

## Economic Resilience in Disaster-Prone Indonesia for National Security

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### Abstract

*This article analyzes the role of economic resilience as a strategic pillar of national security in disaster-prone Indonesia. Its uniqueness lies in the explicit linkage between disaster economics and comprehensive security, positioning resilience not merely as a development concern but also as a defense imperative. This study adopts a conceptual literature review synthesizing academic publications, government reports, and international frameworks, including the RPJPN 2025-2045, BNPB documents, and UNDRR assessments. Disasters create persistent economic vulnerabilities, particularly in the agricultural sector and logistic systems. Although policy frameworks exist, gaps remain in institutional coordination, fiscal capacity, and infrastructure distribution. Economic resilience is proven to be a fundamental driver of national security. This study integrates disaster economics into national security discourse, offering practical implications through recommendations for mainstreaming disaster risk reduction into security planning and expanding disaster-risk financing mechanisms.*

**Keyword: Economic Resilience, National Security, Disaster Risk Reduction, Disaster Risk Management.**

### INTRODUCTION

Indonesia ranks among the world's most disaster-prone countries, a condition driven by its location along the Pacific Ring of Fire and its geographic configuration as an archipelagic nation. Disasters including earthquakes, volcanic eruptions, tsunamis, floods, and landslides occur recurrently and thus create continuous disruptions to human life, infrastructure, and the economy. As recorded by the National Disaster Management Agency (BNPB), disaster events in

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**IJETER, Volume 04 Issue 02, 2026**



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2021 and 2022 resulted in more than 35,000 fatalities and economic losses exceeding IDR 300 trillion, thereby threatening the stability of national development (BNPB, 2023). Meanwhile, the World Bank places Indonesia among the leading countries with severe economic vulnerability to natural disasters (World Bank, 2022). These facts indicate that disasters are no longer merely humanitarian issues but have evolved into national vulnerabilities and serious security challenges.

The economic impacts of disasters in Indonesia are multidimensional and complex. These impacts include direct damages and losses such as the destruction of productive assets and infrastructure as well as indirect effects, including disruptions to food supply chains, increased fiscal burdens, and price pressures that contribute to inflation.

**Table 1.1 Accumulated Post-Disaster Economic Losses in Indonesia**

| Year of Disaster Occurrence | Economic Losses               |
|-----------------------------|-------------------------------|
| 2017                        | IDR 18,269,958,500            |
| 2018                        | IDR 3,748,870,530,882         |
| 2019                        | IDR 6,872,204,532,756         |
| 2020                        | IDR 2,308,267,863,281         |
| 2021                        | IDR 1,884,373,758,088         |
| 2022                        | IDR 3,266,452,635,155         |
| 2023                        | IDR 13,512,626,832,129        |
| 2024                        | IDR 4,734,866,021,570         |
| <b>Grand Total</b>          | <b>IDR 36,345,932,132,361</b> |

Source: Recapitulation of Damage and Losses Due to Disasters, BNPB, 2023

Economic resilience, defined as the capacity of an economy to absorb, adapt to, and recover from shocks, should therefore be framed as an integral component of Indonesia's national security strategy (Rose, 2017). Recent studies highlight the growing importance of resilience in disaster-prone countries. The United Nations Office for Disaster Risk Reduction (2023) states that incorporating disaster risk reduction considerations into fiscal and development policies is essential, while the Organisation for Economic Co-operation and



Development (2021) argues that resilient nations are better prepared for long-term security. Indonesia's long-term development blueprint further underscores the critical role of resilience. The National Long-Term Development Plan (RPJPN) 2025–2045 projects that by 2045, Indonesia will become an independent, advanced, and sustainable nation. Among its fundamental strategies are strengthening disaster risk reduction, ensuring food security, and building a resilient logistic system (Bappenas, 2023)

Therefore, this article aims to examine the potential of economic resilience as one of the strategic pillars of national security in addressing recurrent disasters. This study focuses on three interrelated aspects: (1) Indonesia's economic exposure to disasters, (2) the relevance of economic resilience as a component of national resilience, and (3) the policy framework for building resilience, particularly in relation to food security, logistic management, and fiscal risk management in alignment with the goals of the RPJPN 2025–2045. To achieve these objectives, the study employs a literature review and conceptual analysis methodology, drawing primarily from scholarly articles, government reports, and international frameworks.

The theoretical value of this study lies in linking disaster economics with national security studies; practically, it proposes policy recommendations aimed at integrating resilience into economic and defense policy. The structure of the subsequent sections of this paper is as follows. The next section outlines the research methodology employed. The following section presents the results and discussion, analyzing economic vulnerabilities, resilience policies, and policy actions. The final section integrates the key findings and offers recommendations to strengthen Indonesia's long-term national security through economic resilience. This section also addresses two central research questions: (1) How do recurrent disasters threaten Indonesia's economic stability and, consequently, its national security? and (2) Which economic resilience policies are most effective in reducing disaster risk while enhancing national resilience in accordance with RPJPN 2025–2045?

