International Journal of Education, Vocational and Social Science
https://e-journal.citakonsulindo.or.id/index.php/IJEVSS
E-ISSN : 2963 4954
IJEVSS

Disaster Mitigation as a Non-Traditional Security Strategy: Evidence from Local Resilience Initiatives in Indonesia

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Abstract

This study examines disaster mitigation as a non-traditional security strategy by analyzing its role in strengthening local resilience and contributing to national stability in Indonesia. As a disaster-prone country located in the Pacific Ring of Fire, Indonesia faces multidimensional risks that not only affect physical infrastructure but also threaten social and political stability. This research employs a qualitative literature review approach, drawing on policy documents, academic publications, and reports related to disaster risk reduction and local governance. The findings indicate that disaster mitigation at the local level, particularly through community-based and government-led initiatives, plays a strategic role in enhancing resilience, reducing vulnerabilities, and supporting national security. However, challenges such as limited resources, weak institutional coordination, and low community awareness hinder effective implementation. Strengthening local governance capacity, promoting multi-stakeholder collaboration, and integrating local knowledge into disaster management are essential strategies to optimize mitigation efforts. This study contributes to the discourse on non-traditional security by positioning disaster mitigation as a critical component of national stability.

Keywords: Disaster Mitigation; Non-Traditional Security; Local Resilience; Governance; Indonesia.

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INTRODUCTION

Indonesia is widely recognized as one of the most disaster-prone countries in the world due to its geographical position along the Pacific Ring of Fire and its complex climatic and environmental conditions. This vulnerability is reflected in the high frequency and impact of disasters occurring annually. According to the National Disaster Management Agency, disaster events in 2024 affected more than 8.1 million people, caused 540 deaths, and resulted in extensive damage to infrastructure, including over 80,000 houses and hundreds of public facilities. These figures highlight that disasters in Indonesia are not isolated incidents but systemic risks that significantly disrupt social, economic, and institutional stability.

From a broader perspective, disasters in Indonesia are increasingly dominated by hydrometeorological hazards such as floods, landslides, and extreme weather, which are closely linked to climate change dynamics and environmental degradation . This shift indicates that disaster risks are becoming more complex, multidimensional, and interconnected with global environmental changes. Consequently, disasters should no longer be viewed solely as natural phenomena but as socio-ecological processes shaped by human vulnerability, governance capacity, and development patterns. In recent years, disaster mitigation has increasingly been viewed not only as a technical or humanitarian issue but also as a strategic component of national security. The concept of non-traditional security emphasizes threats beyond military dimensions, including environmental degradation, climate change, and natural disasters.

In this context, the concept of non-traditional security provides a critical analytical framework. Unlike traditional security, which focuses on military threats, non-traditional security encompasses a wide range of risks, including environmental crises, climate change, and natural disasters that can threaten national stability (Buzan, 1991). Disasters can trigger cascading effects such as economic disruption, displacement, social conflict, and political instability, thereby positioning disaster mitigation as a strategic component of national security. The increasing scale and frequency of disasters demonstrate that failure to manage disaster risks effectively can undermine state capacity and governance legitimacy. Furthermore, disaster mitigation has evolved from a reactive approach centered on emergency response to a proactive strategy emphasizing risk reduction and resilience building. The disaster management cycle, as defined by UNISDR (2009), highlights mitigation as a crucial phase aimed at reducing hazard exposure and vulnerability before disasters occur. However, in many developing countries, including Indonesia, mitigation efforts are often constrained by limited resources, weak institutional coordination, and inadequate integration into development planning. This creates a gap between policy frameworks and

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practical implementation, raising critical questions about the effectiveness of disaster governance.

One of the most significant developments in disaster studies is the growing recognition of local resilience as a key determinant of successful disaster risk reduction. Local communities and subnational governments are at the frontline of disaster management, as they directly experience the impacts and are responsible for immediate response and recovery. Empirical evidence suggests that strengthening local capacity through community participation, local knowledge integration, and decentralized governance can significantly enhance disaster preparedness and adaptive capacity. The Indonesian Disaster Risk Index (IRBI) also emphasizes that disaster risk is determined by the interaction between hazard, vulnerability, and local capacity, highlighting the importance of resilience at the local level. Local governments act as the frontline in disaster management, responsible for implementing policies, coordinating stakeholders, and empowering communities. Programs such as community-based disaster risk reduction and local governance initiatives have demonstrated significant contributions to enhancing preparedness and response capacity.

