The Role of Education and Training for Disaster-Affected Communities

Zainul Hidayat
Management Department
Institut Teknologi dan Bisnis Widya
Gama Lumajang
Lumajang, Indonesia
zd4y4t@gmail.com

Emmy Ermawati
Management Department
Institut Teknologi dan Bisnis Widya
Gama Lumajang
Lumajang, Indonesia
emmy.ermawati@gmail.com

Mimin Yatminiwati
Management Department
Institut Teknologi dan Bisnis Widya
Gama Lumajang
Lumajang, Indonesia
miminyatminiwati02@gmail.com

Abstract— This research aims to understand theoretically that disaster education and training can increase disaster anticipation. The method used in this research is literature, which is a type of research carried out by examining similar documents. Based on various supporting activities, it can be seen that implementing natural disaster education and training can increase community preparedness. Therefore, with better community preparedness, it is possible to minimize risks in the event of a disaster. Overall, the death toll and property damage were high damage caused by natural disasters is partly due to poor disaster preparedness. The character of disaster preparedness certainly does not take shape overnight, especially for affected communities. Therefore, disaster education and training is the right step to strengthen this character for all disaster-affected communities. Indonesia is a country where natural disasters often occur. This disaster threatens and disrupts people's lives and livelihoods. This is due to natural and unnatural factors as well as human factors. Because the territory of Indonesia is crossed by two mountain paths, namely the Pacific Circum Mountains and the Mediterranean Circum which causes many volcanoes

Keywords— education and training, disaster-affected communities

I. INTRODUCTION

The Indonesian territory is an archipelago stretching from Sabang to Merauke and is highly vulnerable to natural disasters[1]–[4]. The Indonesian archipelago is located in the Pacific Ring of Fire (Pacific Volcanic Zone) which curves from North Sumatra, Java_Nusa Tenggara to North Sulawesi (Indonesia has 129 volcanoes and 80 of them are very dangerous) [5].

One of the active volcanoes is Semeru, the highest on the island of Java[6]–[8]. The impact of its activities is felt in the activities of the surrounding community. This mountain has repeatedly threatened, especially the surrounding community.

Volcanology and Geological Hazard Mitigation Center (PVMBG) reported that there were 253 volcanic eruptions or eruptions in Indonesia from January 1 to December 6 2022[9]. It was recorded that the highest number of volcanic eruptions occurred on Mount Anak Krakatau, Lampung. The total reached 88 eruptions or 34.78% of the total volcanic eruptions in the country so far this year

On Saturday, December 4, 2021 at 03:20.00 WIB, Mount Semeru erupted. Flooding, raining material and ash hit Lumajang, especially the surrounding areas and the Sumberwuluh district. Even four days after the eruption, activity on Mount Semeru fluctuates [10].

Threats The impact of Mount Semeru's activities must be anticipated. By making preparations for the affected communities that often suffer from natural disasters). This is done to maintain vigilance, always keeping in mind the threat that suddenly appears. Education and training can be an alternative to disaster prevention management. This deserves attention because of Lumajang's condition compared to others. From the vulnerability rating to disasters, the risk zone is divided into three zones, namely:

Disaster Prone Area I, Danger Areas Prone to Disaster Threats II, and Disaster Prone Areas III [11]. According to Arianto [12] for each level of disaster-prone area, this can be explained as follows: for Disaster-prone Area I, it is likely to cause deaths, infrastructure damage, and property loss. The rivers come from the highlands, so they have a very high risk. Communities along flowing rivers need to be more aware of lava flows during heavy rain.

Disaster Prone Area II can cause casualties, infrastructure damage and property loss. Also very likely to be affected by hot clouds, lava flows, and rocks (incandescent).

Disaster Prone Area III has a very high risk to housing and human activities, it can also threaten people, damage infrastructure and loss of property. The public must be prepared to wait for direction.authorities in the area, in the event of volcanic activity increasing to Level III (Warning) and higher Level IV (Awas). The condition of Indonesia's territory prone to natural disasters, especially in the Mount Semeru area, makes education and training for disaster-affected communities in Disaster-Prone Areas an integral part of every natural disaster management. In real terms, there are indeed differences in each region with various factors and backgrounds. Education and training for affected communities still need to be developed even though scientific and academic reviews still need to be studied in depth.

