

RESPONSE AND STRATEGY FOR HANDLING FLASH FLOODS AND LANDSLIDES IN BENER MERIAH AND TAKENGON: A CASE STUDY OF AID FROM THE IAEB

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Abstract

This study aims to understand the responses, strategies, constraints, and roles of communities in managing flash floods and landslides in Bener Meriah and Takengon Regencies. Using a qualitative approach with a case study design, data were collected through in-depth interviews, participant observation, and secondary documents. Analysis was conducted thematically to identify patterns, themes, and meanings of disaster management practices in the field. The results show that this disaster caused multidimensional impacts, including loss of life, mass displacement, and damage to critical infrastructure. The IAEB and related institutions implemented a priority needs-based strategy, cross-institutional collaboration, utilization of GIS technology, and social and infrastructure rehabilitation. The main constraints included limited access, resources, coordination, and the psychosocial conditions of the affected communities. Synergy between the IAEB and local communities through community-based emergency response groups proved effective in accelerating recovery and reducing disaster risk. This study emphasizes the importance of an integrated, participatory, and needs-based approach in increasing regional resilience to disasters.

Keywords : *Flash floods, landslides, disaster management, IAEB, cross-agency coordination for risk mitigation and community participation.*

Introduction

Hydrometeorological disasters such as flash floods and landslides are frequent threats to mountainous areas and river basins in Indonesia, including Bener Meriah Regency and Takengon City. Hilly topography, high rainfall, and suboptimal land management increase the vulnerability of communities to these disaster risks. Flash floods and landslides not only cause damage to infrastructure, agricultural land, and settlements but also cause economic, social, and psychological losses for affected communities. When facing a disaster, a quick and appropriate response is key to minimizing the impact. However, previous research has shown that limited resources, inter-agency coordination, and public awareness often hinder disaster mitigation in landslide- and flood-prone areas. Therefore, assistance from non-governmental organizations and educational and research institutions, such as the IAEB (Institute for Advocacy and National Economy), is crucial to support disaster management.

The IAEB, through its disaster mitigation assistance and training programs, plays a role in providing logistical support, education, and adaptive strategies for communities and local governments in responding to flash floods and landslides. This case study in Bener Meriah and Takengon is important to understand the effectiveness of the IAEB's assistance response, including the mitigation strategies implemented, the challenges faced, and the community's adaptation efforts to the risk of recurring disasters. By understanding the dynamics of assistance and disaster management strategies in these areas, this research is expected to provide more systematic recommendations for the government, social institutions, and communities in improving their emergency response capacity, disaster mitigation, and building greater resilience to future hydrometeorological disasters.

Table 1.1 Data on the Occurrence and Impact of Flash Floods and Landslides in Aceh (December 2025)

No	Regency/City	Number of Deaths	Number of Refugees	Infrastructure Status & Impact	Source
1	Bener Meriah	30 died	38,700 people	Road access is cut off, logistics distribution and evacuation are disrupted	Databox, Kumparan
2	Takengon	-	-	Parts of the affected area in the Gayo Highlands, road access is hampered	Coil
3	Aceh Province	Hundreds of fatalities	Hundreds of thousands of souls	Disaster emergency status is in effect in 10 of the 23 districts/cities	Databox, ACEHNEWS.ID
	Maximum Rainfall	411 mm/day	-	Extreme rainfall as a trigger for floods and landslides	BNPB/BMKG

