



Warta Pengabdian Andalas

Jurnal Ilmiah Pengembangan dan Penerapan Ipteks

ISSN (Print) 0854-655X | ISSN (Online) 2797-1600

Empowering the Role of Community Leaders in Disaster Management in Flash Flood-Prone Areas of Padang City

Rahmi Muthia^{1*}, Tiurmaida Simandalahi¹, Muthmainnah², Firi Mailani¹

¹Department of Medical Surgical and Emergency Nursing, Faculty of Nursing, Andalas University, Padang, Indonesia

²Department of Basic Nursing, Faculty of Nursing, Andalas University, Padang, Indonesia

*Corresponding author: rahmimuthia@nrs.unand.ac.id

Submitted: December 13, 2025

Accepted: April 15, 2026

Published: June 30, 2026

ABSTRACT

Padang frequently experiences flash and regular floods, resulting in material losses and casualties. Batu Busuk, due to its geographical characteristics, is highly prone to flash floods, making community preparedness essential for disaster risk reduction. To strengthen mitigation efforts, a focused group discussion (FGD) was conducted on 15 September 2023 with nine community leaders. The discussion generated three themes: the impact of the January 23, 2023 flash flood, challenges in previous disaster management, and future plans for flood mitigation. The FGD highlighted the need to increase community awareness, enhance emergency response skills, and provide adequate evacuation routes and facilities. As a follow-up, disaster mitigation education was delivered to 40 households through sessions at the local mushala and door-to-door visits, aiming to improve residents' knowledge and preparedness. The study recommends empowering community leaders to implement disaster management plans, expanding mitigation education, facilitating structural measures, developing early warning systems, and conducting evacuation and first aid training for flash flood victims.

Keywords: community leaders, disaster management plan, flash floods

INTRODUCTION

Indonesia is one of the countries prone to disasters. A disaster is an event or series of events that can threaten and disrupt the life and livelihood of a community, caused by natural factors, non-natural factors, or human factors, resulting in human casualties, environmental damage, property loss, and psychological impacts. In Indonesia, many types of disasters, like earthquakes, tornadoes, tsunamis, floods, landslides, volcanic eruptions, droughts, and tidal waves, occur frequently. (Nakoe & Lalu, 2022).

Flood disasters were the most prevalent type of disaster occurrence. According to BNPB (2025), there were 1.420 incidents in 2024, and 277 flood incidents were recorded in West Sumatra Province including Padang City. Most of these events were triggered by high rainfall, including the floods that occurred in Padang City (BNPB, 2021). According to Indonesian Disaster Data, Padang City many flood events in 2024, with the number of evacuees and affected residents reaching 47,831 people (BNPB, 2025). The potential for flooding in Padang City is increasing, with rainfall amounts from 2019 to 2021 rising from 2,756.4 to 4,124.2 (Putri et al., 2023). The likelihood of this disaster recurring is relatively high. Flood risk assessment is determined using a hazard index classified into three

categories: low (0.00–0.33), medium (0.34–0.66), and high (0.67–1.00). The likelihood of this disaster recurring is quite high. Flood risk assessment is determined through a hazard index classified into three categories: low (0–0.33), medium (0.34–0.66), and high (0.67–1). According to BNPB data, all districts in Padang City are potentially vulnerable to flood disasters. The flood hazard levels in Padang City also vary, ranging from medium to high categories (BNPB, 2021). This information is presented in Table 1.1 below.

Table 1. Flood Hazard Potential in Padang City Viewed from Hazard Area

No	District	Hazard Area (Ha)				Hazard	
		Low	Medium	High	Total	Index	Class
1	Bungus Teluk Kabung	-	54,99	339,03	394,02	0,755	High
2	Lubuk Kilangan	-	157,86	555,93	713,79	0,682	High
3	Lubuk Begalung	-	104,94	705,33	810,27	0,695	High
4	Padang Selatan	-	28,44	185,67	214,11	0,756	High
5	Padang Timur	-	37,44	789,48	826,92	0,754	High
6	Padang Barat	-	0,54	482,13	482,67	0,826	High
7	Padang Utara	-	12,60	759,06	771,66	0,818	High
8	Nanggalo	-	2,97	924,48	927,45	0,810	High
9	Kuranji	-	348,84	2587,05	2.935,89	0,734	High
10	Pauh	-	224,37	911,7	1.136,07	0,682	High
11	Koto Tangah	-	251,01	5.437,71	5.688,72	0,791	High
	Padang City	-	1.224,00	13.677,57	14.901,57	0,755	Tinggi