Part of the Lumajang Regency area is included in the Disaster Prone Area according to the level. So the consequence is that there are people affected by the disaster. These communities often bear the impact of existing disasters. Both material and non-material losses, body and soul including psychological conditions and situations.

Given this reality, disaster-based education and training must receive special attention. Especially for those affected by natural disasters. Hopefully, this community and

People living in areas prone to natural disasters will have a better life prepared to respond to natural disasters by existing natural conditions..

The purposes of this research are among others: to find out the availability of data and references for the role of education and training for disaster-affected communities. To find out input or views from the literature on the role of education and training for disaster-affected communities

II.   RESEARCH METHODS

This study uses a literature review method. Namely research conducted from various previously written literature [13].

There is primary and secondary literature plus various other sources. Of course, it is related to natural disaster education and training. Data collection techniques refer to qualitative descriptive analysis techniques. We hope that the use of this method can encourage new disaster education research designs and become material for consideration in future research. Opportunities are wide open because of the high threat of natural disasters in Indonesia...

III.   RESULT AND DISCUSSION

Natural disasters can weaken the economy and government's resilience [14]. Disasters can also have an impact on the world of education. Damage to school property such as teachers, students, and lecturers and the learning process, property, and interests caused by natural disasters have threatened the future of millions of young people. The cessation of education following conflicts and natural disasters is a major reason why children and adolescents are excluded from education[15]–[18]. Denying them the right to education deprives them of the ability to thrive and escape poverty and marginalization.

Because natural disasters impact children and teenagers. It can also destroy schools such as the Aceh earthquake and tsunami (2004), Yogyakarta (2006), Mount Merapi (2010), and other natural disasters. This shows that natural disasters are inevitable but people can anticipate them. Knowledge about natural disasters and disaster risk reduction is very important. To know what steps to take when a threat arises to reduce the risk..

Natural disasters can weaken the economy and the government's resilience. Disasters can also have an impact on the world of education. Loss of school elements such as teachers, students, teaching activities and learning processes, assets, and benefits caused by natural disasters have threatened the future of millions of young people. The same goes for the impact on other sectors of society.

Each region has characteristics related to natural disasters. As a result, people in certain regions are more familiar with their region and the disasters that often occur there. This is especially important in preparing for education and/or training in the event of a disaster.

TABLE I.   ARTICLE SEARCH RESULTS

Writer	Title	Findings
Rakhman & Maulana [19]	Manufacture and Use of Earthquake Detector Equipment for Disaster Education for Santri Children at Al Muyamman Islamic Boarding School, Giwangan, Yogyakarta	The method is carried out through training in making and using earthquake detectors. Training results show that students can create
		earthquakes detectors.
	Integrating Disaster Education into Physics Subjects to Increase High School Students' Awareness and Preparedness Against Natural Disaster Risks in Jayapura City	Due to the low level of awareness and preparedness of the people of Jayapura towards the risks of natural disasters, efforts have been made to integrate disaster education materials into the Physics Subject as a systematic effort to increase awareness and preparedness of the school community in Jayapura on an ongoing basis. This integration is carried out by conducting socialization and training through classroom learning using integrated learning tools and media for disaster education by the applicable curriculum.
Sudrajad & Napitupulu [20]	Flood Disaster Mitigation Education and Training Efforts in the Village Cendi Manik	Flood Disaster Mitigation Education and Training Efforts in the Village Cendi Manik
	Disaster Preparedness Training For Early Childhood	Disaster prevention training teachers and preschoolers in Bali Kumara aims to increase the knowledge and skills needed to respond to natural disasters, especially earthquakes and tsunamis. This training combines three disaster methods of education, namely storytelling with the media of pictorial stories (kamishibai) entitled "Friends of Naga Boga and Besuki
Jannah et al.[21]	Earthquake and Fire Disaster Response Simulation and Training at SD Budi Utama Yogyakarta	The discussion is prioritized for simulation and training in response to natural disasters, especially earthquakes and fires. It is hoped that the impact of this simulation and training will be on the residents SD Budi Utama is a disaster response school.
	Disaster Mitigation Training with Methods Kamishibai	The pering village, Gianyar district, is an area where earthquakes and disasters. Disaster Mitigation Training using the Kamishibai method aims to train elementary school students and teachers in Pering Village to be responsive to earthquakes and tsunamis. Kamishibai is a

