

Analysis of Disaster Training Needs in Malang Regency

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ABSTRACT

Malang Regency has a high level of disaster risk due to its diverse geographical conditions, while the community's level of preparedness remains in the moderate category. Through the Regional Disaster Management Agency (BPBD), the local government has implemented various disaster training programs tailored to the types of threats present. However, the implementation of these training programs has not yet fully reached all areas in an equitable and sustainable manner. This study aims to analyze the needs for disaster training in Malang Regency. The method used is a qualitative descriptive approach through the analysis of secondary data related to disaster events, regional risk levels, and regional resilience indices, as well as the collection of primary data through semi-structured interviews with BPBD officials regarding the implementation of training programs and outreach activities. The results of the study indicate that there is a need to strengthen the capacity of local instructors, ensure equitable access to training—particularly in high-risk areas—implement simulation-based training methods on a sustainable basis, and provide disaster education and training facilities as integrated support for learning, simulation, and community capacity building. These efforts are expected to enhance community preparedness and strengthen regional resilience in facing future disasters.

Keywords: *Disaster, Malang Regency, Disaster Training*

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INTRODUCTION

As an archipelagic nation located along the Pacific Ring of Fire, Indonesia is prone to natural disasters such as earthquakes, tsunamis, and volcanic eruptions, as well as hydrometeorological disasters such as floods and landslides. This is due to Indonesia's location between three major tectonic plates: the Indo-Australian, Eurasian, and Pacific plates. Additionally, global climate change has increased the frequency and intensity of disasters, making the risks faced by the public increasingly complex. (Presidential Regulation of the Republic of Indonesia No. 12 of 2025).

Malang Regency features a diverse topography, ranging from lowlands and hills to coastal areas, as well as mountains and active volcanoes such as Mount Semeru, Mount Bromo, and the Arjuno - Welirang range. According to data from the Indonesian Disaster

to gain an in-depth understanding of conditions in the field, particularly regarding the training programs conducted by relevant agencies. Second, the subjects or population in this study are stakeholders involved in disaster management, specifically representatives from the Regional Disaster Management Agency (BPBD) of Malang Regency. The sample was selected using purposive sampling, that is, by choosing informants with direct knowledge and experience related to disaster training programs, ensuring that the data obtained is relevant and accurate.

Third, data collection was conducted using two main methods: document analysis and interviews. Document analysis was conducted by reviewing secondary data in the form of official reports from the Malang Regency BPBD, local government websites, and academic literature related to disasters. Meanwhile, primary data was obtained through semi-structured interviews conducted on December 11, 2025, with representatives from the BPBD. These interviews aimed to gather more in-depth information regarding the implementation, frequency, scope, and challenges of the disaster training program. At last, data analysis was conducted using descriptive analysis techniques. The data collected—from both secondary and primary sources—was compared and interpreted to identify gaps, issues, and training needs. The results of this analysis were then used as the basis for formulating recommendations for effective, targeted disaster training programs tailored to the risk levels in each region.

FINDING AND DISCUSSION

RESEARCH RESULT

The disaster risk level in Malang Regency is classified as moderate to high because the region has diverse geographical features, such as lowlands, coastal areas, hills, and areas surrounding active volcanoes. Based on disaster records from 2020 to 2025, Malang Regency exhibits varying levels of vulnerability each year; the frequency of disaster occurrences in the regency shows a pattern of significant fluctuation from year to year. A total of 154 incidents were recorded in 2020, then increased sharply to 247 incidents in 2021 and peaked in 2022 with 302 incidents. After that, the number of incidents decreased to 204 in 2023 and fell again to 179 in 2024. However, in 2025, there was a very significant surge, reaching 371 incidents. This figure indicates that despite efforts to mitigate disaster risks, the threat of disasters remains.

Table 1: Number of Disaster Reports

Year	Landslides	Extreme Weather	Earthquakes	Floods	Volcanic Eruptions	Total Incidents
2020	61	59	19	15	0	154
2021	118	75	33	21	0	247
2022	134	74	62	32	0	302
2023	68	74	46	16	0	204
2024	65	73	26	15	0	179
2025	86	75	189	20	1	371

Source: Data from the Malang Regency Disaster Management Agency

The most common disasters in Malang Regency are landslides and extreme weather events. The number of landslide incidents rose sharply from 61 cases in 2020 to 134 cases in 2022, although it subsequently showed a downward trend in subsequent years. Meanwhile, extreme weather events occur consistently at a high frequency, ranging from 59 to 75 incidents per year. Additionally, the threat of geological disasters such as earthquakes also warrants attention, with the number of incidents generally ranging from 19 to 62 per year, and experiencing a significant surge in 2025. These conditions underscore that Malang Regency is an area facing diverse and recurring disaster threats, requiring sustained and integrated mitigation efforts.

Table 2: Regional Resilience Index

Indicator	Year				
	2020	2021	2022	2023	2024
Regional Resilience Index	0,51	0,55	0,58	0,64	0,64

Source: Malang Regency Medium-Term Development Plan (RPJMD) 2025–2029

The Regional Resilience Index for Malang Regency for the 2020–2024 period increased from 0.51 in 2020 to 0.64 in 2024, indicating improvements in disaster management capacity, both in terms of institutional frameworks and community preparedness. However, despite this increase, the score remains in the moderate category, meaning that regional resilience is not yet strong enough to withstand large-scale disaster threats such as earthquakes and tsunamis. Furthermore, the fact that the RRI has remained stagnant at 0.64 over the past two years indicates that efforts to enhance capacity have not been fully effective in reducing vulnerability levels.