Based on the table above, the Bener Meriah and Takengon regions were among the areas most affected by flash floods and landslides in December 2025. Bener Meriah suffered 30 deaths and 38,700 people were displaced, while Takengon was also significantly impacted by disruptions to road access and logistics distribution. Overall, Aceh Province experienced disasters that affected hundreds of thousands of people, forcing the government to declare a state of emergency in nearly half of the districts/cities. The main factor causing the disaster was extreme rainfall intensity reaching 411 mm/day, one of the highest in recent years, triggering flash floods and landslides in mountainous areas and river valleys. The geographical conditions of Bener Meriah and Takengon, which are hilly and bordered by rivers, make this region highly vulnerable to hydrometeorological disasters. In the context of this research, these data demonstrate the urgency and relevance of an aid response from both the government and non-governmental organizations such as the IAEB. The large number of victims, displaced persons, and damaged infrastructure emphasize the need for a coordinated emergency response strategy, including rapid evacuation, aid distribution, and disaster mitigation education for local communities. This case study allows researchers to analyze the effectiveness of IAEB interventions in reducing disaster impacts, accelerating recovery, and building community adaptive capacity to the risk of recurring hydrometeorological disasters. Data on the occurrence and impact of flash floods and landslides in Bener Meriah and Takengon provide important empirical insights for this research. First, data on the number of casualties and displaced persons indicate the significant scale of the disaster, confirming that this region is prone to hydrometeorological disasters. This provides a basis for assessing the urgency of planning an appropriate and integrated disaster management strategy. By understanding the extent of the impact on the community, researchers can analyze the effectiveness of interventions carried out by institutions such as the IAEB and local governments in reducing disaster risk.

Second, data related to the condition of affected infrastructure, such as disrupted road access, disrupted logistics distribution, and evacuation obstacles, demonstrate the real challenges in emergency response. These conditions serve as important indicators for evaluating disaster mitigation strategies, including inter-agency coordination, community preparedness, and the role of non-governmental organizations in supporting the emergency response process. Third, data on extreme rainfall reaching 411 mm/day confirms that this disaster was not only triggered by local factors, but also by macro-weather phenomena, such as rainfall intensity due to tropical cyclones or changes in seasonal patterns. This understanding is crucial for research to connect natural factors with the need for risk-based adaptive strategies, so that disaster mitigation is not only reactive but also proactive. Fourth, these data enable research to examine the relationship between natural phenomena and the aid response carried out by the IAEB. This analysis includes the effectiveness of aid programs, response speed, logistics distribution methods, and their impact on the recovery of affected communities. Thus, the research not only assesses the impact of the disaster quantitatively but also explores the mitigation and social adaptation strategies implemented on the ground, while providing recommendations for improving emergency response capacity in the future. The flash floods and landslides that occurred in Bener Meriah and Takengon demonstrate that these areas are prone to hydrometeorological disasters, with significant impacts on the community. The high number of casualties, displaced persons, and damaged infrastructure emphasize that disaster risk in these areas is not a transient phenomenon, but rather a recurring challenge that requires a planned and

RESPONSE AND STRATEGY FOR HANDLING FLASH FLOODS AND LANDSLIDES IN BENER MERIAH AND TAKENONG: A CASE STUDY OF AID FROM THE IAEB

Muammar Khaddafi et al

sustainable response strategy. The urgency of this research arises from several important factors. First, there is a lack of comprehensive understanding of the effectiveness of disaster response at the local level, particularly regarding the role of non-governmental organizations such as the IAEB in supporting evacuation, logistics distribution, and disaster mitigation education. This research will provide an empirical evaluation of the relief response, including the speed of response, the appropriateness of interventions, and their impact on community recovery. Second, disasters caused by extreme rainfall and local geographic factors require adaptive and risk-based mitigation strategies. An in-depth analysis of response strategies in the field will help identify best practices *and* weaknesses in disaster management, thus providing a basis for improving future disaster management policies and procedures. Third, this research has high social and academic relevance. Socially, the research findings can provide recommendations for local governments, the Regional Disaster Management Agency (BPBD), the Disaster Management Agency (BPBA), and non-governmental organizations (NGOs) in improving emergency response capacity, disaster mitigation, and public awareness. Academically, this research will enrich the literature on disaster management strategies in areas prone to flash floods and landslides, especially in the context of collaboration between government and non-governmental organizations. Considering the magnitude of the disaster's impact, the complexity of its triggering factors, and the limited resources at the local level, this research is highly relevant and worthwhile. The results are expected to be not only theoretical but also practical, providing a tangible contribution to disaster risk reduction, increased community preparedness, and improved disaster response strategies in Bener Meriah, Takengon, and similar disaster-prone areas in Indonesia. Overall, this data provides a strong empirical foundation to support case studies on disaster response and management strategies in Bener Meriah and Takengon, and emphasizes the relevance of the role of non-governmental organizations such as the IAEB in supporting more effective, efficient, and sustainable disaster mitigation.