(Source: Disaster Risk Assessment Document of Padang City, 2013)

Floods affect various community and government activities, ranging from industry and trade to agriculture and government services. This condition has a significant impact on both economic stability and the social dynamics of society. Floods cause damage to homes, disrupt UMKM activities, lead to traffic congestion, and harm public facilities, although the economic impact is generally temporary (Ainurrosyidah, 2022). Flooding from the river can last up to a week, disrupting access and submerging community economic facilities (Anwar et al., 2022). The impact of floods is not only economic but also social, the community requires assistance in the form of food, clean water, clothing, and medical services (Muniarty et al., 2021). Based on data released by BNPB, throughout the period of 2015–2018, the city of Padang experienced several flood events that disrupted residents' activities as well as government operations (BNPB, 2018).

A flood occurs when an area or land is submerged due to an increase in water volume. In contrast, a flash flood comes suddenly with high water discharge, typically resulting from the blockage of river flow along the river channel. Flash floods caused by high rainfall in upstream areas lead to sudden large flows in downstream regions, also known as flash floods, which result in significant losses. These events often catch the unprepared public by surprise (Ginting, 2021; Wijaya, 2021). The city of Padang has also experienced flash floods. During the flash flood event on 13 September 2012, the local water utility suffered losses of 8.2 billion rupiah (BNPB, 2018). In addition, flash floods and floods have also damaged the properties of various individuals, submerged dozens of hectares of rice fields, and disrupted irrigation networks. In some instances, flash floods have also resulted in fatalities in the city of Padang.

Like floods in general, flash floods are typically triggered by intense rainfall. This phenomenon often occurs in river basin areas. The city of Padang is traversed by several River Basins (DAS), including the Air Dingin River Basin, Air Timbalun River Basin, Batang

Arau River Basin, Batang Kandis River Basin, and Batang Kuranji River Basin (Hidayatullah, 2022). One of the rivers with the largest basin area in Padang is the Batang Kuranji. The Batang Kuranji river basin area in Padang shows increased flood potential, with high-risk zones identified along the river corridor (Cressendo et al., 2023). Batang Kuranji has a river flow length of about 17 km and passes through three districts: Pauh District, Kuranji District, and Nanggalo District. Rainfall in the Batang Kuranji river basin area ranges from moderate to high. Over the past decade, this area has experienced numerous flash floods and recurring floods.

According to Hidayatullah (2022), the Batang Kuranji watershed is prone to flooding at a vulnerable classification level covering an area of 166.25 hectares, where the flood-prone areas are in the downstream regions (swamps, marshlands, and coastal areas), while the upstream areas consist of mountains and hills (Hidayatullah, 2022). However, according to research by Utama & Naumar (2015), areas with potential to cause flooding are the upstream regions of the Batang Kuranji watershed, due to their steep slopes (45-50%) and hilly terrain. Additionally, in the hilly upstream areas, natural dams often form. When the water volume increases, even if it is not always caused by heavy rainfall, these natural dams can collapse and fail. This condition has the potential to trigger flash floods (Wahyuni et al., 2015). Therefore, areas near the hills experience higher rainfall and are more prone to flooding, flash floods, and landslides (Hidayatullah, 2022).

Lambung Bukit Village in Pauh District, Padang City, is one of the areas in the Batang Kuranji watershed that frequently experiences flooding and flash floods. The high intensity of rainfall in this area often triggers flash floods and landslides. Rainfall is generally in the orange category (around 100 mm/day), and it is not uncommon to reach the red category (100–150 mm/day). Geographically, the Lambung Bukit area has steep slopes (14–40%), which increases the potential for disasters such as landslides. The river flow being relatively close to the main road and residential areas also adds to the risk, making this area very vulnerable to flooding and flash floods during heavy rain.

Based on a review of various reports and disaster news in Padang City, the Batu Busuk area in Lambung Bukit Subdistrict has experienced floods and flash floods several times in the past ten years. One major incident occurred on Thursday, September 13, 2012, when heavy rain in the Pauh District triggered landslides in three locations, namely Lambung Bukit and Patamuan Batu Busuk. The event caused Lake Kariang, located about 30 meters in the hilly upstream area of Batang Kuranji, to overflow at 16.30 WIB, triggering a flash flood. Four people were reported dead, landslide material covered a 5 km stretch of road, and thousands of residents' homes were submerged (Padang Ekspres, 2012). Another major incident occurred on November 2, 2018, when a flash flood in the Batang Kuranji watershed killed two residents, submerged around 600 homes, and damaged three bridges in Batu Busuk (Detik.com, 2018). The latest incident occurred on January 23, 2023, when a river overflow affected 200 households in Batu Busuk (Kompas.com, 2023).