## METHOD

### Research Design

This study adopts a conceptual literature review design, which is considered appropriate for analyzing the relationship among economic resilience, disaster risk reduction, and national security. Rather than collecting primary data, this approach synthesizes secondary sources to construct a comprehensive conceptual framework. The objective is not only to map existing knowledge but also to identify research gaps and formulate integrative insights that are relevant to Indonesia's national development context and long-term security.



## Data Sources

This study draws upon a variety of credible sources, including:

1. Academic journals indexed in Scopus and Sinta, which provide foundational theories and empirical findings on economic resilience, disaster management, and national security.
2. Government reports and official documents, particularly from the National Disaster Management Agency (BNPB) and the National Development Planning Agency (Bappenas), which offer statistical data and strategic frameworks.
3. International reports, such as publications from the United Nations Office for Disaster Risk Reduction (UNDRR), which situate Indonesia within the global resilience discourse.
4. The National Long-Term Development Plan (RPJPN) 2025–2045, which articulates Indonesia's strategic direction for resilience and national security over the next two decades.



**Figure 1. Framework Diagram of National Long-Term Development Plan for the Year 2025-2045**

Source: Law Number 59 of 2024

These sources were selected based on their relevance, the recency of their data (with priority given to the last five years), and their credibility within academic and policy domains.

## Analysis Technique

This analysis employs a descriptive–analytical approach, in which the literature is

systematically reviewed and interpreted to identify patterns, challenges, and opportunities. This approach is complemented by conceptual synthesis, which integrates perspectives on economic resilience and national security into a unified framework. The descriptive–analytical method enables this study to contextualize Indonesia’s economic vulnerabilities and resilience strategies, while the conceptual synthesis ensures that theoretical insights are meaningfully connected to practical implications.

Through this methodological approach, the study aims to produce coherent insights that not only deepen academic understanding but also offer actionable recommendations for policymakers and practitioners in strengthening Indonesia’s economic and national resilience to disasters.

## RESULTS AND DISCUSSION

### Results

#### Economic Vulnerability in the Disaster Context

Indonesia is one of the most disaster-prone countries in the world, experiencing recurrent events such as earthquakes, volcanic eruptions, tsunamis, floods, landslides, and droughts. According to data from the National Disaster Management Agency (BNPB, 2021), Indonesia records more than 2,500 disaster events annually, with floods, extreme weather, and landslides accounting for the largest proportion. These events not only result in loss of life but also cause substantial economic losses.

Economic losses caused by disasters in Indonesia have consistently been significant. Bappenas (2020) estimates that disaster-related economic losses over the past decade have reached hundreds of trillions of rupiah, with floods and earthquakes among the most destructive events. For example, the 2018 Central Sulawesi earthquake and tsunami resulted in losses exceeding IDR 18.5 trillion, while the nationwide floods in 2021 caused an estimated IDR 4.3 trillion in damages (BNPB, 2021). These figures illustrate the persistent national economic vulnerability to disaster-related shocks.

Disasters also disproportionately affect key economic sectors. Agriculture, which employs nearly 30% of Indonesia’s workforce, is highly vulnerable to climate variability and hydrometeorological hazards. Droughts associated with El Niño have repeatedly reduced agricultural productivity, disrupted food supplies, and triggered inflationary pressures. At the same time, critical infrastructure such as roads, ports, and bridges is frequently damaged, disrupting logistic networks and hindering the flow of goods, particularly to remote and disaster-affected areas.



## Policy Frameworks and Strategic Documents

At the policy level, Indonesia has established various frameworks to address disaster risk reduction and economic resilience. The National Disaster Management Plan (Renas PB) 2020–2024, coordinated by the National Disaster Management Agency (BNPB), outlines priorities in risk reduction, preparedness, and recovery. Meanwhile, the National Development Planning Agency (Bappenas) integrates disaster resilience into national development strategies, particularly within the National Medium-Term Development Plan (RPJMN).

Another important milestone is the National Long-Term Development Plan (RPJPN) 2025–2045, which explicitly positions resilience as a core pillar of Indonesia’s national vision, known as “Golden Indonesia 2045.” Within this framework, food security, logistic management, and economic stability are considered essential for achieving sustainable development and safeguarding national security. The RPJPN emphasizes not only the need for infrastructure investment but also the development of adaptive systems capable of withstanding and recovering from recurrent shocks.

At the international level, Indonesia has also aligned its policies with the Sendai Framework for Disaster Risk Reduction (2015–2030), which prioritizes strengthening disaster governance, investing in resilience, and building back better in the post-disaster phase. This alignment demonstrates Indonesia’s commitment to harmonizing domestic strategies with global best practices.