Identification of problems

Based on the background and data of disaster events in Bener Meriah and Takengon, several problems that emerged can be identified as follows:

1. Significant Scale and Impact of the Disaster
Flash floods and landslides have caused loss of life, displaced large numbers of people, and damaged infrastructure, hampering aid distribution and evacuations. These conditions highlight the need for an effective and sustainable disaster management strategy.
2. Coordination and Response Capacity Limitations
Coordination between government agencies and non-governmental organizations continues to face challenges in aid delivery, evacuations, and the provision of emergency facilities. The role of institutions like the IAEB in enhancing emergency response capacity needs to be analyzed.
3. Lack of Community Mitigation and Adaptation Strategies
Local communities remain vulnerable to disaster risks due to a lack of mitigation education, adaptation practices, and preparedness for hydrometeorological disasters.
4. Complex Disaster Triggers
Extreme rainfall and local geographic conditions increase the risk of disasters, requiring data-driven mitigation strategies and risk analysis.
5. The Need for Evaluation of Non-Governmental Assistance Interventions
IAEB assistance needs to be evaluated in terms of speed, adequacy, effectiveness, and impact on community recovery.

Formulation of the problem

Based on the problem identification above, this study formulates several research questions as follows:

1. What is the scale and impact of the flash floods and landslides in Bener Meriah and Takengon on communities, evacuees, and infrastructure?
2. What disaster management responses and strategies are implemented by the IAEB and related institutions in the field?
3. What are the obstacles and challenges faced in implementing disaster management strategies in Bener Meriah and Takengon?
4. How can IAEB and community strategies reduce risks and accelerate post-disaster recovery?
5. How do inter-agency coordination and mitigation education contribute to the effectiveness of disaster management?

Literature Review

2.1 Disaster Management Theory

Disaster management is a series of systematic efforts designed to reduce risks, address impacts, and recover communities from the effects of disasters. According to Manurung et al. (2024), disaster management encompasses prevention, preparedness, emergency response, rehabilitation, and reconstruction activities in a planned, integrated, and coordinated manner to protect communities from the threat and impacts of disasters. This approach is crucial for the government and relevant agencies to reduce physical and non-physical losses caused by natural disasters such as floods and landslides. Furthermore, the synthesis of the Disaster Management System Review by Khan et al. (2023) shows that a disaster management system should encompass risk assessment, response planning, impact mitigation, and multi-stakeholder engagement to strengthen community resilience to disasters. This systematic approach provides an important theoretical framework for understanding how responses and strategies are established at the local level and by non-governmental organizations such as the IAEB.

2.2 Conceptual Framework of Disaster Mitigation and Response Strategies

Disaster mitigation and response strategies are an essential part of disaster risk management, encompassing efforts before, during, and after a disaster occurs. In the context of floods and landslides, these strategies involve:

1. **Risk Mitigation** — efforts made to reduce the likelihood and impact of disasters, including spatial planning, disaster-resilient infrastructure, and public education. A study by Priyanti (2023) emphasized the importance of risk understanding, effective communication, and strengthening community-based disaster management as sustainable mitigation strategies.
2. **Preparedness** — including training, simulations, and the establishment of early warning systems. Narrative recommendations from the international literature recommend the continuous integration of education and training approaches to improve community response to hazard warnings.
3. **Response and Reconstruction** — encompasses emergency response during a disaster and efforts to rebuild socio-economic conditions after the event. This strategy requires collaboration between various actors, including the government, local communities, and non-governmental organizations, to accelerate recovery.