Seeing these recurring events, effective disaster management efforts are needed. The recommended approach is community-based disaster management through community empowerment (Haryono, 2012). Community involvement is expected to encourage a paradigm shift towards self-reliance and the spirit of mutual cooperation in facing disasters. According to Herianto et al., (2015), this can be done in the pre-disaster phase through flood and flash flood mitigation programs, which are efforts to reduce risks and impacts in vulnerable areas. In this process, community leaders play an important role as they are respected and influential individuals within their social environment. Community-based disaster mitigation is increasingly recognized as an effective approach to reduce flood risks in Indonesia, especially in urban areas (Kurniawan et al., 2024). Active community involvement throughout the disaster management cycle, from planning to recovery, can significantly minimize the impact of disasters, although challenges such as

limited resources and low public awareness still persist. Local wisdom also plays an important role in disaster mitigation, as seen in Bentek Village, where traditional practices such as using kentongan (traditional drums) for early warnings and collective actions for post-disaster recovery have proven effective, although these practices have declined in some areas (Kamasuta et al., 2021). Empowering communities with adequate information and encouraging their participation in disaster management planning enhances preparedness and supports government efforts (Herdi, 2021). However, public perception studies reveal that community involvement is often limited to post-disaster cleanup, with little participation in victim recovery or reconstruction activities (Marcela & Usiono, 2023).

Based on the background above, a team of lecturers and students from the Faculty of Nursing, Andalas University, organized a series of community service activities in the form of community empowerment regarding disaster mitigation for flash floods and floods in the Batang Kuranji River Basin, Batu Busuk, Lambung Bukit Village, Pauh District, Padang City.

METHOD

Community empowerment activities in efforts to mitigate flash floods and flooding are carried out through a forum group discussion (FGD) with local community leaders. This FGD was held on September 16, 2023, at the Batu Busuk Youth Hall, located in RT 1 RW 3, Lambung Bukit Village, Pauh District. The FGD participants numbered nine people representing the Batu Busuk community, consisting of the neighborhood head, members of the Disaster Preparedness Group, the Chair of the Religious Study Council, youth leaders, and health cadres. This activity aims to facilitate participants in formulating disaster mitigation plans for flash floods and floods in their area.

The implementation process of the activity was carried out in stages:

Before the activity took place

1. Preparing and arranging supporting materials for the community empowerment process, in the form of feedback sheets on disaster risk analysis in Batu Busuk as well as community empowerment feedback sheets in disaster management.



Figure 1. Preparing and meeting

2. Coordinating with the village authorities, neighborhood associations (Lurah, RW, RT), and community leaders (Mosque management committee, Head of the Religious Study Council and Youth leader) to ensure the smooth implementation of the FGD, including determining participants, schedules, and event locations.



Figure 2. Coordinating with the community leaders

Focus group discussion

1. Opening by the FGD leader
2. Introducing the FGD facilitator team
3. Conducting a sharing session on disaster risk analysis in Batu Busuk and community empowerment
4. Explaining the discussion procedures
5. Requesting permission to record the discussion
6. Conducting a group discussion forum with main questions
 - What was the impact of the previous flash flood disaster on the Batu Busuk community?
 - What were the obstacles in managing the previous flash flood disaster?
 - What does the Batu Busuk community need to reduce the risks and impacts caused by flash floods/floods in the future?
7. Reading the FGD minutes, analyzing, and confirming to responden
8. Announcing the FGD results and closing the session



Figure 3. Focus group discussion

Implementing education on flash flood disaster mitigation for community residents.

1. Forming teams composed of community leaders and students to serve as facilitators education sessions.



Figure 4. Formed team

2. Working in collaboration with community leaders to provide disaster mitigation education at the RT 04 mosque Batu Busuk