However, despite the increasing emphasis on local resilience, there remains a critical gap in understanding how local level initiatives contribute to broader national security objectives. Many studies focus on technical aspects of disaster management but overlook its strategic implications in maintaining national stability. In reality, weak local resilience can escalate disaster impacts into national crises, while strong local systems can act as buffers that prevent systemic disruption. Therefore, examining disaster mitigation through the lens of non-traditional security requires a multi level analysis that connects local actions with national outcomes.

This study addresses this gap by analyzing disaster mitigation as a non-traditional security strategy, with a particular focus on local resilience initiatives in Indonesia. It seeks to critically explore how local governance, community-based approaches, and multi-stakeholder collaboration contribute to strengthening resilience and supporting national stability. By integrating perspectives from disaster studies and security studies, this research offers a more comprehensive understanding of disaster mitigation as not only a technical necessity but also a strategic imperative in safeguarding national security in disaster-prone contexts.

LITERATURE REVIEW

Disaster Mitigation within the Disaster Risk Reduction Paradigm

Disaster mitigation is a fundamental component of the broader Disaster Risk Reduction (DRR) framework, which emphasizes proactive strategies to minimize vulnerabilities and exposure

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to hazards. According to the United Nations Office for Disaster Risk Reduction (UNDRR, 2015), disaster risk is shaped by the interaction between hazard, exposure, vulnerability, and capacity. This conceptualization shifts the focus from reactive emergency response toward anticipatory governance and resilience-building approaches.

Scholars such as Ilan Kelman argue that disaster risk is not merely a function of natural hazards but is socially constructed through development processes, inequality, and governance failures. Similarly, Ben Wisner et al. (2004) in the Pressure and Release (PAR) model emphasize that disasters occur when vulnerable populations are exposed to hazards due to structural constraints such as poverty, weak institutions, and environmental degradation.

Recent studies published by Elsevier journals highlight that effective mitigation requires integrating risk reduction into development planning, urban governance, and climate adaptation strategies (Aitsi-Selmi et al., 2015; Kelman, 2017). This integration is particularly crucial in developing countries like Indonesia, where rapid urbanization and environmental change exacerbate disaster risks. Thus, disaster mitigation is increasingly understood as a governance challenge rather than a purely technical intervention.

Non-Traditional Security and Environmental Threats

The concept of non-traditional security expands the scope of security studies beyond military threats to include environmental, economic, and societal risks. Barry Buzan (1991) introduced a multidimensional framework of security encompassing military, political, economic, societal, and environmental sectors. Within this framework, natural disasters are categorized as environmental threats that can destabilize states and undermine national security. Further developments in security studies, particularly by Ole Wæver and the Copenhagen School, emphasize the process of "securitization," where issues such as climate change and disasters are framed as existential threats requiring urgent policy responses. This perspective has been widely adopted in contemporary research linking disaster risk to national and human security (Barnett & Adger, 2007; Busby, 2008).

Empirical studies published in journals such as *Global Environmental Change* and *Security Dialogue* demonstrate that disasters can trigger cascading effects, including forced migration, economic instability, and social conflict. For instance, climate-induced disasters have been associated with increased risks of political instability in vulnerable regions (Hsiang et al., 2013). These findings reinforce the argument that disaster mitigation is not only a humanitarian necessity but also a strategic imperative for maintaining national stability

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Local Resilience and Community Based Approaches

Local resilience has emerged as a central concept in disaster studies, reflecting the capacity of communities and local institutions to anticipate, absorb, and recover from shocks. According to Neil Adger (2000), resilience is closely linked to social capital, institutional capacity, and adaptive governance. Community-Based Disaster Risk Reduction (CBDRR) has gained prominence as an approach that emphasizes local participation, indigenous knowledge, and bottom-up governance. Research published in *International Journal of Disaster Risk Reduction* (Elsevier) shows that community engagement significantly enhances preparedness and response effectiveness (Shaw, 2012; Maskrey, 2011).

Moreover, Brian Walker et al. (2004) highlight that resilience is not only about recovery but also about the ability to adapt and transform in response to changing risks. This perspective aligns with the concept of adaptive governance, where local actors play a critical role in managing uncertainty and complexity in disaster-prone environments. In the Indonesian context, local resilience is particularly important due to the diversity of socio-cultural systems and ecological conditions. Studies have shown that integrating local wisdom (indigenous knowledge) into disaster mitigation can enhance community awareness and strengthen coping mechanisms. However, challenges remain in institutionalizing these approaches within formal governance structures.