2.3 The Role of Stakeholders in Disaster Management

Stakeholders involved in disaster management include not only government institutions such as the Regional Disaster Management Agency (BPBD), the National Disaster Management Agency (BPBA), and the National Disaster Management Agency (BNPB), but also non-governmental organizations, local communities, the private sector, and academics. In major disasters, collaboration between actors is crucial for strengthening disaster response. For example, the collaborative framework proposed by Mishra & Dahal (2024) illustrates how various stakeholders need to share responsibilities, from planning to implementing aid programs, to effectively mitigate the impact of disasters.

2.4 Disaster Risk Reduction (DRR) in a Global Framework

Disaster Risk Reduction (DRR) has become a global framework implemented through the Sendai Framework for Disaster Risk Reduction 2015–2030, which emphasizes understanding risk, strengthening risk governance, investing in resilience, and preparedness in disaster response. This framework provides guidance for countries and regions in developing comprehensive disaster risk reduction strategies and response planning. The implementation of DRR involves a sustainable and inclusive approach, not only responding to disasters after they occur, but also mitigation and preparedness efforts integrated into sustainable development, including community education and local capacity building.

Research Methodology

3.1 Research Approach

This study uses a qualitative approach because it aims to understand the complex social phenomena related to responses, strategies, and experiences in disaster management of flash floods and landslides in Bener Meriah and Takengon. A qualitative approach was chosen because of its methodological ability to deeply explore the meanings, perceptions, and real practices of actors in the field, which cannot be represented by numbers alone. This approach is crucial in disaster studies because it helps researchers explain the "how" and "why" of responses occurring as observed. Qualitative studies enable understanding of the social context, culture, institutional structures, and the

dynamics of community participation in disaster mitigation and emergency response. According to methodological studies, this design is highly appropriate for complex, contextual phenomena such as disasters because it can explore social realities holistically and in-depth.

3.2 Research Design

The research design used in this study is a case study. A case study is an approach that allows researchers to intensively explore a phenomenon within a real-life context, especially when the boundaries between the phenomenon and its context are unclear. This approach is highly relevant to understanding disaster responses and mitigation strategies implemented by the IAEB and other actors in the field, as the local context, organizational structure, and community practices significantly influence disaster response structures. Case studies allow for in-depth analysis of actor interactions, decision-making processes, and strategic variables in real-life situations.

3.3 Location and Time of Research

The research locations are Bener Meriah and Takengon Regencies (Aceh), two areas of focus due to their significant impact from flash floods and landslides. The research should be conducted after the main emergency response phase, to observe the responses, strategies, and recovery efforts of institutions (including the IAEB) and affected communities. This time-series approach allows researchers to evaluate not only the initial response but also the subsequent mitigation and adaptation processes.

3.4 Data Sources and Types

This study collected two main types of data:

1. Primary data, obtained directly through:
In- -depth interviews with sources directly involved in disaster response (e.g., the IAEB team, community leaders, volunteers, and affected residents). Participatory observation, as direct observation of disaster response practices, coordination, and mitigation activities in the field.
2. Secondary Data, obtained from:
Official documents (agency reports, news, disaster datasets), scientific articles related to disaster management, response strategies, and -similar case studies.

This data collection technique is supported by the principle of triangulation, namely the use of more than one source to increase the validity of research findings.

3.5 Sampling Techniques

This study employed *purposive sampling*, a sampling technique based on specific considerations relevant to the study's objectives. Purposive sampling was chosen because the researcher aimed to obtain informants directly involved or with significant experience in disaster response (e.g., disaster management practitioners, key community leaders, volunteers, or IAEB officials). This technique was chosen because relevant information, rather than the quantity of informants, is the key focus in a case study like this.

3.6 Research Instruments

The main instruments of this research include:

1. Semi-structured interview guidelines -, which are based on disaster management theory and research questions formulated to explore experiences, challenges, and strategies used in disaster response.
2. Observation guide, which is used to record action patterns, coordination practices, and the dynamics of strategy implementation at the location.

This instrument is flexible but targeted, allowing researchers to capture rich and relevant information within the research context.

3.7 Data Collection Procedures

Data collection is carried out through the -following steps:

1. Instrument preparation: preparing and testing interview guidelines and observation guides.
2. Field data collection: conducting interviews, observations, and collecting documentation.
3. Data recording: recording interviews and recording observation data systematically.