Figure 5. Disaster mitigation education at mosque

3. Collaborating with community leaders to conduct door-to-door education in RT 01 Batu Busuk





Figure 6. disaster mitigation education door to door

RESULTS AND DISCUSSION

The Focus Group Discussion (FGD) lasted for 60 minutes and focused on three main questions. Participants were given the opportunity to share their opinions in a relaxed manner, taking turns. After all participants had discussed the main questions, the facilitator continued with follow-up questions to explore the answers more deeply. The analysis of FGD data was conducted concurrently during the discussion process. Each session was audio-recorded and documented in written notes to ensure accuracy. The content analysis focused on participants' responses to the three guiding questions. Individual answers were examined for consistency across participants, and recurring or convergent responses were synthesized into thematic categories. These emergent themes were validated through participant confirmation before the conclusion of the FGD was formally read back. To maintain transparency and objectivity, a copy of the FGD minutes was shared with both the research team and the local community. The thematic findings are subsequently elaborated in the manuscript to illustrate the collective perspectives of Batu Busuk community leaders on flash flood disaster management. Based on the analysis of the participants' answers, the FGD results were grouped into three themes: the impact of the flash flood on January 23, 2023, on the community, issues in previous disaster management, and future flood disaster management plans.

The flash flood on January 23, 2023, had devastating consequences for the Batu Busuk community. Flash floods are a form of hydrometeorological disaster that has very destructive characteristics (Safitri et al., 2025). Flash floods occur due to water accumulation when river flow suddenly increases within hours and affects areas with low elevation in river valleys and several basins. A large amount of debris material is carried, exceeding the flow capacity and causing overflow from the river channel (Tumpu et al., 2022). Participants vividly described the physical destruction and disruption of daily life:

"The event caused significant losses, including damage to property."

"The overflowing water came from the river and was relatively dirty, leaving an unpleasant smell in homes and on submerged items."

"Many items were damaged and could not be used again. The electricity was temporarily cut off to prevent danger, but many residents' electronic devices still suffered damage."

"Motor vehicles were also severely damaged due to being submerged in the flood."

"Communities often lose valuable documents when storage cabinets are submerged."

In addition to material losses, participants also emphasized the psychological toll of the disaster:

"I become anxiety, difficulty sleeping."

"Fear during rain."

"I am sad when recalling the incident."

FGD participants also reported psychological impacts experienced by the victims and their families, such as anxiety, difficulty sleeping, fear during rain, and sadness when recalling the incident. Research by Rahman et al., (2024) shows that flood victims experience various mental health problems, including anxiety and depression, with a small portion experiencing acute psychotic symptoms and PTSD. These psychological impacts are not only temporary but can persist in the long term after the disaster. Anxiety has become one of the main problems experienced by communities after floods (Rahman et al., 2024). Amalia et al., (2021) found that traumatic memories of flash floods can continue to haunt victims and trigger fear of similar events. Psychological recovery can be facilitated through support from family, friends, or community, maintaining physical health, practicing relaxation techniques, and staying connected with the social environment. It is important to understand that emotional responses are normal and the recovery process takes time. Children and the elderly are more vulnerable to experiencing sleep disturbances, flashbacks, concentration problems, headaches, irritability, and sadness. If psychological symptoms persist or worsen, professional mental health support is highly recommended. Long-term psychological impacts can affect quality of life and mental well-being, making professional intervention potentially necessary for optimal recovery.

Problems during previous disaster management became a central aspect of the discussion. Participants explained the mechanism of flash floods and the limitations of river capacity as the causes of the disaster:

"Flash floods occur when rivers cannot accommodate the high-water discharge, causing overflow and flooding in lowland areas."

"This happens when the downstream flow rate cannot match the higher water flow from the mountainous areas, worsened by runoff from built-up areas."

According to Kodoatie dan Sugiyanto (2002), the factors causing flooding can be classified into two categories: natural floods and floods caused by human activities. Natural floods are influenced by rainfall, physiography, erosion and sedimentation, river capacity, drainage capacity, and tidal effects. Meanwhile, floods caused by human activities are due to human actions that lead to environmental changes such as: changes in the condition of river basins (DAS), residential areas around riverbanks, damaged land drainage, damage to flood control structures, deforestation (natural vegetation), and inappropriate flood control system planning (Nakoe & Lalu, 2022).

Participants emphasized several weaknesses in past disaster management efforts, particularly the absence of early warning systems and the challenges posed by high rainfall in mountainous areas.

"This incident was triggered by rain that lasted for almost half a day, heavy in the afternoon but only drizzling in the evening, so the community did not anticipate a flash flood."

"The area did not have an early warning system for flash floods, regular floods, or landslides."

Flash floods can occur even with relatively low rainfall intensity if natural dams form around hills and then collapse with additional water (Cressendo et al., 2023). Early warning for floods is often issued during heavy rainfall; however, flash floods can also occur with relatively low rainfall intensity, if before the flash flood a natural dam has formed around the hills in the flash flood area, even a small additional amount of water can cause the dam to collapse, leading to a flash flood (Wahyuni et al., 2015). Currently, early warning technology has developed well (Warman & Ardila, 2022). If it were used in disaster-prone areas such as Batu Busuk, it would be very beneficial. According to the research by Putri et al., (2018), the development of an early warning system is also emphasized as an important part of flash flood mitigation policies.

