



Barriers in the Implementation of Community-Based Disaster Management in Lombok: A Scoping Review

Mohamad Juhad¹, Elisa Sulistia Fitri²

^{1,2}Institut Teknologi Sosial dan Kesehatan Muhammadiyah Malang

Corresponding Author: Mohamad juhad: mohjuhad.1263@gmail.com

ARTICLE INFO

Keywords: Barriers, Community-Based, Disaster Management

Received : 12, Oktober

Revised : 20, November

Accepted: 27, December

©2024 Juhad, Fitri: This is an open-access article distributed under the terms of the [Creative Commons Atribusi 4.0 Internasional](https://creativecommons.org/licenses/by/4.0/).



ABSTRACT

The Disaster-Resilient Village program also known as *Destana* is one of example of community-based disaster management developed in Indonesia to strengthen the resilience of village communities against natural disasters by enhancing the community's capacity to recognize, respond to, and recover from disasters. This study aims to identify possible barriers hindering the application of community-based disaster management program in Indonesia based on recent research that focus on the area of Lombok. According to criteria, there were five articles included in the review. Three main challenges found in the implementation of *Destana*: Resource constrains, lack community engagement and awareness, and policy and regulatory framework issue. Addressing these challenges and implementing recommendations provided is needed for effectiveness.

INTRODUCTION

Building resilience and minimizing losses after natural disasters is a priority for governments around the world. Indonesia is well-known for being located in the Ring of Fire, which makes it highly vulnerable to disasters both geographically and geologically (Si, El-Matary, & Wijaya, 2021). This is due to its position on tectonic plates that span the entire Indonesian archipelago, with systemic activities that render Indonesia very susceptible to earthquakes, floods, landslides, tsunamis, and other forms of natural disasters (Ayuningtyas, Windiarti, Hadi, Fusrini, & Barinda, 2021; Azhelia Andini, 2024). The Disaster-Resilient Village program also known as *Destana* is one of example of community-based disaster management developed in Indonesia to strengthen the resilience of village communities against natural disasters by enhancing the community's capacity to recognize, respond to, and recover from disasters.

Disaster-resilient villages are villages that have the independent ability to adapt to and face potential disaster threats, as well as to quickly recover from the detrimental impacts of disasters. Destana Program is implemented at every level of the village and subdistrict, especially in disaster-prone areas. Recently Indonesia has experienced many disasters, both in the rainy season and the dry season, including tornado, flood, flash flood, extreme weather, volcano, earthquake, fire, drought, forest and land fire, and landslide (Badan Nasional Penanggulangan Bencana, 2018). Disaster has caused significant losses in the form of direct and indirect costs in several sectors. Since then, Indonesian government in coordination with the provincial and regency government has organized the necessary prerequisites for disaster preparedness through Destana. However, there were some challenges perceived by local authorities in implementing the Destana (Sistem Informasi Kebencanaan Provinsi Nusa Tenggara Barat, 2023).

The decentralization of disaster management has resulted in local governments being primarily responsible for implementing disaster resilience strategies. However, there is often a lack of coordination among various agencies and insufficient community involvement in planning processes. Residents are frequently treated as an afterthought rather than active participants in disaster preparedness (Muryani, 2020). Moreover, the absence of a robust framework for knowledge transfer hinders effective local responses to disasters. Many villagers remain unaware of their roles in disaster management, which can lead to high casualties during (Rusmana et al., 2024).

Research suggests that resource mobilization remains a challenge due to differing priorities among stakeholders and a lack of integrated action plans that address both disaster risk reduction and economic (Muryani, 2020). Therefore, this study aims to identify possible barriers hindering the application of

community-based disaster management program in Indonesia based on recent research that focus on the area of Lombok.

LITERATURE REVIEW

Indonesia, situated on the Pacific "Ring of Fire," frequently encounters diverse natural disasters, including earthquakes, volcanic eruptions, floods, and landslides (Rozi, Ritonga, & Januar, 2021). These incidents result in considerable material losses and adversely impact the health and well-being of the Indonesian populace. The preparedness of communities to respond to disasters is a key element in disaster management (Muryani, 2020). The National and Provincial Government of Indonesia took an active role in this matter as a manifestation of its commitment to the Implementation of community-based disaster management or so-called disaster-resilient Village (Destana). Guidelines for the implementation of the BNPB Head Regulation were then compiled into an Implementation Handbook, which is a collaboration between the local government and NGOs. The Destana Implementation Handbook is expected to strengthen a culture and institutional framework for disaster preparedness that is anticipatory, responsive, and adaptive to face disasters across the region (Badan Nasional Penanggulangan Bencana Provinsi NTB, 2018).