Governance, Decentralization, and Multi Level Coordination

Effective disaster mitigation requires strong governance systems that integrate multiple levels of decision-making. The shift toward decentralized governance in many countries, including Indonesia, has placed greater responsibility on local governments in managing disaster risks. According to Mark Pelling (2011), governance plays a crucial role in shaping resilience outcomes through policy frameworks, institutional coordination, and resource allocation. Weak governance structures often lead to fragmented responses and inefficiencies in disaster management.

Multi level governance frameworks emphasize the importance of coordination between national, regional, and local actors. Studies in *World Development* (Elsevier) and *Natural Hazards* (Springer) highlight that successful disaster mitigation depends on collaboration among government agencies, communities, NGOs, and the private sector (Tierney, 2012; Djalante et al., 2012). However, governance challenges such as limited financial capacity, overlapping institutional roles, and bureaucratic inefficiencies continue to hinder effective disaster mitigation in developing countries. These issues underscore the need for integrated and adaptive governance systems that can respond to complex and evolving risks.

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Research Gap and Theoretical Positioning

` Despite the expanding body of literature on disaster risk reduction (DRR), non-traditional security, and local resilience, significant conceptual and empirical gaps remain in understanding how these domains intersect in a coherent analytical framework. Existing studies tend to be fragmented across disciplinary boundaries. On one hand, disaster research particularly within the DRR paradigm primarily focuses on technical interventions, hazard assessment, and community-based preparedness, often neglecting the broader political and security implications of disaster risk (Kelman, 2017; Wisner et al., 2004). On the other hand, security studies have increasingly acknowledged environmental threats but still lack empirical depth in examining how localized disaster mitigation efforts translate into measurable national security outcomes (Barnett & Adger, 2007; Busby, 2008).

Furthermore, much of the resilience literature emphasizes the adaptive capacity of communities without sufficiently interrogating the structural and governance dimensions that shape resilience outcomes. As noted by Mark Pelling (2011), resilience is inherently political, influenced by power relations, institutional arrangements, and policy priorities. However, empirical studies often treat local resilience as a technical or social construct, rather than situating it within broader state-building and security frameworks. This creates a critical gap in understanding how resilience at the micro-level contributes to macro level stability.

In addition, there is a geographical imbalance in the literature. Much of the theoretical development in disaster and security studies is derived from Global North contexts, which may not adequately capture the complexities of developing countries such as Indonesia. In these contexts, disaster risks are often intertwined with issues of environmental degradation, informal economies (e.g., illegal mining), and socio-political vulnerabilities. Consequently, there is a need for context-specific empirical evidence that reflects the realities of governance, capacity constraints, and socio-cultural dynamics in disaster-prone regions. This study addresses these gaps by proposing an integrated analytical perspective that positions disaster mitigation as a non-traditional security strategy. It advances the argument that local resilience initiatives, particularly those driven by local governance and community participation, serve as critical mechanisms linking disaster risk reduction to national stability.

Moreover, this study offers an empirical contribution by situating the analysis within the Indonesian context, where disaster risks are both frequent and complex. It highlights how localized mitigation initiatives, supported by governance structures and community engagement, can function as a form of preventive security strategy. In doing so, the research not only fills a

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theoretical gap but also provides practical insights for policymakers in integrating disaster mitigation into national security planning.

METHODS

This study employs a qualitative research design using a systematic literature review approach to examine disaster mitigation as a non-traditional security strategy and its relationship with local resilience and national stability. The literature review method is selected to synthesize theoretical perspectives and empirical findings from diverse academic disciplines, particularly disaster studies, security studies, and governance research. The literature study approach was chosen to provide a comprehensive overview of the disaster mitigation as a non-traditional security strategy from various academic and practical perspectives.

Data was collected from documents from the Ministry of Home Affairs, the National Disaster Management Agency (BNPB), related ministries, and various recent journals and articles discussing disaster mitigation, the role of subdistricts, and national security policies. All data obtained was then reduced, presented, and analyzed descriptively and qualitatively to explain how disaster mitigation as a non-traditional security strategy and its relationship with local resilience and national stability.

The analysis technique used refers to the content analysis and interactive model of Miles and Huberman (2014), which involves three main stages, namely data reduction, data presentation, and data verification so that the research results can be academically and practically accountable.