The lack of public understanding regarding the vulnerability level of areas and mitigation measures has also exacerbated the impact of flash floods. Participants also highlighted the lack of public awareness and preparedness:

"The residents received announcements through mosques, but the very short time did not allow for the evacuation of valuable belongings."

"Sudden floods entering residential areas caused residents to focus solely on saving themselves."

"Evacuation routes left us confused in the darkness of night."

"In addition, the limited evacuation facilities, such as the lack of rubber boats and life jackets at the neighborhood, community"

"The storage cabinets are submerged, and unsafe."

Lack of evacuation infrastructure, including rubber boats and life jackets at the local level, creates significant challenges during waist-deep floods (Utami, 2021). According to Suharini & Edi (2015), the lack of social and physical disaster infrastructure in flood-prone areas indicates a lack of knowledge among the community in facing disasters. An individual's knowledge about disasters is very important for those living in disaster-prone areas (Zuliani & Hariyanto, 2021). A study in Sembungharjo Village found that 65.5% of the community had a low level of preparedness knowledge (Widayati & Husain, 2023). This is concerning considering that Indonesia has experienced 385 flood disasters in the past ten years, causing various health problems such as diarrhea, leptospirosis, and respiratory infections (Husniawati & Herawati, 2023). Research by Jahirin et al., (2021) found a significant relationship between disaster mitigation knowledge and community preparedness in facing flood disasters through their study of 30 respondents. Similarly, Husniawati & Herawati (2023) identified knowledge and individual roles as the most influential factors in flood disaster preparedness among 204 respondents, with knowledge showing statistical significance ($p = 0.009$). Communities with good knowledge about flood disaster mitigation tend to show a positive attitude towards preparedness (Istiqomah & Prajayanti, 2023).

Increasing community capacity in facing disasters can be achieved through a participatory approach that involves the community throughout the entire disaster management cycle. Community-based disaster preparedness programs (KBBM) use a cross-sectoral approach through mitigation measures to reduce physical, environmental, and health vulnerabilities (Irwan & Nakoe, 2021). Effective methods include Focus Group Discussions (FGD), lectures, discussions, demonstrations, practical exercises, and fieldwork (Pomalango et al., 2024). Continuous mentoring, education, and training are needed to develop human resources ready to face disasters (Satrio et al., 2023). The Resilient Subdistrict Disaster Program (KELTANA) is also effective in increasing community capacity through preparedness, mitigation, disaster triage, basic life support, and evacuation (Thalib et al., 2023). Research on the readiness of health workers in Central Aceh reveals the need

to enhance disaster management training, simulations, and cross-sector collaboration across all phases of pre-disaster, during disaster, and post-disaster (Astuti et al., 2022). In Ciwandan District, Cilegon City, flood mitigation management by the Regional Disaster Management Agency (BPBD) has been implemented, although some stages require optimization (Nurillah et al., 2022). A study on community emergency response planning in Kendal shows that although 91.1% of households have evacuation plans and 92.4% have basic needs well met, they lack adequate preparation of equipment and supplies (Darwati et al., 2021). The strategic flood management approach in Rancabolang Village emphasizes improving the quality of flood control infrastructure, enhancing drainage system monitoring, and implementing water infiltration programs (Miyori & Chofyan, 2023).

This highlights the need for more comprehensive mitigation efforts, both through physical development and community capacity building as mandated by Law No. 24 of 2007. The study by Utama & Naumar (2015) on flash flood vulnerability in the Batang Kuranji River Basin supports these findings, noting that upstream areas have slopes of 45–55% and a high potential for causing floods. Mitigation recommendations include spatial planning, monitoring land use, educating flood-prone areas, river normalization, forest conservation, slope repair, and construction of drainage channels.

The discussion indicates that there is a need to improve preparedness and awareness of every family, household, and community regarding the vulnerability to flash floods in the Batu Busuk area. Empowering the community in disaster mitigation efforts, as well as providing emergency response skills training to local residents, is a very important step. Disaster education is one of the crucial mitigation strategies that should be provided to the community. Although the government plays a primary role in its implementation, support from various parties is still needed so that disaster education can be carried out optimally across Indonesia. Contributions from other parties, such as formal educational institutions, families, and the community itself, play a significant role. Formal education can contribute by integrating disaster-related materials into schools and universities, where students serve as agents conveying information to the community. The role of the family is realized through the transfer of knowledge and experiences from the older generation to the younger generation. Meanwhile, the community can play a role through the support of community leaders as well as the active involvement of young people in disaster preparedness and mitigation activities.