Disaster-resilient villages are villages that can identify threats in their areas and organize community resources to reduce vulnerability and enhance capacity to mitigate disaster risk. Development planning combines prevention, preparedness, disaster risk reduction, and enhancement of post-disaster recovery capabilities to realize these abilities (Sistem Informasi Kebencanaan Provinsi Nusa Tenggara Barat, 2023). Destana involves the community in assessing, analyzing, addressing, monitoring, evaluating, and reducing disaster risks in their area, especially by utilizing local resources to ensure sustainability (Badan Nasional Penanggulangan Bencana Provinsi NTB, 2018). Community-Based Disaster Management (CBDM) has been widely recognized as an effective approach to disaster risk reduction (DRR), emphasizing the active involvement of local communities in disaster preparedness, mitigation, response, and recovery. In Indonesia, a country highly vulnerable to natural disasters due to its geographical location on the Pacific Ring of Fire, CBDM has been implemented in various regions to enhance resilience at the grassroots level. Despite its potential, the implementation of CBDM faces numerous challenges that hinder its sustainability and effectiveness. This literature review explores key barriers identified in the implementation of CBDM in Indonesia, including limited community participation, weak integration of local wisdom, coordination gaps among stakeholders, inadequate funding, and capacity-building challenges.

Limited Community Participation

One of the primary barriers to CBDM implementation is the lack of meaningful community participation. While CBDM aims to empower communities as active participants in disaster management, many initiatives in Indonesia adopt a top-down approach where decisions are made by government

authorities or external organizations without adequately involving local communities. This approach often reduces community ownership and engagement in disaster management activities. Additionally, cultural misconceptions about disasters—such as viewing them as acts of fate or divine will—further discourage participation (Muryani, 2020). In some cases, vulnerable groups, such as women and the elderly, are excluded from planning processes due to societal norms that undervalue their contributions (Sistem Informasi Kebencanaan Provinsi Nusa Tenggara Barat, 2023).

Weak Integration of Local Wisdom

The integration of local wisdom and traditional practices into formal disaster management frameworks remains a significant challenge. Indigenous knowledge systems have historically played a crucial role in helping communities anticipate and respond to disasters. For example, traditional warning signs such as changes in animal behavior or environmental patterns have been used effectively by local communities in Indonesia (Rozi et al., 2021). However, modern CBDM strategies often overlook these practices in favor of standardized approaches that may not align with local contexts. This disconnect between traditional knowledge and formal systems not only undermines the cultural relevance of CBDM initiatives but also limits their effectiveness in addressing localized risks (Juwitasari, 2022).

Coordination Gaps Among Stakeholders

Effective CBDM requires seamless collaboration among various stakeholders, including government agencies, non-governmental organizations (NGOs), private sectors, academia, and community groups. However, coordination gaps are a persistent issue in Indonesia's disaster management system. Overlapping mandates between national agencies like BNPB (National Disaster Management Agency) and regional agencies like BPBD (Local Disaster Management Agencies) often lead to inefficiencies and delays during disaster response (Sistem Informasi Kebencanaan Provinsi Nusa Tenggara Barat, 2023). Poor communication channels among stakeholders further hinder the timely dissemination of information and resources needed for effective CBDM implementation (Juwitasari, 2022; Rozi et al., 2021).

Inadequate Funding

Inadequate funding is another major barrier to the successful implementation of CBDM in Indonesia. Many local governments face budget constraints that limit their ability to sustain community-based programs. CBDM efforts often rely heavily on external funding from national agencies or international donors, which can be inconsistent or short-term (Ratna Puji et al., 2021). This dependency creates uncertainty about the continuity of programs once funding ends. Moreover, insufficient financial resources affect essential aspects such as training programs for community members, procurement of

emergency equipment, and development of infrastructure for disaster preparedness.