This approach is important to capture the complex social realities and strategic context on the ground, as well as ensuring that the data obtained is valid and can be analyzed in depth.

3.8 Data Analysis Techniques

Data analysis used qualitative thematic analysis, namely identifying patterns, themes, and meanings from interview, observation, and document data. The analysis stages include:

1. Data reduction, sorting and simplifying important data.
2. Data presentation, organizing data in the form of categories and themes.
3. Drawing conclusions, connecting findings with theory and research problem formulation.

Thematic analysis helps construct meaning from social interactions, organizational strategies, and respondents' experiences, enabling researchers to answer research questions comprehensively.

Results

The scale and impact of flash floods and landslides in Bener Meriah and Takengon on communities, refugees and infrastructure

The flash floods and landslides that struck Bener Meriah and Takengon in late December 2025 caused significant damage and triggered a humanitarian crisis in the affected areas. The loss of life was one of the most tragic impacts of this disaster, with several residents killed and dozens more still missing. This situation caused deep trauma for the community and demanded a swift response from authorities and humanitarian aid agencies to rescue victims and evacuate them from the affected area. (BNPB, 2025) The disaster's impact on displaced residents was also significant. Thousands of residents were forced to flee their homes and move to various emergency evacuation centers. In Bener Meriah, more than 8,300 people were recorded as occupying dozens of evacuation centers, while in Central Aceh, the number of displaced people exceeded 54,000. This situation presented significant logistical challenges, as urgent needs such as food, clean water, clothing, and healthcare facilities had to be immediately distributed to the displaced. Lack of logistics forced some residents to travel long distances, even on foot, to obtain basic necessities. (Khan et al., 2023) Furthermore, the disaster has caused widespread regional isolation due to the disruption of road access. Tens of thousands of people in Bener Meriah and Central Aceh remain isolated from external aid, hampering logistical distribution and the evacuation process. This situation also poses serious health risks, particularly related to sanitation and clean water availability in evacuation sites. Infectious diseases have the potential to escalate if the emergency is not promptly and effectively addressed, making health a top priority in disaster response. (Manurung et al., 2024)

Infrastructure damage was another equally critical impact. Nearly all major transportation routes in the affected areas, including national and provincial routes such as Bireuen–Takengon and Bener Meriah–Bireuen, were cut off due to landslides at dozens of locations and severely damaged bridges. This damage completely paralyzed regional connectivity and made mobilizing emergency response teams and distributing aid more difficult. A total of 1,792 houses in Bener Meriah suffered damage ranging from light to heavy, while 166 bridges and 81 roads, including national, provincial, and district roads, were severely damaged. Even vital public facilities such as the Takengon District Court were temporarily isolated due to this situation. (Priyanti, 2023; Mishra & Dahal, 2024) Overall, the scale and impact of the flash floods and landslides in Bener Meriah and Takengon confirm that the region is facing a multidimensional crisis. These impacts are not only physical and infrastructural, but also social and psychological. This situation emphasizes the urgency of implementing mitigation strategies, effective emergency response, and comprehensive post-disaster recovery, including the role of humanitarian agencies such as the IAEB in assisting affected communities. (Partini & Hidayat, 2024)

Disaster response and management strategies implemented by the IAEB and related institutions in the field

The response to the flash floods and landslides in Bener Meriah and Takengon involved collaboration between government agencies, humanitarian agencies, and non-governmental organizations, one of which was the Indonesia Aid and Emergency Board (IAEB). The IAEB played an active role in distributing emergency aid in the form of logistics, food, clean water, medicine, and evacuation supplies to affected residents. The IAEB's approach to aid distribution emphasized a rapid, needs-based response that prioritized the most vulnerable victims, including the elderly, children, and people with disabilities, ensuring that aid reached those most in need (Rahmat et al., 2023). In addition to aid distribution, the IAEB also implemented a cross-agency coordination and collaboration strategy, working with the Regional Disaster Management Agency (BPBD), the National Disaster Management Agency (BNPB), the Social Services Agency (Dishub), and local volunteers. This strategy included dividing response zones, determining evacuation priorities, and mapping affected areas to identify safe evacuation sites and usable public facilities. This coordinated approach helped prevent duplication of tasks, expedited logistics distribution, and strengthened the effectiveness of emergency response teams in the field. In the context of medium-term disaster