CONCLUSION

The flash flood on January 23, 2023, in Batu Busuk caused severe property damage, disruption of livelihoods, and significant psychological impacts such as anxiety, trauma, and sleep disturbances. Disaster response at that time was hindered by the absence of early warning systems, limited understanding of local vulnerabilities, and inadequate preparedness measures. This community empowerment activity demonstrated that strengthening local leadership, enhancing disaster knowledge, and improving evacuation infrastructure are essential steps in reducing future risks. More importantly, the initiative contributes to sustainable, community-based disaster management by embedding disaster education within the community, fostering participatory practices, and establishing mechanisms such as early warning systems and evacuation planning that can be maintained and adapted over time. By empowering community leaders and involving households directly, the program builds resilience and ensures that mitigation efforts are not only immediate but also sustainable in the long term, supporting a culture of preparedness and collective responsibility in disaster-prone areas.

ACKNOWLEDGEMENTS

Thanks are given to all parties who helped make the implementation of this community service a success. This community service was carried out with the financial support of the Faculty of Nursing, Andalas University, under the Community Service Contract Number 042/SKP/PTN-BH/FKep/Unand-2023.

REFERENCES

- Ainurrosyidah, E. (2022). Dampak Dari Banjir Terhadap Ekonomi Dan Aktivitas Masyarakat Kota Surabaya (Studi Kasus Kelurahan Ketintang, Kota Surabaya). *JOURNAL ECONOMIC AND STRATEGY (JES)*, 3(1), 93-102 Dampak.
- Amalia, I., Suzanna, E., & Dewi, R. (2021). Asesmen Psikologis Korban Bencana Banjir Bandang Aceh Tengah. *Jurnal Penelitian Pendidikan, Psikologi Dan Kesehatan (J-P3K)*, 2(1), 7-13. <https://doi.org/https://doi.org/10.51849/j-p3k.v2i1.69>
- Anwar, Y., Setyasih, I., Ningrum, M. V. R., & Jedo, A. (2022). Dampak Bencana Banjir Terhadap Ekonomi Masyarakat di Kecamatan Samarinda Utara, Kota Samarinda. *Jurnal Pendidikan Geografi* 9, 9(1), 40-48. <https://doi.org/10.20527/jpg.v9i1.12457>
- Astuti, L. P., Hidayat, W., & Tarigan, F. L. (2022). Kesiapsiagaan Petugas Kesehatan Dalam Manajemen Bencana Banjir Bandang Di Kecamatan Kebayakan Kabupaten Aceh Tengah. *Bina Generasi; Jurnal Kesehatan*, 14(1), 54-63.
- BNPB. (2021). Data Bencana Banjir Provinsi Sumatera Barat. Badan Nasional Penanggulangan Bencana (BNPB).
- BNPB. (2025). Data Bencana Indonesia 2024. Pusat Data Informasi dan Komunikasi Kebencanaan Badan Nasional Penanggulangan Bencana.
- Cressendo, H., Frinaldi, A., Rembrandt, Lanin, D., Umar, G., & Gusman, M. (2023). Daerah Aliran Sungai (DAS) Batang Kuranji : Potensi Banjir Jurnal Ilmiah Multidisiplin Nusantara. *Jurnal Ilmiah Multidisiplin Nusantara*, 1(3), 129-133.
- Darwati, L. ., Widiastuti, Y. ., & Setianingsih, S. (2021). Rencana Tanggap Darurat Masyarakat Menghadapi Bencana Banjir.
- Ginting, S. (2021). Analisis Curah Hujan Penyebab Banjir Bandang Di Ujung Berung, Bandung. *Akselerasi: Jurnal Ilmiah Teknik Sipil*, 2(2), 9-17.
- Herdi. (2021). Model Manajemen Bencana Berbasis Pemberdayaan Masyarakat. *JURNAL PENGKAJIAN DAKWAH DAN MANAJEMEN*, 9(2), 1-10.
- Herianto, R., Nulhaqim, S. A., & Rachim, H. A. (2015). Community Based Disaster Management. *PROSIDING KS: Riset & PKM*, 2(3), 301-444.
- Hidayatullah, S. (2022). Analisis Kerentanan dan Rawan Banjir DAS Batang Kuranji Kota Padang. Universitas Andalas.
- Husniawati, N., & Herawati, T. M. (2023). Pengaruh Pengetahuan dan Peran Individu terhadap Kesiapsiagaan Bencana Banjir pada Masyarakat. *Jurnal Ilmu Kesehatan Masyarakat*, 12(1), 11-19. <https://doi.org/https://doi.org/10.33221/jikm.v12i01.1751>
- Irwan, I., & Nakoe, M. R. (2021). Kesiapsiagaan Bencana Berbasis Masyarakat Melalui Pendekatan Partisipatif. *JPKM : Jurnal Pengabdian Kesehatan Masyarakat*. <https://doi.org/DOI:10.37905/JPKM.V1I2.10312>