Capacity-Building Challenges

Capacity-building challenges further undermine the effectiveness of CBDM in Indonesia. Training programs for community members and local leaders are often inconsistent or insufficient to equip them with the skills needed for effective disaster management (Rozi et al., 2021). Many village leaders lack access to formal training on risk assessment or emergency planning, limiting their ability to guide their communities during disasters (Muryani, 2020). Additionally, high staff turnover at BPBDs weakens institutional capacity and disrupts continuity in implementing CBDM programs.

Sustainability Issues

Sustainability remains a critical concern for CBDM initiatives in Indonesia. Programs often fail to achieve long-term impact due to reliance on external support rather than building self-sufficient systems within communities. According to Ratna Puji et al. (2021), sustainable CBDM requires continuous community engagement and integration into broader development plans. However, achieving this sustainability is challenging due to limited trust among stakeholders and inadequate mechanisms for mobilizing local resources.

Overlapping Policies and Bureaucratic Inefficiencies

Another barrier is the overlapping policies and bureaucratic inefficiencies that characterize Indonesia's disaster management system. The command-and-control structure prevalent in many government agencies creates delays in decision-making processes and restricts flexibility during emergencies (Juwitasari, 2022). For example, budget allocations for disaster response often require lengthy approval processes from multiple levels of government, delaying critical interventions during disasters.

METHODOLOGY

This review uses a scoping review approach to identify earthquake disaster preparedness. The scoping review research design was chosen because the reference sources used by the researchers are varied, coming from journal articles and official websites. Scoping review is a method used to identify literature in depth and comprehensively obtained from various sources with different research methods and related to the research topic.

A scoping review aims to answer questions from a predetermined research topic by using various sources of similar research articles, which are then grouped and conclusions are drawn. In compiling a scoping review, several stages were undertaken by researcher. The stages are as follows:

Identification of Research Questions

At this stage, research questions were used as a reference in the search for articles. The question in this research is "What are the barriers in implementing the community-based disaster management?"

Identify Relevant Literature Sources

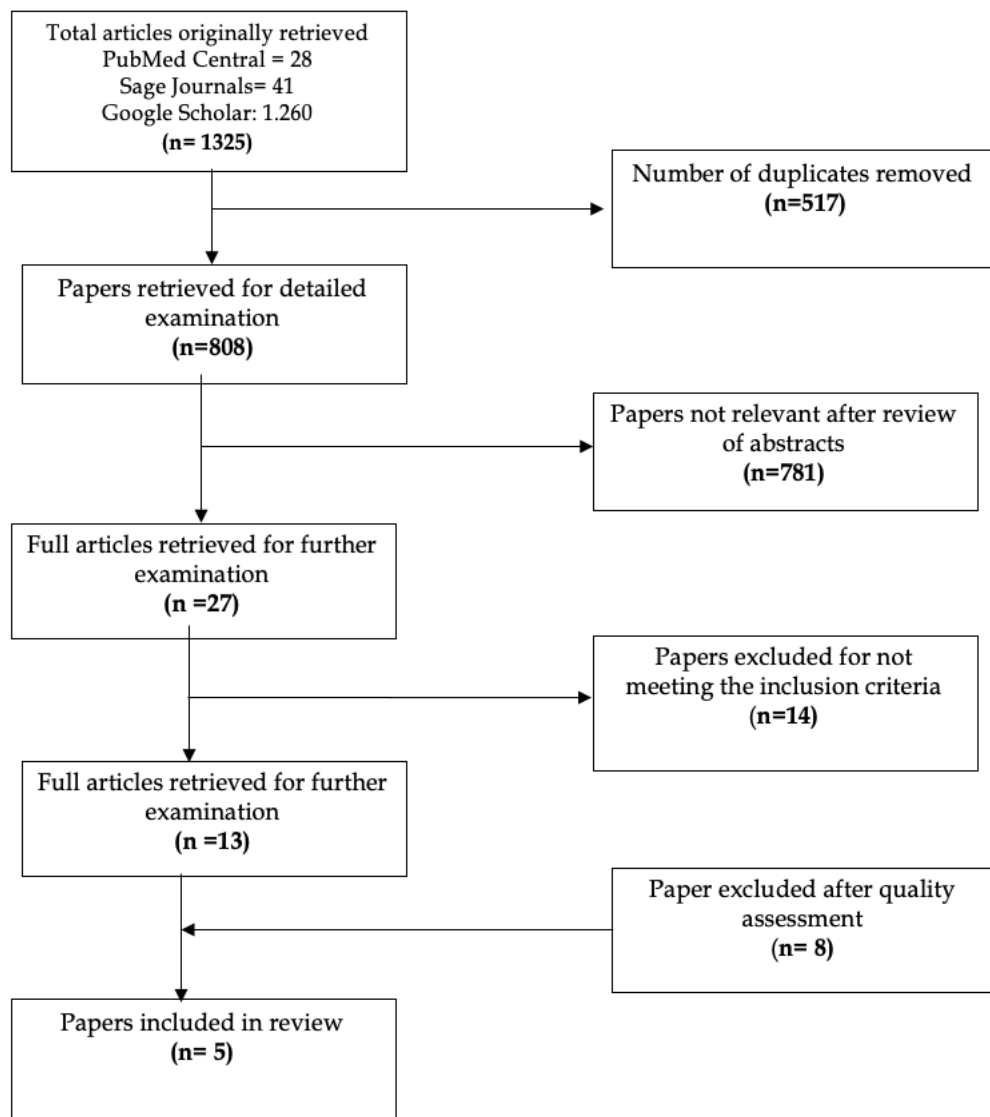
Literature sources were obtained through searches using several online databases, including PubMed Central, ProQuest, and Google Scholar. The keywords used for literature search in Indonesian include Destana, persiapan, and bencana. Meanwhile, the keywords in English include challenges, community-based and disaster management. Then the duplicated articles were eliminated, resulting in 1325 articles related to the research topic.

