial integrity, as well as public safety against both internal and external threats. The term was originally conceived as protection against military attack, emphasizing military strength, intelligence capabilities, and diplomatic efforts aimed at deterring or countering direct challenges to state survival and political order. However, as global dynamics shift and the process of globalization intensifies, it has become evident for this concept to adapt and expand this perspective, not only through traditional military dimensions, but also through complex, multidimensional, non-military dimensions (Basset, 2024; Wu, 2025).

Often integrated with this concept, national resilience enables the safety to be sustained, therefore enhancing national security. National resilience ensures that even under shocks, a nation can maintain its core functions and protect its people. This multidimensional concept is shaped by natural subsystems (including geography, natural resources, climate) and social subsystems (including ideology, politics, economy, socio-culture, defense, and security). It is essential that these dimensions are to be managed holistically and integrally for a nation to have strong resilience (Simanjuntak et al., 2024).

Although often discussed through traditional military views, this concept revolves around the well-being of the people. Among the many sectors that influence resilience, disruptions in the food sector are critical yet often overlooked. As a primary need for humans, food security directly affects health, productivity, as well as social stability. The Food and Agriculture Organization (FAO) refers to issues in this area as conditions of being food insecure. This condition is often reflected in undernourishment, or the insufficiency of dietary energy consumption, often due to the limited resources to obtain food. Beyond resulting in hunger, these conditions trigger wider consequences, including economic instability, weakened public health, and added pressure on governance systems (FAO et al., 2025).

It has been repeatedly demonstrated that disruptions in food security compromise both a nation's cohesion and functionality, and consequently, its national resilience. This article reviews national resilience, from NATO's views and Indonesia's views, non-traditional security threats, and food security. It is aimed to assess the effect of food security on national resilience and how it may be integrated for Indonesia's defense and security.

2. LITERATURE REVIEW

National Resilience

The term 'resilience' has long been used in many fields. It describes the ability of a nation to prepare, resist, respond, and quickly recover from disruptions. National resilience is essential as it shows the ability of a nation to encounter various forms of threats while maintaining its functions and safeguarding the people. The term originally referred to military power, but this concept has evolved as globalization occurs, highlighting the rising need for nations to adapt to the current complex and interconnected challenges. This evolution marks a shift from purely defensive postures to more proactive and adaptive strategies (Reznikova, 2022).

The North Atlantic Treaty Organization (NATO) has recognized resilience as an essential part of their defense and security strategies and considers its strengthening as a national responsibility. It not only emphasizes military strength but also through the involvement of society, where civilians and many other sectors take part in strengthening a nation's resilience. At the Warsaw Summit 2016, NATO allies agreed on seven baseline requirements for national resilience, serving as a framework for enhancing collective security (NATO, 2017).

- a. Assured continuity of government and critical service: this includes protected leadership and the ability for governments to function, make decisions, and communicate with the public during a crisis
- b. Resilient energy supplies: this ensures secure and sustainable access to energy even at times of crises. In order to achieve this, it is important to have contingency plans and alternative sources.
- c. Management of uncontrolled movement of people: this refers to the capacity to handle large flows of refugees or displaced persons during crises, ensuring that such movements do not interfere with NATO's military operations and that humanitarian needs are met effectively.
- d. Resilient food and water resources: this involves ensuring that supplies of food and water remain safe, secure, and sufficient, even during disruptions or sabotage, so both civilian and military needs can be sustained.
- e. Healthcare system preparedness for mass casualties and crises: this means that civilian health systems must be able to cope with large-scale emergencies, supported by secure stockpiles of medical supplies, surge capacity in hospitals, and effective coordination with military and emergency services.
- f. Resilient civil communications systems: this ensures that telecommunications and cyber networks can continue to function during crises, supported by backup capacity, strong cybersecurity, reliable restoration options, and priority access for authorities to maintain coordination and public communication.
- g. Resilient transport systems: this guarantees that transportation networks remain operational for both civilian needs and rapid military movement, with the ability to adapt and recover quickly from disruptions to support NATO's operational requirements.

For Indonesia, national resilience, or 'ketahanan nasional', refers to a state with perseverance and the ability to develop and strengthen national power in facing strategic threats and challenges. It is important for Indonesia to strengthen its resilience to maintain its unity and territorial integrity. Aligning with the evolving security environment, this concept has also evolved since the 1960s to address the increasing complexities (Simanjuntak et al., 2024).