## Existing Resilience Measures

Several resilience measures have been implemented to mitigate disaster-related economic risks. In the area of food security, the government has promoted the diversification of staple foods beyond rice, encouraged local food production, and developed national food reserves. These initiatives aim to reduce vulnerability to climate-related shocks and maintain price stability.

In terms of logistic management, various efforts have been undertaken to improve disaster supply chain systems. BNPB has established regional logistic warehouses in several provinces to ensure faster delivery of assistance during emergencies. The Ministry of Transportation has also invested in strengthening the resilience of transportation infrastructure, particularly in disaster-prone areas.

On the financial side, Indonesia has developed disaster-risk financing mechanisms. These mechanisms include budget reallocations, contingency funds, and insurance schemes designed to provide rapid funding for emergency response and recovery. Social protection programs, such



as cash assistance and food aid, have also been utilized as safety nets to protect vulnerable populations during disasters.

Despite these measures, challenges remain in terms of coordination, funding adequacy, and the sustainability of implemented programs. Uneven infrastructure distribution, persistently high poverty rates in disaster-prone regions, and limited integration of disaster resilience into broader security strategies indicate that Indonesia's economic system continues to face significant vulnerabilities.

## DISCUSSION

### Linking Disasters and Economic Security

The findings clearly demonstrate that disasters generate large-scale and persistent economic losses in Indonesia. From the perspective of comprehensive security theory, such vulnerabilities should be viewed not only as development challenges but also as security threats. Economic disruptions—such as inflation triggered by food shortages or prolonged recovery processes due to damaged infrastructure—can weaken state capacity and erode public trust. According to Buzan, Waever, and de Wilde (1998), security threats arise not only from military aggression but also from non-traditional risks that can destabilize the state. In this context, recurrent disasters directly challenge Indonesia's ability to maintain economic sovereignty and national stability.

### Policy Gaps and Challenges

Although the RPJPN 2025–2045 and national disaster management strategies emphasize resilience, the findings indicate that significant policy gaps remain. Infrastructure development is still uneven, particularly in eastern Indonesia, resulting in disparities in resilience capacity across regions. Furthermore, although financial instruments such as disaster contingency funds are available, their scale is often insufficient relative to the magnitude of losses. Coordination among ministries and between central and local governments also presents ongoing challenges, characterized by overlapping authorities and inconsistent policy implementation. These gaps illustrate the difficulty of translating policy frameworks into effective action, underscoring the need for institutional strengthening and improved governance.

### Toward a Comprehensive Framework

By synthesizing the findings through the lens of comprehensive security and Disaster Risk Reduction (DRR) theory, it becomes evident that economic resilience cannot be separated from



national security. This discussion highlights the need for an integrated framework that explicitly links food systems, logistic networks, and financial instruments with national defense planning. Within such a framework, economic resilience functions as a strategic driver of national resilience, ensuring that disaster-induced shocks do not escalate into systemic instability. This implies that disaster management should no longer be treated solely as a humanitarian issue, but rather as an integral component of national defense policy. Strengthening logistic infrastructure, diversifying food sources, and expanding disaster-risk financing mechanisms are not only development goals but also security imperatives. By adopting this perspective, Indonesia can move closer to the vision articulated in the RPJPN 2025–2045, in which resilience underpins sustainable growth and national sovereignty.

## CONCLUSION

This study demonstrates that natural disasters in Indonesia are not merely humanitarian emergencies but also fundamental threats to economic resilience and even national security. The literature review and conceptual analysis highlight how recurrent disasters—such as earthquakes, floods, droughts, and volcanic eruptions—generate significant economic losses, disrupt food supply chains, and strain logistic infrastructure. These disruptions directly affect market stability, societal welfare, and the state’s legitimacy in providing a sense of security for its citizens.

First, the findings indicate that although Indonesia has advanced policy frameworks—such as the RPJPN 2025–2045 and national disaster management strategies—gaps remain in institutional capacity, financial instruments, and intergovernmental coordination. These weaknesses diminish the state’s ability to effectively implement resilience objectives in practice. Without addressing these gaps, disaster-related economic shocks will continue to erode national resilience.

Second, the synthesis of theoretical perspectives underscores that economic resilience is inseparable from national defense; it serves as a strategic driver of it. By adopting a comprehensive security approach, Indonesia can position disaster risk reduction as a national security imperative rather than merely a development or humanitarian agenda.

Based on these conclusions, several strategic recommendations emerge:

1. Integrating disaster risk reduction into national security planning by aligning BNPB, Bappenas, and defense institutions under a unified resilience framework.
2. Expanding disaster-risk financing mechanisms to ensure that contingency funds and insurance systems are sufficient to absorb large-scale economic shock.





Overall, this study argues that safeguarding Indonesia's economic system from disasters is essential for maintaining sovereignty, stability, and security. By reframing disaster resilience as a security priority, Indonesia can strengthen its preparedness for the "new normal" of global risks and move decisively toward the long-term objectives outlined in the RPJPN 2025–2045.

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