RESPONSE AND STRATEGY FOR HANDLING FLASH FLOODS AND LANDSLIDES IN BENER MERIAH AND TAKENONG: A CASE STUDY OF AID FROM THE IAEB

Muammar Khaddafi et al

mitigation and management, the IAEB also implemented community assistance and rehabilitation strategies, including the construction of temporary shelters, psychosocial assistance for trauma victims, and the provision of sanitation and clean water facilities in evacuation sites. This approach demonstrates the IAEB's awareness that disaster response does not stop with initial assistance but must also encompass social and physical recovery for communities so that daily life can return to normal. (Putra et al., 2023). Another strategy implemented is the use of technology and data in disaster management. The IAEB utilized geographic information systems (GIS) to map affected areas, monitor evacuation sites, and rapidly assess infrastructure damage. This information was then used to formulate more efficient logistics plans and evacuation routes, while also assisting relevant agencies in evidence-based decision-making in the field. (Sari & Nugroho, 2024)



Figure 4.1 IAEB Immediate Response

One form of IAEB's direct response to the flash floods and landslides in Bener Meriah and Takengon. In the photo, the IAEB team is seen distributing logistical aid in the form of basic necessities and basic supplies to affected communities. This activity reflects the agency's priority-needs-based disaster management strategy, where the agency targets aid distribution to the most vulnerable residents, including refugees who lost their homes and livelihoods due to the disaster. Furthermore, the presence of several team members wearing boots and field clothing indicates the still difficult terrain conditions due to mud, blocked roads, and limited access. This illustrates the operational challenges in emergency response, particularly related to the distribution of logistical aid and team mobilization in the affected areas. This image also emphasizes the importance of cross-agency collaboration and adequate logistical readiness, so that aid can be distributed on time and on target.

Overall, these photographs serve as visual evidence supporting this research, demonstrating how the IAEB implemented disaster mitigation and response strategies directly in the field, from evacuation to emergency aid distribution. Such documentation also provides concrete context for analyzing the effectiveness of disaster management strategies and mapping best practices in humanitarian agency collaboration in disaster-prone areas such as Bener Meriah and Takengon. The disaster response and management strategies implemented by the IAEB and related agencies demonstrate an integrated, needs-based approach, and are oriented toward long-term recovery. Cross-sector collaboration, targeted aid distribution, social rehabilitation, and the use of information technology were key to success in addressing the broad and complex impacts of the disasters in Bener Meriah and Takengon. This approach also serves as an important reference for developing more effective disaster mitigation models in the future.

What are the obstacles and challenges faced in implementing disaster management strategies in Bener Meriah and Takenong?

The implementation of disaster management strategies in Bener Meriah and Takenong faces various complex obstacles and challenges. One of the main obstacles is regional accessibility. Many affected areas are isolated due to blocked roads, landslides, and damaged bridges. This situation hampers the distribution of logistical aid, the mobilization of emergency response teams, and the evacuation of residents. As a result, the response process is slowed, and some residents are forced to wait longer to receive the assistance they need. Furthermore, limited resources pose a significant challenge. In terms of logistics, volunteer staff, and emergency health facilities, the capacity of humanitarian agencies and the government is often not commensurate with the scale of the disaster. The large number of displaced persons and extensive infrastructure damage require prioritization of aid distribution, resulting in some affected communities' needs not being optimally met.