Literature Selection

At this stage, the researcher selects the literature obtained from various search engines mentioned earlier based on the established keywords. The literature obtained will be selected according to the inclusion and exclusion criteria of the study.

The articles reviewed are all articles from search terms will be limited to published from 2014 to 2024, using Indonesian or English, available in full text, and specifically focused on the area of Lombok. Based on the criteria and the relevance of the literature to the research topic, a total of 1325 articles were obtained, with details as follows:

Figure I: Flow diagram of the paper selection process



Based on the provided research findings, several recurring themes emerge as significant challenges to the successful implementation and effectiveness of the community-based disaster management: *Destana* program in the NTB. These challenges can be broadly categorized into the following themes:

Resource Constraints

Resource constraints consistently emerge as a significant impediment to the successful implementation of the *Desa Tangguh Bencana* (*Destana*) program across various regions of Lombok. These limitations manifest in several key areas. Firstly, A chronic lack of sufficient financial resources is a recurring theme (Salman, 2023). This includes inadequate funding from village governments, a reliance on non-governmental

organizations (NGOs) for financial support¹, and delays in the disbursement of disaster management funds². Budget limitations directly impede the establishment of new Destana initiatives and restrict the scope and effectiveness of activities undertaken by existing programs. Rahman et al. (2023) and Budiman et al. (2024) found the lack of Destana was due to the limited ability of the District Budget, the lack of utilization of village funds and CSR, and the lack of optimal integration between stakeholders. The perception that Destana implementation falls primarily, if not solely, under the purview of the BPBD further exacerbates the issue, potentially limiting the exploration of alternative funding mechanisms and shared responsibility.

Moreover, Insufficient staffing levels within the Badan Penanggulangan Bencana Daerah (BPBD) are a persistent concern (Ghaffar & Ibrahim, 2024). The limited quantity and quality of BPBD personnel hinders effective program implementation, monitoring, and evaluation (Rahman et al., 2023). This shortage impacts the ability of the BPBD to provide adequate support and guidance to villages in developing and implementing their disaster preparedness plans². A lack of competent resources as implementers, including a need for competent resources as implementers, also poses a challenge (Rahman et al., 2023).

It is important to note that villages also have more resources than those available from the provincial government, which faces financial constraints. Also, to quickly accelerate the achievement of Destana targets, the Community Empowerment Office, Village Government, Citizenship and Civil Registry Office of NTB, and village assistants or *pendamping desa* have been expanded the involved parties.