		storytelling technique using paper pictures. Kamishibai is in great demand by children.
S.Damayanti, Purnawati, N.P.L., et al., [22]	The Effect of Institutional Empowerment, Knowledge, Education And Training, And Programs Against Hotel Resilience in the Face of Threats Disaster in Kupang City, Nusa Tenggara Province East	The research aims to identify and analyze Institutional Empowerment, Knowledge, Education and Training, and Programs effect on hotels in dealing with disasters in Kupang City. The results of the study concluded that: 1) Institutional empowerment has a positive effect on hotel resilience in dealing with disasters in Kupang City. 2) Knowledge has a positive effect on hotel resilience in dealing with disasters in Kupang City. 3) Education and Training negative effect on the resilience of business people in dealing with disasters in the City of Kupang, 4) The program has a positive effect on hotel resilience in dealing with disasters in Kupang City
	The Role of Disaster Mitigation Education to Build Preparedness for Natural Disaster Threats	Disaster mitigation education can increase people's understanding of disaster hazards and how to reduce their risks. By increasing knowledge and skills, communities can be better prepared for disasters and reduce their negative impacts. Therefore, disaster education must be an integral part of an effective and sustainable disaster mitigation strategy

Source: processed data

In this study, articles related to disaster education and training using Google Scholar or Google Scholar randomly. The last two years of publication of articles, namely 2022 and 2023. Eight articles were obtained and then became material for discussion. Two 2022 articles by researcher Arie Noor, et al. This researcher reviews the efforts to make use of earthquake detectors. Meanwhile, researcher Bangkit Sudrajat discusses disaster education that integrates with Physics subjects by adjusting to the applicable curriculum. From these two articles, the introduction of various natural disasters can be done in various ways or methods. Either by using a simulation or an earthquake gauge. Meanwhile, disaster education in educational institutions can synergize with relevant subjects.

Based on random search results, seven articles were found in 2023. This article is the result of the authors as a team. They are, Syifaul Jannah, et al, S. Damayanti, K.W,

Agustina Kiky Anggraini, S. Damayanti, K.W, Selvister Lende Ndaparoka, M Hidayatul Ihsan, et al. Each of these authors reviews disaster education and training from various methods and various regions. Syifaul Jannah, et al conducted research on flood disasters in Cendik Manik Village, NTB, due to the low level of public knowledge about SOPs for flood disasters. So there is a need for education and training to minimize the impact of this disaster. One of the concrete actions is to provide disaster-prone maps. S.Damayanti, K.W, et al delivered disaster preparedness training for students. This is in line with Aggraini's emphasis on earthquake and fire response simulation and training in elementary schools. For the mitigation training method, S Damayanti KW et al delivered the Kamishibai method. M Hidayatul Ihsan et al explained the role of disaster mitigation education in building awareness of natural disasters. Meanwhile, Selvister Lende Ndaparoka, et al revealed that analyzing Institutional Empowerment, Knowledge, Education and Training, and Programs affected hotels in dealing with disasters. From the various existing articles, disaster education, and training are available at various educational institutions and ages with various methods. This method adapts to the situation and conditions of each area. This is considering the impact of natural disasters that penetrated various corners of life in society.

IV. Conclusion

Based on the research results, it can be concluded that the role of education and training before natural disasters is very important. Implementing disaster education and training can be done using various methods such as material development, and learning resources from various disaster sources and methods. There is hope that all students will be able to improve and strengthen their disaster character. So, disaster education and training must be provided to all sectors of society.

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