As an effort to strengthen Indonesia's national resilience, a national resilience institute was established as Lembaga Ketahanan Nasional (Lemhanas). This institution was established with primary functions to educate and prepare national leaders, to conduct strategic studies, and to strengthen national values. The concept of national resilience is seen through Astagatra,

comprising natural factors (Trigatra) and social factors (Pancagatra). Trigatra, or the three Gatrass are the physical determinant, consisting of geography, as a factor of the physical area; natural resources, which includes the various natural resources of the nation; and demography, which includes the various background and characteristics of the nation (Simanjuntak et al., 2024).

Pancagatra, on the other hand, are the social factors. Also considered as the management subsystem, pancagatra describes the various activities in running the country. These five gatrass are relatively dynamic, includes ideology, politics, economy, socio-culture, and defense and security. Both Trigatra and Pancagatra are interconnected and essential aspects for Indonesia's national resilience (Simanjuntak et al., 2024).

Non-Traditional Security Threats

Traditionally focusing on military threats, national security has expanded its scope to a wider range of threats. This shift is an effort to adapt to the constantly evolving security environment to minimize the risk of overlooking any security implications. Various researches has highlighted the need to expand the concept of security to not only focus on the military components but also include political, economic, social, and environmental concepts (Reznikova, 2022).

Fanoullis and Kirchner (2016) defines non-traditional threats as issues that affect states, communities, and individual that are often interconnected and cross borders. These threats originally source from non- military sectors and are characterized by their complexity, transnational nature, and the multiple approaches required for their management and mitigation. Mitigating the risks from non-traditional threats involve multiple sectors as well as the society (Abidin & Jais, 2024).

Non-Traditional Security Threats

The 1996 World Food Summit introduced food security as a condition when all people at all times have access, both physical and economic, to sufficient nutritious food that meets people's dietary needs and food preferences. This is essential for the wellbeing of people, for an active and healthy life. This definition identifies the main dimensions of food security which are availability, access, utilization, and stability. It is also important that these four components are to be fulfilled to achieve food security (FAO, 2008).

- a. Food availability refers to sufficient quantities of food being consistently accessible through domestic production, existing stock levels, and international trade. This includes considerations of agricultural output, import capabilities, and emergency reserves.

- b. Access refers to people's ability to have both economic and physical means to acquire adequate food resources. Economic access relates to affordability and purchasing power, while physical access pertains to infrastructure, markets, and distribution networks.
- c. Food utilization refers to the human body's ability to optimize the use of various nutrients contained in the food. This dimension encompasses factors like proper nutrition, sanitation, clean water, and health knowledge, which enable individuals to absorb and benefit from the food they consume.
- d. Lastly, to achieve food security, a nation should have stability of the other three dimensions over time. A population should have consistent access to adequate food at all times and should not be at risk even during times of shocks such as economic downturns, natural disasters, or political instability. It is also important that all four components are fulfilled simultaneously to achieve comprehensive food security.

Food security is recognized as a non-traditional security. Unlike conventional threats, issues in this sector disrupts stability and safety of a nation by eroding public health and straining governance systems.

3. METHODOLOGY

This study employs a qualitative approach. Data were collected through secondary sources which focuses on the subject matter. This study uses a literature review model, with data sourced from relevant online articles, journals, newspapers, and books to establish the relationship between food security to national resilience (Arlene, 2019; Booth et al., 2016).

4. RESULTS AND DISCUSSION

In the present world where the process of globalization is rapidly occurring, not only does it open opportunities for development and progress but has also created new threats to a nation, contributing to an environment's complexity and uncertainty. As security environments change, it is vital to adapt to these changes, and to acquire the ability to counter the existing and emerging threats. Lasconjarias (2017) and (Fjäder, 2014) emphasized the need to strengthen national resilience to prepare and counter various threats emerging due to the growing global complexity and uncertainty (Reznikova, 2022).

As non-traditional security threats surface, national security has expanded its scope from focusing only to the conventional threats. Often overlooked, non-traditional threats, such as climate change, food insecurity, cybercrime, and pandemics, are detrimental to the well-

being of the people. A recent study by Gasura et al. (2023) has shown that non-traditional threats have adverse impacts on human development, leading to deterioration of health, displacement of people, as well as affecting the country's economy and social stability. This is particularly evident in a populated country without an effective strategy to combat and mitigate the risks of these threats.