Lack of Community Engagement and Awareness

Low levels of community engagement and awareness consistently surface as a critical impediment to the success of the Desa Tangguh Bencana (Destana) program (Ghaffar & Ibrahim, 2024). This challenge manifests in several interconnected ways. One of them is insufficient awareness and participation (Fatharani, 2023). Across various studies, insufficient community awareness regarding disaster risks and preparedness is identified as a significant barrier to effective program implementation²³⁴. This is evidenced by the considerable number of villages that have yet to implement the

Destana program and the high proportion of designated "disaster-resilient villages" that remain at the most basic "pratama" level, indicating limited progress in achieving comprehensive disaster resilience. Low levels of awareness directly translate into minimal community participation in activities designed to meet the indicators required for a fully functional disaster-resilient village. Moreover, a sense of negligence among some village members in fulfilling their assigned duties and responsibilities further hinders program effectiveness (Salman, 2023).

Furthermore, communities often exhibit a tendency to rely on external assistance, particularly from the BPBD, when facing disasters, rather than taking proactive measures themselves (Budiman et al., 2024). This dependence stems from a perceived lack of capacity and resources at the local level. While the underlying goal of the Destana program is to empower communities to become self-sufficient in disaster preparedness and response, this reliance on external aid underscores the need for targeted interventions to build local capacity and promote a sense of ownership and responsibility within communities.

Policy and Regulatory Framework

The absence of a robust and well-defined policy and regulatory framework has historically posed a significant challenge to the effective implementation of the Desa Tangguh Bencana (Destana) program (Ghaffar & Ibrahim, 2024). The lack of specific Regional Regulations (Peraturan Daerah) directly addressing the Destana program has contributed to its limited effectiveness. The slow development and enactment of derivative regulations for disaster management has further exacerbated this issue, creating uncertainty and hindering coordinated action (Budiman et al., 2024).

However, there have been positive developments in addressing this gap. Governor Regulation No. 84/2022 on the Guidelines for Implementing Disaster Resilient Villages/Subdistricts¹³⁷ represents a significant step forward. This regulation was issued with the specific intent of providing overarching guidance to multi-sector, multi-stakeholder actors involved in Destana implementation¹. It aims to streamline efforts by aligning them with national regulations and guidelines, and to enable improved coordination, monitoring, and evaluation of Destana progress and standards (Rahman et al., 2023). This regulation also serves as a reference to guide villages on how existing

initiatives contribute to Destana indicators. It makes it easier for stakeholders to contribute to establishing Destana (Fatharani, 2023).

CONCLUSIONS AND RECOMMENDATIONS

The Desa Tangguh Bencana (Destana) program in Lombok faces significant challenges related to resource constraints, community engagement, and the policy framework. Limited financial resources, staffing shortages within the BPBD, and dependence on external aid hinder effective program implementation and community empowerment. To enhance the Destana program's effectiveness and sustainability, the following recommendations are proposed: First, diversify funding sources by exploring alternative funding mechanisms beyond the BPBD budget, including village funds, corporate social responsibility (CSR) initiatives, and partnerships with NGOs². Second, capacity building. Invest in training and development programs to enhance the skills and expertise of BPBD staff in program implementation, monitoring, and evaluation. Third, Prioritize community-based approaches that empower local residents to take ownership of disaster preparedness efforts, fostering a sense of responsibility and reducing reliance on external aid. In addition, awareness campaigns by educating communities about disaster risks, preparedness measures, and the benefits of active participation in the Destana program. Fourth, improve coordination and collaboration among government agencies, NGOs, and community organizations involved in disaster management, ensuring a unified and integrated approach. Finally, focus on policy pmplementation and enforcement.

By addressing these challenges and implementing these recommendations, the Destana program can more effectively build disaster-resilient communities in Lombok, mitigating the impact of future disasters and safeguarding the well-being of vulnerable populations.

ACKNOWLEDGMENT

This research was made possible by the generous support of ITSkes Muhammadiyah Selong and the authors are deeply grateful for the institutional resources and assistance provided.