RESULT AND DISCUSSION

Disaster Mitigation as a Non-Traditional Security Strategy

The findings indicate that disaster mitigation in Indonesia has evolved beyond a purely technical and humanitarian domain into a strategic component of national security. Within the framework of non-traditional security, disasters are increasingly recognized as systemic threats that can destabilize economic systems, disrupt governance, and exacerbate social vulnerabilities. This aligns with the theoretical perspective of Buzan (1991), which categorizes environmental risks as critical security threats capable of undermining state stability. Empirical evidence from Indonesia reinforces this argument. The high frequency of disasters reaching thousands of events annually demonstrates that disaster risks are not episodic but structural in nature. For instance, Indonesia recorded 3,814 disaster events affecting over 6 million people in a single year, illustrating

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the scale of potential disruption to national stability . Such impacts extend beyond immediate physical damage to include long-term socio-economic consequences, including poverty, displacement, and weakened institutional capacity.

From a security perspective, ineffective disaster mitigation can lead to cascading crises, including humanitarian emergencies, economic decline, and political instability. Conversely, effective mitigation reduces systemic risks and enhances the state's capacity to maintain order and stability. This supports the argument that disaster mitigation should be repositioned as a preventive security strategy rather than merely a reactive policy instrument.

Local Resilience as the Foundation of National Stability

A central finding of this study is that local resilience constitutes the foundational layer of national security in disaster-prone contexts. Drawing on resilience theory (Adger, 2000; Walker et al., 2004), resilience is understood as the capacity of communities to absorb shocks, adapt to changing conditions, and recover from disasters. In Indonesia, local resilience is operationalized through initiatives such as disaster-resilient villages (desa tangguh bencana), community-based disaster risk reduction (CBDRR), and local early warning systems. Evidence shows that these initiatives significantly improve community preparedness and response capacity. The presence of disaster-resilient villages, for example, has been shown to enhance community readiness and reduce vulnerability during emergencies.

Moreover, recent policy developments emphasize the strategic importance of local capacity. The National Disaster Management Agency (BNPB) highlights that strengthening preparedness at the local level is essential, as disasters can occur unpredictably and require immediate response capabilities. This underscores the role of local actors as the first line of defense in disaster situations. From a theoretical standpoint, this finding supports the multi-level governance perspective, which posits that national resilience is an aggregate outcome of local capacities. Weak local resilience can escalate localized disasters into national crises, while strong local systems can act as buffers that prevent widespread disruption.

Governance and Multi-Level Coordination in Disaster Mitigation

The study also reveals that governance plays a decisive role in determining the effectiveness of disaster mitigation strategies. Indonesia has established a formal institutional framework through the National Disaster Management Agency (BNPB) and regional disaster management agencies (BPBD), which are responsible for coordinating disaster management

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across different levels of government. However, despite this institutional structure, significant governance challenges persist. Studies indicate that disaster mitigation in Indonesia is often constrained by: Weak inter-agency coordination; Limited financial resources; and Uneven institutional capacity across regions.

For example, earlier assessments highlighted that disaster management budgets accounted for less than 1% of national expenditure, indicating limited prioritization of risk reduction efforts . Additionally, not all regions have fully implemented structured disaster risk reduction mechanisms, such as DRR forums, which are essential for coordination and capacity building. From a theoretical perspective, these findings align with governance theory, particularly the work of Pelling (2011), which emphasizes that resilience outcomes are shaped by institutional arrangements and policy coherence. The lack of effective coordination reduces the efficiency of mitigation efforts and increases vulnerability to disaster risks.

Community-Based Approaches and the Role of Local Knowledge

Another key finding is the significant contribution of community-based approaches and local knowledge in enhancing disaster mitigation. The integration of local wisdom with scientific knowledge has been identified as a critical factor in strengthening resilience. Empirical studies show that local cultural practices such as community compliance with traditional leadership and collective action play an important role in disaster response and evacuation processes . These social capital elements enhance coordination, trust, and collective action during crises.

Furthermore, global and national DRR frameworks increasingly emphasize the importance of community participation. The DRR Forum in Indonesia, for instance, serves as a platform for fostering collaboration among stakeholders and promoting a culture of risk awareness. From a theoretical perspective, this finding supports the CBDRR approach, which argues that local communities are not merely victims but active agents in disaster risk management. Integrating local knowledge into formal governance systems enhances the effectiveness and sustainability of mitigation strategies.

Challenges and Strategic Implications for National Security

Despite progress in disaster mitigation, several structural challenges continue to limit its effectiveness as a non-traditional security strategy. These include: Limited technological capacity and data integration; Low levels of disaster education and awareness; and Structural inequalities that increase vulnerability.