Health stands as a main factor affecting national resilience. This aspect has a direct impact on personal resilience, which is the ability for an individual to be stable and maintain healthy functions after traumatic events or shocks (Barnea et al., 2020). A healthy population would be able to contribute to economic productivity, effective governance, as well as adapt to the changes in security environment. On the other hand, if public health is put at risk, from widespread illness or malnutrition can negatively impact a nation's ability to function. This is very evident from the recent spread of COVID-19 outbreak, which not only resulted in millions of deaths worldwide, but has also damaged world economy. Therefore, public health is to be looked upon as it enables a nation to withstand and recover from diverse challenges (Canning David and Bloom, 2018; Heymann & Legido-Quigley, 2022).

It has been shown that the public health is to be concerned of as undernutrition and lack of calories is experienced. This degrades public health as it results in malnutrition and childhood stunting. In the present day, many households are vulnerable to this as food with high calories are cheaper and more accessible where nutrition is relatively more expensive and less accessible (Seligman & Berkowitz, 2018).

Impacts of Food Security on National Resilience

Food security stands as a foundational element to a nation's security, directly impacting the well-being of people. Fulfilling the four dimensions of food security, which are availability, access, utilization, and stability, would enable to support the wellbeing of a nation. Especially, it's been proven that food insecurity are the main risk factor for poor health, from nutrient deficiencies, metabolic diseases, or even chronic diseases, which would result in the decrease of productivity (Etim et al., 2017; Seligman & Berkowitz, 2018)

Although crises have shown to cause disruptions to food security, it is no doubt that issues in the food sector, especially being a basic need, stand as a threat to human security. Food insecurity has been shown to contribute to democratic fragility as well as social unrest, from protests, riots, and communal conflict. Issues such as a rise in food prices could lead to protests and riots, both violent and non-violent (Brinkman & Hendrix, 2010). A study by Besley (2008) added that higher prices in primary commodities, such as food, might lead to an increase in an individual's willingness to fight.

Research by Loginov (2024) added the importance of food security to national resilience through national economic development. Food security shows the utilization of the national agrarian resources, implying the use of the national wealth of the country. Food security also supports the development of foreign economic activity. With a well-managed agricultural sector, it is possible for a nation to produce enough for domestic needs as well as for export needs. With an ability to process raw materials into food products, there would be higher values for export.

Loginov (2024) further emphasized that food security contributes to greater social stability. As there is support in the production of agricultural products, the government can increase competition in the market, leading to better food quality, safety, as well as lower prices, which puts comfort in people's daily lives. By making safe and high-quality food more accessible and affordable for the people, the pressure on the healthcare system could be reduced.

Ensuring food security serves as a foundation to minimize humanitarian crises, especially during war. Although leaving devastating impacts, the use of food as weapon remains in modern conflicts. While the use of food as a weapon of war might be a byproduct, it might also be intentional, whether to put pressure on a nation or to eliminate entire groups of a nation, such as ethnic cleansing and genocide. This is done through directly cutting off food supplies or blocking food access (de Waal, 2018; Messer & Cohen, 2015). Although international laws have prohibited this, it is no doubt that this strategy is still being used in conflict zones such as Tigray, South Sudan, Russia's invasion of Ukraine, and Israel's blockade of Gaza. While continuous conflict negatively impacts food security for long term, strengthening food security, through all the four elements, might save the people from instantly receiving the effects of this war crime.

Challenges in Securing Food

Ensuring food security is challenging as one of the affecting factors of it is population growth. Malthus' theory stated that 'food production grows arithmetically and population grows geometrically'. This means that as population increases, the need for food would automatically increase. If not managed effectively, this would result in a gap between supply and demand. Therefore, to achieve food security, it is important to study the influence of population dynamics on food conditions, especially in densely populated nations (Anwar, 2022).

The rapid process of globalization has also been shown to cause stress to the food sector. Resource exploitation, multiplied by the issue of climate change, have caused shortages

in resources, food production, as well as distribution. These shortages would further result in rising cost and spikes in food prices. Issues of the soil, being the cornerstone to ensuring food security, is essential to be looked upon. Issues such as degradation or desertification have stood to be a significant threat to food security, among other services provided by soil such as water cycle, nutrient cycling, and carbon sequestration (Basset, 2024; Chavez-Miguel et al., 2024).