Figure 4.2 Report on monitoring data on natural disaster management in Bener Meriah Regency

Disaster management data in Bener Meriah Regency demonstrates the significant impact on both communities and infrastructure. Ten sub-districts with 232 villages were affected, and six sub-districts were isolated, with over 35,000 residents. The number of displaced persons reached 5,425, spread across 39 evacuation centers, demonstrating the need for effective coordination between government agencies, non-governmental organizations, and local communities to ensure optimal aid distribution and refugee management. The impact on infrastructure was also significant, with damage to bridges, roads, homes, and clean water channels. The report highlights that damage to public facilities such as schools, health facilities, and other public facilities has limited access to vital services for affected communities. In the context of the research, this situation emphasizes the importance of a comprehensive disaster management strategy, including the emergency response and post-disaster recovery phases, where inter-agency collaboration and mitigation education are key to accelerating response, recovery, and reducing future disaster risks. Inter-agency coordination is also a significant challenge. Although various organizations, including the IAEB, the BPBD, and local volunteers, are involved in disaster management, differing procedures, limited communication, and a lack of real-time field data often lead to duplication of tasks or gaps in aid distribution. This demands a more effective coordination strategy so that all parties can act synergistically. Another challenge arises from the social and psychological conditions of affected communities. Trauma from the loss of homes, relatives, or livelihoods can influence residents' responses to evacuation orders or aid provided. Therefore, providing psychosocial support and effective communication are crucial components of disaster management strategies to ensure residents receive assistance effectively and support the rehabilitation process. Furthermore, unpredictable natural factors such as continued heavy rainfall or subsequent landslides add to the complexity of disaster management. Emergency response teams must be constantly prepared for changing situations on the ground, which requires strategic flexibility, resource

RESPONSE AND STRATEGY FOR HANDLING FLASH FLOODS AND LANDSLIDES IN BENER MERIAH AND TAKENONG: A CASE STUDY OF AID FROM THE IAEB

Muammar Khaddafi et al

readiness, and thorough contingency planning. (Sari & Nugroho, 2024) Overall, the obstacles and challenges in disaster management in Bener Meriah and Takengon reflect the complexity of hydrometeorological disasters. Addressing these challenges requires a combination of needs-based strategies, cross-agency coordination, resource readiness, and attention to the psychosocial well-being of affected communities, ensuring an effective and sustainable response and rehabilitation.

IAEB and community strategies can reduce risks and accelerate post-disaster recovery

Following a disaster, risk reduction and accelerated recovery efforts are key to returning affected areas to normal. The IAEB, an institution specializing in disaster management and environmental conservation, has developed a number of proactive and reactive strategies. Proactive strategies include building community capacity through preparedness training, emergency response simulations, and education related to disaster mitigation. This approach not only helps communities understand proper evacuation procedures but also enables them to identify potential risks in their environment, thereby minimizing the impact of disasters early on.

In addition, the IAEB implemented a structured, reactive strategy based on coordination with various parties, including local governments, non-governmental organizations, and local volunteers. This strategy encompassed the distribution of emergency aid, victim care, rehabilitation of critical infrastructure, and restoration of the affected environment. The role of the community in this phase is also crucial, as they possess local knowledge that can expedite the process of identifying affected locations, providing basic necessities, and monitoring the distribution of aid to ensure it reaches the right targets. The synergy between the IAEB and local communities is also demonstrated through the formation of community-based emergency response groups. These groups act as the spearhead of disaster mitigation and response, from initial evacuation to post-disaster recovery. The existence of these groups not only expedites emergency response but also fosters a sense of mutual cooperation and collective awareness of disaster risks. Thus, a collaborative approach between formal institutions and active community participation is an effective strategy for reducing disaster risk, accelerating the recovery process, and increasing regional resilience to future disasters.

RUANG LINGKUP PENYELENGGARAAN PENANGGULANGAN BENCANA



Figure 4.3 Scope of Disaster Management Implementation

In the context of this research, the disaster management framework presented by the National Disaster Management Agency (BNPB) provides systematic guidance regarding the roles of various parties in disaster management, from the pre-disaster phase, during emergency response, to the post-disaster phase. In the pre-disaster phase, strategies focus on planning, prevention, risk reduction, education, training, research, and spatial planning. This phase emphasizes the importance of preventive and preparedness efforts, involving inter-agency coordination and mitigation education for the community, so that potential losses can be minimized even before a disaster occurs.