- Istiqomah, Y., & Prajayanti, E. D. (2023). Gambaran Pengetahuan Dan Sikap Masyarakat Tentang Mitigasi Dan Kesiapsiagaan Bencana Banjir. *Nursing News: Jurnal Ilmiah Keperawatan* Vol, 7(1), 11–21.
- Jahirin, Sunsun, & Lukman, D. R. I. (2021). Hubungan Pengetahuan Mitigasi Bencana dengan Kesiapsiagaan Masyarakat dalam Menghadapi Bencana Banjir. *Healthy Journal*, 10(1). <https://doi.org/https://doi.org/10.55222/healthyjournal.v10i1.511>
- Kamasuta, Widayanti, B. H., & Lestari, S. A. P. (2021). Mitigasi Bencana Longsor Dan Banjir Bandang Berbasis Kearifan Lokal Masyarakat Desa Bentek Kecamatan Gangga Kabupaten Lombok Utara. *Jurnal Nasional UMP*, 2(1), 19–28. <https://doi.org/10.30595/CIVENG.V2I1.9881>
- Kurniawan, A. T., Ariansyah, Solihin, I., Perta, M. A., Ikbil, M., Azi, T., & Situmorang, M. T. N. (2024). Strategi Mitigasi Bencana Berbasis Masyarakat Dalam Menghadapi Risiko Banjir Di Daerah Perkotaan. *Journal of Scienteck Research and Development*, 6(2), 1117–1125.
- Marcela, R., & Usiono. (2023). Persepsi Masyarakat Dalam Penanggulangan Bencana Banjir : Systematic Literature Review. *Jurnal Kesehatan Tambusai*, 4(2007), 4996–5002.
- Miyori, F. N., & Chofyan, I. (2023). Strategi Penanggulangan Bencana Banjir di Kelurahan Rancabolang. *Bandung Conference Series: Urban & Regional Planning*, 3(1), 1–10. <https://doi.org/https://doi.org/10.29313/bcsurp.v2i2.5772>
- Muniarty, P., Saputri, D., Wahdaniyah, A., & Syaframis, N. F. (2021). Kepedulian Sosial Terhadap Masyarakat Terdampak. *Global Abdimas: Jurnal Pengabdian Masyarakat*, 1(1), 41–47.
- Nakoe, M. R., & Lalu, N. A. S. (2022). Manajemen Bencana. UD DUTA SABLON.
- Nurillah, S., Maulana, D., & Hasanah, B. (2022). Manajemen Mitigasi Penanggulangan Bencana Banjir Oleh Badan Penanggulangan Bencana Daerah (BPBD) Kota Cilegon di Kecamatan Ciwandan. *Jurnal Desentralisasi Dan Kebijakan Publik (JDKP)*, 3(01), 334–350. <https://doi.org/10.30656/jdkp.v3i1.4613>
- Pomalango, Z. B., Daud, T., Nabila, D. N., Durahim, A., Lamangida, N. N., Gani, F. M., Mohamad, N. H., Lasimpala, V. A., Ali, Z. P., Hunta, F. A., Sahrain, P., Latief, A., Kattang, G. R., Rahman, S. I., & Djalil, S. F. (2024). SMART-B (Satuan Masyarakat Siaga Bencana) : Peningkatan Kapasitas Masyarakat Dalam Kesiapsiagaan Bencana Berbasis Kelompok yang Partisipatif di Desa Biau Kecamatan Biau. *Community Engagement & Emergence Journal*, 5(1), 1–8.
- Putri, S. E., Frinaldi, A., Lanin, D., Umar, G., & Gusman, M. (2023). Jurnal Ilmiah Multidisiplin Nusantara Kota Padang : Identifikasi Potensi Bencana Banjir Dan Upaya Mitigasi Jurnal Ilmiah Multidisiplin Nusantara. *Jurnal Ilmiah Multidisiplin Nusantara*, 1(3), 116–122. <https://doi.org/https://doi.org/10.59435/jimnu.v1i3.56>
- Putri, Y. P., Barlian, E., Dewata, I., & Tanto, T. Al. (2018). Arah Kebijakan Mitigasi Bencana Banjir Bandang Di Daerah Aliran Sungai (DAS) Kuranji , Kota Padang. *Majalah Ilmiah Globe*, 2(2), 87–98. <https://doi.org/http://dx.doi.org/10.24895/MIG.2018.20-2.770>
- Rahman, S., Kahfi, R. Al, Herawati, A., Mahdiah, D., Vidiyari, P., Darsono, & Talang, J. F. (2024). Deteksi Dini Masalah Kesehatan Jiwa di Masyarakat Desa Paku Alam Kecamatan Sungai Tabuk. *Jurnal Pengabdian Masyarakat* Vol.1, 1(1), 47–52. <https://doi.org/https://doi.org/10.70427/smartdedication.v1i1.6>