Table 3: Training and Education Activities of the Malang Regency Disaster Management Agency

No	Type of Activity	Target Audience	Frequency	Educational Method	Notes
1	Establishment of Disaster-Resilient Villages (DESTANA)	The general public in disaster-prone areas, village officials/RT/RW	Through the local budget: 3 villages per year; Through the province/self-funded/private sector: varies, e.g., 4 villages this year	Interactive sessions, group discussions, case studies, distribution of leaflets and pocket guides, simulations	Annual event
2	Establishment of the	Local Government	At least once a year	Interactive sessions, group	Annual event

	Disaster-Resilient Subdistrict (KENCANA))	Officials / Subdistrict Government Representatives		discussions, distribution of guidelines, and evaluation	
3	School Education / Disaster-Resilient Educational Institutions (SPAB)	Elementary, middle, and high school students; Teachers; School staff	Through the Regional Budget: 3–4 schools per year; Provincial/Independent /Private: varies, e.g., 8 schools	Educational games, visual presentations, Q&A sessions, formation of school disaster response teams, simulations	Annual event
4	Media and Digital Campaigns	All segments of society, social media users	Ongoing (daily/weekly)	Infographics, short videos, press releases, webinars, and interactive quizzes via official social media platforms	Annual Event
5	Community-Based Outreach (Installation of Information Boards)	Vulnerable groups (the elderly, people with disabilities), religious and traditional leaders	At least once a year	Door-to-door visits, posting hazard maps and evacuation routes in public places	Annual event

Source: Results of an interview with the Malang Regency Disaster Management Agency (2025)

In an effort to improve community preparedness, the Regional Disaster Management Agency (BPBD) of Malang Regency has implemented various programs. The disaster preparedness training programs carried out include Disaster-Resilient Villages (DESTANA), Disaster-Resilient Subdistricts (KENCANA), Disaster-Safe Schools/Educational Units (SPAB), media and digital campaigns, as well as community-based outreach. The

frequency of training is relatively limited, and program distribution remains uneven, meaning that some disaster-prone areas have not yet been fully reached. For example, the Disaster-Resilient Village (DESTANA) program reaches 3–4 villages per year, the establishment of a Disaster-Resilient Subdistrict (KENCANA) occurs at least once a year, and the Disaster-Safe Educational Unit (SPAB) program is sporadic. Based on interviews with sources from the Malang Regency BPBD responsible for prevention and preparedness programs, these limitations arise due to the vast area of Malang Regency and the difficulty of accessing some areas, the limited number of human resources/instructors, and insufficient funding.

DISCUSSION

Research findings indicate that Malang Regency is characterized by a multi-hazard disaster-prone region where disasters occur repeatedly, particularly hydrometeorological disasters such as landslides and extreme weather. The high frequency of these events, although fluctuating, suggests that existing mitigation efforts have not yet been fully effective in significantly reducing risks. The Regional Resilience Index (IKD), which has shown a tendency to stagnate over the past two years, indicates that efforts to enhance community capacity and the disaster management system have not been optimally implemented. This suggests a gap between planned programs and their implementation on the ground. The training programs conducted by the Regional Disaster Management Agency (BPBD) actually cover various aspects, ranging from the village level to schools and the general public. However, limitations in the frequency and scope of the programs mean that their impact has not been evenly distributed. Areas with high vulnerability levels are, in fact, at risk of not receiving optimal training.

This situation indicates that the most significant challenges lie in the execution, sustainability, and equitable implementation of the program. Therefore, training should focus on building community capacity based on levels of vulnerability to disasters, with adjustments to materials, methods, and frequency tailored to the characteristics of threats in each region. One strategy that can be applied is the participatory training method, adapted from Zayyadu (2026), which includes risk mapping, group discussions, field simulations, and simple mitigation practices, all of which have proven effective in improving community skills and preparedness. Additionally, to address distribution and resource constraints, supplementary strategies are needed, such as establishing partnerships with village and sub-district governments to bring training closer to the community, increasing the number and capacity of trainers through a train-the-trainer approach, and seeking alternative funding sources through collaboration with the private sector and local governments. Furthermore, the provision of disaster education and training facilities in Malang Regency is crucial as a centralized and sustainable support mechanism. These facilities can serve as integrated spaces for learning, simulation, and community capacity building, thereby ensuring that training programs are implemented more effectively, equitably, and sustainably.

CONCLUSION

Based on the research findings, Malang Regency still faces various challenges in implementing disaster preparedness training, particularly regarding the limited frequency and equitable distribution of programs such as Establishment of Disaster-Resilient Villages (DESTANA), Establishment of the Disaster-Resilient Subdistrict (KENCANA), and School Education / Disaster-Resilient Educational Institutions (SPAB), meaning that not all disaster-prone areas can be optimally reached. The main challenges include difficult access to remote areas, a shortage of instructors and their limited capacity, and budget constraints. Therefore, efforts are needed to strengthen training that focuses on enhancing community capacity based on risk through participatory methods and hands-on field practice. Additionally, supporting strategies such as enhancing cooperation with village and sub-district governments, developing instructor capacity through train-the-trainer programs, and optimizing funding sources through collaboration with the private sector and local governments need to be continuously improved. Furthermore, the provision of disaster education and training facilities in Malang Regency is also a crucial step as an integrated and sustainable support mechanism, ensuring that training implementation is more effective, equitable, and capable of enhancing community preparedness comprehensively.

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