Indonesia's Effort to Ensure Food Security

Even though Indonesia is known to be one of the worlds biggest rice producing country, it is still facing issues in the food sector. People still don't have access to food easily and cheaply, due to its dependence on imported food. The government, however, is trying to improve this, especially from its domestic rice production. This is increase the availability of food in order to fulfill the needs of the basic need of the increasing number of populations (Anwar, 2022; Salasa, 2021).

The current president, Prabowo Subianto, takes this issue into concern. As part of his administration agenda, the food security program is aimed at achieving national food self-sufficiency and reducing dependency on imported commodities. Other than financial commitments, the key initiatives include, combatting market manipulation; farmer welfare; and food estates, to expand agricultural lands to increase domestic production. The initiated Free Nutritious Meals Program is also aimed to ensure food security. The program is aimed at improving public health through nutrition intake, particularly for schoolchildren and pregnant woman, and also to optimize the use of local resources (Cabinet Secretariat of the Republic of Indonesia, 2025a, 2025b, 2025c).

5. CONCLUSION

Food security stands as an important foundation of national resilience, shaping public health, economic productivity, and social stability. Disruptions in this area can lead to several consequences, including malnutrition, declining labor productivity, rising poverty, and greater pressure on healthcare systems, consequently, the government. Issues of food insecurity has also been known to be a driver of social unrest, weakened trust in governance, and increases vulnerability to external shocks or conflict.

Food insecurity is a serious threat to national security. Despite the many efforts in strengthening this, factors such as population growth and climate change exacerbate these challenges, particularly in developing countries such as Indonesia. Indonesia, however, has taken several initiatives aimed at strengthening food security, including efforts to combat

market manipulation, improve farmer welfare, developing food estates, and the Free Nutritious Meals Program.

REFERENCES

- Abidin, Z. Z., & Jais, M. F. M. (2024). Non-traditional security threat: Impact and challenge on Malaysian security. *International Journal of Law, Government and Communication*, 9(37), 176–188. <https://doi.org/10.35631/ijlgc.937015>
- Anwar, N. (2022). Indonesia's regional food security in light of the impending global food crisis. *Trikonomika*, 21, 101–110. <https://doi.org/10.23969/trikononika.v21i2.7113>
- Arlene, F. (2019). *Conducting research literature reviews: From the internet to paper* (5th ed.). SAGE Publications, Inc. <https://uk.sagepub.com/en-gb/eur/conducting-research-literature-reviews/book259191>
- Barnea, R., Weiss, Y., & Shemer, J. (2020). Health: An essential component of national resilience. *Journal of Global Health Reports*, 4, e2020068. <https://doi.org/10.29392/001c.14134>
- Basset, C. (2024). Soil security: The cornerstone of national security in an era of global disruptions. *Soil Security*, 16, 100154. <https://doi.org/10.1016/j.soisec.2024.100154>
- Besley, T. (2008). *The incidence of civil war: Theory and evidence*. <https://doi.org/10.3386/w14585>
- Booth, W. C., Colomb, G. G., William, J. M., Bizup, J., & FitzGerald, W. T. (2016). *The craft of research* (4th ed.). The University of Chicago Press. <https://doi.org/10.7208/chicago/9780226239873.001.0001>
- Brinkman, H.-J., & Hendrix, C. (2010). *Food insecurity and conflict: Applying the WDR framework* (Background paper for the World Bank's World Development Report 2011: Conflict, Security and Development). <https://doi.org/10.1596/9106>
- Cabinet Secretariat of the Republic of Indonesia. (2025a, February 3). *President Prabowo Subianto reinforces commitment to food self-sufficiency, farmer welfare*. <https://setkab.go.id/en/president-prabowo-subianto-reinforces-commitment-to-food-self-sufficiency-farmer-welfare/>
- Cabinet Secretariat of the Republic of Indonesia. (2025b, April 23). *Indonesia to become global food estate, President Prabowo says*. <https://setkab.go.id/en/indonesia-to-become-global-food-estate-president-prabowo-says/>
- Cabinet Secretariat of the Republic of Indonesia. (2025c, August 15). *President Prabowo: "Greedynamics" has no place in Indonesia's food sector*. <https://setkab.go.id/en/president-prabowo-greedynamics-has-no-place-in-indonesias-food-sector/>
- Canning, D., & Bloom, D. E. (2018). Population health, economic implications of. In *The New Palgrave Dictionary of Economics* (pp. 10492–10500). Palgrave Macmillan. https://doi.org/10.1057/978-1-349-95189-5_2661
- Chavez-Miguel, G., Hämmerle, J., González, A., Canetti, C., Gleich, P., Halfast, R. L., Feuchter, M., Buszydlo, D., Schwarz, L., Scheepstra, I., de Haan, S., Ccanto, R., Sieber, S., & Bonatti, M. (2024). Local food system resilience in the context of shocks and crises: Vulnerabilities and responses of agroecology-based farmers in Peru, Germany, and the United States. *Agroecology and Sustainable Food Systems*, 48(6), 876–897. <https://doi.org/10.1080/21683565.2024.2341987>
- de Waal, A. (2018). The end of famine? Prospects for the elimination of mass starvation by political action. *Political Geography*, 62, 184–195. <https://doi.org/10.1016/j.polgeo.2017.09.004>