- Safitri, L., Juita, E., Zuriyani, E., & Ulni, A. zeella. (2025). Analisis Dampak Bencana Banjir Bandang Terhadap Masyarakat Di Nagari Unggan Kecamatan Sumpur Kudus Kabupaten Sijunjung. *Pendas : Jurnal Ilmiah Pendidikan Dasar*, 10(3), 271–280.
- Satrio, D., Adriyana, R., Huda, B., & Ulin, N. (2023). Peningkatan Kapasitas Masyarakat Desa Sumur Jomblang Bogo Menuju Desa Tangguh Bencana. *Jurnal Pengabdian Masyarakat Bangsa*, 1(4), 66–71.
- Thalib, T., Rachman, E., Nggilu, R., Alhadar, S., Gobel, L. ., & Hasan, K. K. (2023). Peningkatan Kapasitas Masyarakat Melalui Program Kelurahan Tangguh Bencana (Keltana) Di Desa Biawu Kota Gorontalo. *Jurnal Pengabdian Pada Masyarakat (J-PMAS)*.
- Tumpu, M., Jamal, M., Syahrir, M., Pasanda, O. S., Rustam, M. S. P. A., Lopian, F. E., Yusman, Adhimastra, I. K., Muliawan, I. W., & Mustika, W. (2022). *Infrastuktur Berbasis Mitigasi Bencana*. CV. Tohar Media.
- Utama, L., & Naumar, A. (2015). Kajian Kerentanan Kawasan Berpotensi Banjir Bandang Dan Mitigasi Bencana Pada Daerah Aliran Sungai (Das) Batang Kuranji Kota Padang. *Jurnal Rekayasa Sipil*, 9(1), 21–28.
- Utami, M. (2021). Perancangan Sarana Penyimpanan Dokumen Penting Untuk Mengantisipasi Dampak Bencana Banjir. *Prosiding Serenade*, 1, 185–192.
- Wahyuni, Fatimah, E., & Azmeri. (2015). Analisis Tingkat Kerentanan Dan Kapasitas Masyarakat Terhadap Bencana Banjir Bandang Kecamatan Celala Kabupaten Aceh Tengah. *Jurnal Ilmu Kebencanaan (JIKA)*, 2(3), 33–40.
- Warman, I., & Ardila, A. (2022). Sistem Informasi Mitigasi Rawan Bencana Kota Padang Berbasis Web - ArcGis. *Jurnal Sistem Informasi Dan Telematika*, 13(1), 38–44. <https://doi.org/http://dx.doi.org/10.36448/jsit.v13i1.2536>
- Widayati, K. P., & Husain, F. (2023). *Jurnal Ilmiah Permas : Jurnal Ilmiah STIKES Kendal*. *Jurnal Ilmiah Permas: Jurnal Ilmiah STIKES Kendal*, 13(3), 887–894.
- Wijaya, R. C. (2021). Potensi Banjir Bandang Pada Wilayah Sigi Sulawesi Tengah Indonesia. *Borneo Engineering: Jurnal Teknik Sipil*, 5(2), 191–200.
- Zuliani, & Hariyanto, S. (2021). Pengetahuan, Sikap Dan Kesiapsiagaan Kader Siaga Bencana Dalam Menghadapi Bencana Banjir. *JURNAL EDUNursing*, 5(1), 77–86.

@2026 Muthia et al.

This is an open access article licensed under the terms of a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License (<http://creativecommons.org/licenses/by-nc-sa/4.0>).