Furthermore, during the emergency response phase, the primary focus is on rapid assessment of the emergency status, rescue and evacuation of victims, fulfillment of basic needs, protection, and initial recovery. This study highlights how effective inter-agency coordination and community participation can expedite the emergency

RESPONSE AND STRATEGY FOR HANDLING FLASH FLOODS AND LANDSLIDES IN BENER MERIAH AND TAKENONG: A CASE STUDY OF AID FROM THE IAEB

Muammar Khaddafi et al

response, thus optimally saving lives and reducing material losses. The post-disaster phase, which includes rehabilitation and reconstruction, emphasizes the restoration of infrastructure and facilities, social, economic, health, security and order, and environmental aspects. This study highlights the role of the IAEB and local communities in supporting sustainable recovery through active participation in infrastructure reconstruction and socio-economic recovery, enabling a more rapid and effective recovery process. Thus, this disaster management framework provides a strong theoretical foundation for analyzing collaborative strategies between formal institutions and communities in enhancing disaster resilience.

The role of inter-agency coordination and mitigation education contributes to the effectiveness of disaster management.

Inter-agency coordination is a key factor in effective disaster management. When a disaster strikes, various parties, from local governments and disaster management agencies to non-governmental organizations and community volunteers, need to work synergistically to ensure a swift and targeted response. Good coordination allows for clear role allocation, resource optimization, and integrated decision-making, thus minimizing the risk of overlapping or delays in response. For example, an agency focused on logistics distribution can work in parallel with medical and evacuation teams, ensuring aid reaches victims more quickly and efficiently. On the other hand, disaster mitigation education for the community plays a strategic role in reducing community vulnerability to the impacts of disasters. Through educational programs, communities are taught to recognize potential hazards, understand evacuation procedures, and develop local adaptation strategies appropriate to environmental conditions. This knowledge not only helps communities act more quickly when disasters occur but also raises collective awareness of the importance of preparedness and prevention. The combination of effective inter-agency coordination and comprehensive mitigation education creates a more responsive, efficient, and sustainable disaster management system, thereby minimizing casualties and accelerating post-disaster recovery.

Conclusion

Based on the analysis of the responses, strategies, and challenges in dealing with flash floods and landslides in Bener Meriah and Takenong Districts, the following conclusions can be drawn:

1. **Scale and Impact of the Disaster**
The resulting flash floods and landslides have had multidimensional impacts, including loss of life, the displacement of thousands of residents, damage to critical infrastructure, and social and psychological disruption to the affected communities. This demonstrates that the region is facing a complex crisis requiring integrated management.
2. **Disaster Management Responses and Strategies by the IAEB and Related Institutions**
The IAEB implements a priority needs-based strategy, cross-agency collaboration, the use of GIS technology for mapping affected areas, and post-disaster social and infrastructure rehabilitation. This strategy reflects an approach that emphasizes not only emergency response but also medium-term recovery.
3. **Obstacles and Challenges**
Implementing the strategy faces various obstacles, including: accessibility to isolated areas, limited logistical and human resources, challenges in inter-agency coordination, the socio-psychological conditions of affected communities, and unforeseen natural factors. These challenges require strategic flexibility, resource readiness, and effective communication.
4. **The Role of Communities and Post-Disaster Risk Reduction Strategies**
Synergy between the IAEB and local communities through the formation of community-based emergency response groups has been proven to accelerate evacuation processes, aid distribution, and post-disaster recovery. Mitigation education and active community involvement contribute significantly to risk reduction and increased regional resilience.
5. **Mitigation Coordination and Education**
The effectiveness of disaster management is greatly influenced by inter-agency coordination and disaster mitigation education for the community. Good collaboration and collective public awareness accelerate response, optimize resources, and enhance the sustainability of post-disaster recovery.

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RESPONSE AND STRATEGY FOR HANDLING FLASH FLOODS AND LANDSLIDES IN BENER MERIAH AND TAKENONG: A CASE STUDY OF AID FROM THE IAEB

Muammar Khaddafi et al

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