REFERENCES

- Ayuningtyas, D., Windiarti, S., Hadi, M. S., Fasrini, U. U., & Barinda, S. (2021). Disaster Preparedness and Mitigation in Indonesia: A Narrative Review. *Iran J Public Health*, 50(8), 1536-1546. doi:10.18502/ijph.v50i8.6799
- Azhelia Andini, L. (2024). *KESIAPSIAGAAN BADAN PENANGGULANGAN BENCANA DAERAH MENGHADAPI BENCANA GEMPA BUMI DI KOTA MATARAM PROVINSI NUSA TENGGARA BARAT*. INSTITUT PEMERINTAHAN DALAM NEGERI,
- Badan Nasional Penanggulangan Bencana. (2018). Pembelajaran Penanganan Darurat Bencana Gempa Bumi Lombok. Retrieved from <https://etangguh.bnpb.go.id/wp-content/uploads/2021/11/Buku-Pembelajaran-Gempa-Bumi-Lombok-ISBN-Cetak.pdf>
- Badan Nasional Penanggulangan Bencana Provinsi NTB. (2018). Pembelajaran Penanganan Darurat Bencana Gempa Bumi Lombok. Retrieved from <https://etangguh.bnpb.go.id/wp-content/uploads/2021/11/Buku-Pembelajaran-Gempa-Bumi-Lombok-ISBN-Cetak.pdf>
- Budiman, L., Akbar, L. M. T., & Rasyid, L. M. F. (2024). Desa Tangguh Bencana: Evaluasi Peran dan Keberhasilan Mitigasi Bencana Gempa Bumi di Lombok Tengah Tahun 2018. *Jurnal Humanitas: Katalisator Perubahan dan Inovator Pendidikan*, 10(2), 287-296.
- Fatharani, L. M. R. (2023). *EFEKTIVITAS PROGRAM DESA TANGGUH BENCANA DALAM MENINGKATKAN KESIAPSIAGAAN MASYARAKAT DI KABUPATEN LOMBOK TENGAH NUSA TENGGARA BARAT*. IPDN,
- Ghaffar, A. A., & Ibrahim, I. (2024). *Efektivitas Program Desa Tangguh Bencana dalam Meningkatkan Kesiapsiagaan Masyarakat di Kabupaten Lombok Barat Nusa Tenggara Barat*. Paper presented at the SEMINAR NASIONAL LPPM UMMAT.
- Juwitasari, R. (2022). Disaster Management in Indonesia: Complex Challenges of a Dual Early Warning System. *Heinrich Boll Stiftung Southeast Asia*.
- Muryani, C. (2020). *Community Based Disaster Management in Indonesia*. Paper presented at the Social, Humanities, and Educational Studies (SHEs): Conference Series.
- Rahman, A., Jeddawi, M., Mansyur, M., & Kurniawati, L. (2023). Implementasi Kebijakan Penanganan Gempa Bumi Lombok 2018 Berdasarkan Peraturan Daerah Nomor 9 Tahun 2014 Tentang Penanggulangan Bencana Di Provinsi Nusa Tenggara Barat. *Jurnal Ilmiah Wahana Bhakti Praja*, 13(1), 78-97.

- Ratna Puji, P., Asri, A., Linlin, L., Anja Hesnia, K., Nurul, H., & Fahrudin, K. (2021). Sustainable Community-based Disaster Management for Flood in Indonesia. *Malaysian Journal of Medicine and Health Sciences*.
- Rozi, S., Ritonga, A. R., & Januar, J. (2021). 'Local community-based disaster management' The transformation of religious and local wisdom values in preparation to deal with natural hazards in West Sumatra, Indonesia. *Jàmbá: Journal of Disaster Risk Studies*, 13(1), 1-7.
- Rusmana, A., Damayani, N., Rizal, E., Siti Khadijah, U., Lusiana, E., Saepudin, E., . . . Anwar, R. (2024). Community-Based disaster mitigation and its challenge: A case study in Pangandaran coastal area, Indonesia. *Journal of Infrastructure, Policy and Development*, 8(6), 4075.
- Salman, F. F. (2023). *Evaluasi Pelaksanaan Program Desa Tangguh Bencana Desa Akar-Akar Kabupaten Lombok Utara Tahun 2023*. Paper presented at the Seminar Nasional Paedagoria.
- Si, El-Matury, H., & Wijaya, O. (2021). *Emergency and Disaster Preparedness Analysis in Health Care Facilities In Indonesia*.
- Sistem Informasi Kebencanaan Provinsi Nusa Tenggara Barat. (2023). Desa Tangguh Bencana. Retrieved from <https://siaga.ntbprov.go.id/destana>