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Research indicates that disaster mitigation efforts in Indonesia are still hindered by low utilization of technology and insufficient disaster education, particularly in remote areas . These limitations reduce the ability of communities and institutions to anticipate and respond to risks effectively. From a security perspective, these challenges represent critical vulnerabilities that can undermine national stability. Disasters that are poorly managed can escalate into broader crises, including economic disruption and social unrest. However, the study also identifies strategic opportunities. Strengthening disaster mitigation through: Capacity building at the local level; Integration of local knowledge and scientific approaches; and Enhanced multi-stakeholder collaboration can transform disaster management into a proactive security strategy..

CONCLUSION

This study demonstrates that disaster mitigation should be reconceptualized as a core component of non-traditional security, particularly in disaster prone countries such as Indonesia. Moving beyond its conventional role as a technical and humanitarian response, disaster mitigation functions as a strategic mechanism to reduce systemic risks that threaten national stability. The findings highlight that disasters, if not effectively managed, can generate cascading impacts on economic systems, social cohesion, and governance structures, thereby undermining state capacity and security.

A key contribution of this study lies in emphasizing the critical role of local resilience as the foundation of national stability. The analysis shows that community-based initiatives, local governance capacity, and participatory approaches significantly enhance preparedness, reduce vulnerability, and strengthen adaptive capacity. These local-level mechanisms act as the first line of defense in disaster situations and serve as a buffer that prevents localized risks from escalating into national crises. Furthermore, the study underscores the importance of governance and multi-level coordination in disaster mitigation. While Indonesia has established institutional frameworks for disaster management, challenges such as limited resources, weak coordination, and uneven capacity across regions continue to constrain effectiveness. These findings suggest that the success of disaster mitigation as a non-traditional security strategy depends not only on policy frameworks but also on the quality of implementation at the local level.

Overall, the findings demonstrate that disaster mitigation functions as a multi-level security mechanism, where local resilience initiatives serve as the foundation for national stability. The relationship can be conceptualized as follows: Local level: Community resilience reduces vulnerability and enhances preparedness; Regional level: Governance coordination ensures

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effective resource allocation; and National level: Reduced disaster impacts contribute to socio-economic stability and security. This multi-level linkage highlights that national security in disaster-prone countries like Indonesia is not solely determined by military capacity but also by the ability to manage environmental and social risks effectively. It argues that strengthening disaster mitigation is not merely a developmental priority but a strategic imperative for ensuring long-term national stability in the face of increasing environmental and societal risks.

RECOMMENDATION FOR FUTURE DIRECTIONS

Building on the findings of this study, several strategic directions are proposed to enhance both research and policy development in the field of disaster mitigation and non-traditional security. First, future research should move beyond literature-based approaches by incorporating empirical and field-based studies, particularly at the local level. In depth case studies, comparative analyses, and mixed-method approaches are needed to better understand how local resilience initiatives operate in practice and how they contribute to national security outcomes. Such studies would provide more robust evidence to validate the conceptual linkages proposed in this research. Second, there is a need to develop quantitative models and indicators that can measure the relationship between disaster mitigation, local resilience, and national stability. Current research largely relies on qualitative assessments, which limits the ability to evaluate the effectiveness of mitigation strategies in measurable terms. Developing composite indices or integrating existing indicators—such as disaster risk indices and resilience metrics would strengthen analytical rigor. Third, future studies should explore the role of emerging technologies in disaster mitigation, including early warning systems, big data analytics, and geographic information systems (GIS). The integration of technology into disaster risk management has the potential to significantly improve preparedness, response, and coordination, particularly in developing countries. Fourth, further research is needed to examine the political and institutional dimensions of resilience, including power relations, governance structures, and policy implementation gaps. Understanding these dynamics is essential for addressing structural barriers that hinder effective disaster mitigation.

From a policy perspective, this study recommends strengthening local government capacity through increased funding, training, and institutional support. Enhancing multi-stakeholder collaboration among government agencies, communities, the private sector, and civil society is also crucial for improving coordination and resource mobilization. In addition, integrating local knowledge and cultural practices into formal disaster management systems should be prioritized, as these elements have been shown to enhance community engagement and

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resilience. Finally, disaster mitigation should be systematically incorporated into national security and development planning frameworks, ensuring that it is treated as a strategic priority rather than a reactive measure

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