- Etim, E., Duke, O., & Jr, O. (2017). The implications of food insecurity, poverty and hunger on Nigeria's national security. *Asian Research Journal of Arts & Social Sciences*, 4(2), 1–10. <https://doi.org/10.9734/ARJASS/2017/31632>
- Fanoulis, E., & Kirchner, E. (2016). Nontraditional security issues. In *China, the European Union, and the international politics of global governance* (pp. 195–212). Palgrave Macmillan. https://doi.org/10.1057/9781137514004_11
- FAO, IFAD, UNICEF, WFP, & WHO. (2025). *The state of food security and nutrition in the world 2025: Addressing high food price inflation for food security and nutrition*. <https://doi.org/10.4060/cd6008en>
- FAO. (2008). *An introduction to the basic concepts of food security*. www.foodsec.org
- Fjäder, C. (2014). The nation-state, national security and resilience in the age of globalisation. *Resilience*, 2(2), 114–129. <https://doi.org/10.1080/21693293.2014.914771>
- Gasura, M. A. K., Abbas, A., & Chaichi, A. A. (2023). Impact of non-traditional security threats on Human Development Index: A case study of Pakistan. [https://doi.org/10.35484/ahss.2023\(4-II\)26](https://doi.org/10.35484/ahss.2023(4-II)26)
- Heymann, D. L., & Legido-Quigley, H. (2022). Two years of COVID-19: Many lessons, but will we learn? *Eurosurveillance*, 27(10). <https://doi.org/10.2807/1560-7917.ES.2022.27.10.2200222>
- Lasconjarias, G. (2017). *Deterrence through resilience: NATO, the nations and the challenges of being prepared*. http://www.nato.int/cps/en/natohq/official_texts_133180.htm
- Loginov, D. A. (2024). Food security as a factor of sustainable national economic development. *E3S Web of Conferences*, 537. <https://doi.org/10.1051/e3sconf/202453704002>
- Messer, E., & Cohen, M. J. (2015). Breaking the links between conflict and hunger redux. *World Medical and Health Policy*, 7(3), 211–233. <https://doi.org/10.1002/wmh3.147>
- NATO. (2017). *Resilience, civil preparedness and Article 3*. https://www.nato.int/cps/en/natohq/topics_132722.htm
- Reznikova, O. (2022). *National resilience in a changing security environment*. <http://www.niss.gov.ua>
- Salasa, A. R. (2021). Paradigm and dimensions of Indonesia's food security strategy. *Jejaring Administrasi Publik*, 13(1). <https://doi.org/10.20473/jap.v13i1.29357>
- Seligman, H. K., & Berkowitz, S. A. (2018). Aligning programs and policies to support food security and public health goals in the United States. *Annual Review of Public Health*, 40, 319–337. <https://doi.org/10.1146/annurev-publhealth-040218-044132>
- Simanjuntak, R. Z. P. P., I, G., Solihin, D., S, T., H. P., A., Dj, T., & Santoso, S. (2024). Reactualization of national resilience: A historical and conceptual study. *Jurnal Lemhannas RI*, 12(1), 65–80. <https://doi.org/10.55960/jlri.v12i1.558>
- Wu, C. (2025). Redefining concepts of nation and national security and establishing their models for the new era. *Journal of Safety and Sustainability*, 2(1), 45–58. <https://doi.org/10.1016/j.jsasus.2024.12.002>