Earthquake Disaster Preparedness Profile Among Students in Bantul

Galuh Titisari[1*], Sabar Nurohman[1], Suyanta Suyanta[2], Sri Rejeki[2]

[1] Master of Science Education Study Program, FMIPA, Universitas Negeri Yogyakarta, Yogyakarta, Indonesia.
[2] Master of Chemistry Education Study Program, FMIPA, Universitas Negeri Yogyakarta, Yogyakarta, Indonesia.

Abstrak: The purpose of this study is to evaluate the level of preparedness of students in facing earthquake disasters in three schools in Bambanglipuro and to provide recommendations for improving student preparedness. This study utilized a quantitative descriptive method involving 124 students as research samples. The research instrument used was an open-ended questionnaire that had been validated by subject matter experts and language experts. The questionnaire consisted of 17 items taken from four parameters of preparedness: attitude (6 items), emergency response planning (5 items), disaster warning systems (1 item), and social mobilization (4 items). The data obtained were analyzed using ANOVA to determine the differences among the three junior high schools. Based on the research findings, it was found that overall, the three schools had similar levels of preparedness, with SMPN 2 Bambanglipuro being classified as "ready" at 80%, while SMP Muh Bambanglipuro and SMPN 1 Bambanglipuro were classified as "almost ready" at 79%. However, there were some parameters of preparedness where the students in all three schools were classified as "almost ready" or "ready," except for the attitude parameter in SMPN 2 Bambanglipuro, which was categorized as "low" at 53%.

Keywords: Earthquake; Mitigation; Preparedness

Introduction

Indonesia is situated between the regions of Asia and Australia and is composed of many islands that form an archipelagic nation. It is bordered by the Indian Ocean and the Pacific Ocean. In the southern and eastern regions, there is a chain of volcanoes that stretches from Sumatra to Sulawesi through Java and Nusa Tenggara – Sulawesi. These geographical conditions make Indonesia a country highly vulnerable to and frequently experiencing disasters, including landslides, volcanic eruptions, floods, earthquakes, and tsunamis (BNPB) according to (Fitriyani et al., 2021; Salsabila et al., 2021; Suryadi et al., 2021).

There are many historical records of earthquake and tsunami events in Indonesia. One of the major disasters that occurred in Indonesia was the earthquake in Yogyakarta on May 27, 2006, at 05:54 AM. The earthquake had a magnitude of 6.3 on the Richter scale and was caused by a fault movement. The earthquake

caused significant damage to several regions, especially in the Bantul district, Sleman, and Yogyakarta City. The earthquake resulted in a significant number of casualties, with more than 4,143 people dead and more than 12,026 injured, as well as a total of 71,763 infrastructure damages, 71,372 severely damaged, and 66,359 lightly damaged houses due to the earthquake. Public facilities such as hospitals, schools, and roads also suffered significant damage due to the earthquake (Aziza, 2022).

The Yogyakarta region from a tectonic perspective is an area with a high potential for earthquakes. This is because Yogyakarta is located between the Indo-Australian plate and the Eurasian plate, causing Yogyakarta to frequently experience significant seismic activity. Additionally, Yogyakarta is situated along an active fault known as the Opak Fault. This fault is the primary source of seismic activity in the region (Nurhadi, 2023). Bambanglipuro is one of the districts in the Bantul area of Yogyakarta. This region has

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suffered significant infrastructure damage, a considerable number of casualties, and the local community has also experienced psychological impacts. The Bambanglipuro district, consisting of three sub-districts: Sidomulyo, Mulyodadi, and Sumbermulyo, recorded a total of 607 fatalities, with 37,028 people displaced. The number of residential units that suffered total damage (completely destroyed) was 6,587, with 2,732 heavily damaged and 816 lightly damaged units. Among the public/educational facilities in the Bambanglipuro area that suffered damage were SMP Muhammadiyah 2 Bambanglipuro, SMP N 1 Bambanglipuro, and SMPN 2 Bambanglipuro.

According to Yulaelawati (2008), earthquakes occur due to the increasing pressure released by the movement of tectonic plates. When this pressure continues to build up, it eventually reaches a point where the plates can no longer withstand it, leading to the release of energy in the form of an earthquake. This natural phenomenon cannot be predicted in terms of when it will occur and can happen at any time, whether we are working, studying, sleeping, or playing. This unpredictability is because of the interplay between materials and energy within the active fault systems beneath the Earth's surface. Therefore, even up to the present time, there is no expert who can accurately predict when an earthquake will occur (Cahyo et al., 2023).

There are several main factors that contribute to a high number of casualties in earthquake disasters, such as a lack of knowledge about earthquakes, awareness of disaster mitigation, and the community's lack of awareness of earthquake hazards, resulting in low preparedness for such disasters. Particularly in the case of earthquakes, many casualties occur due to building collapses and public panic related to earthquakes. However, the impact of this disaster can be minimized through disaster mitigation efforts to reduce the number of casualties (PSB-UGM) in (Ayub et al., 2020). For these reasons, preparedness is crucial as an anticipatory effort against the possibility of earthquake disasters.

Sudibyakto (2011) suggests that the government, along with the community, should change their perspective on disaster management in five main aspects. First, shift from a responsive approach to a preventive approach. Second, transition from sectoral programs to multi-sectoral programs. Third, transfer responsibility from the government alone to shared responsibility. Fourth, change the mechanism from centralization to decentralization. Finally, shift from an emergency response focus to a risk reduction focus. Additionally, it is important for students as the younger generation, who are part of the community, to have a preparedness mindset in dealing with earthquakes. This is because students are vulnerable to disasters, so it is essential to provide them with knowledge, conceptual understanding, and preparedness for earthquake disasters. The same goes for teachers and all school staff. Given this background, disaster preparedness education is needed in schools because schools are an ideal place for children to acquire knowledge and skills in dealing with disasters, enabling them to help reduce potential risks. In light of this, the government has initiated the idea of establishing disaster preparedness schools.

Preparedness is a series of organized activities aimed at minimizing the impact of disasters through effective and efficient preventive actions, as well as enabling effective and timely rehabilitation and recovery (Mardiatno, 2018; Nurmayani et al., 2018). Preparedness measures during disasters include establishing fully-equipped disaster preparedness centers, conducting simulations and technical training for all regions involved in disaster management, such as Search and Rescue (SAR), setting up fast and effective telecommunications systems, installing early warning systems, creating disaster vulnerability maps, and determining meeting points (Ayub et al., 2020). Additionally, there are efforts in place for warning system development, maintenance, training, as well as search, rescue, and evacuation initiatives for vulnerable disaster-prone areas. This preparedness can help reduce physical damage risks and protect oneself and others from hazards during disasters. Public awareness of preparedness is also crucial, involving training and raising awareness about various types of natural disasters (Kangabam et al., 2012).

Previous research has also highlighted the importance of disaster preparedness. For instance, research conducted by Setyawati (2014) emphasizes the significance of knowledge and preparedness, particularly for the general public and adolescents in secondary schools (junior high or high school). School-based preparedness plays a vital role in reducing casualties during disasters, with teachers having a key role in understanding and addressing disasters. Moreover, schools play an essential role in remembering that children and adolescents are vulnerable groups in disaster situations. However, some schools face challenges, including a lack of understanding, ineffective planning, limited early warning systems, and limited resources in primary schools (below 60%), which result in low levels of preparedness (Hadiyati et al., 2018). Research findings also indicate deficiencies in students' knowledge about actions to take during earthquakes and how to avoid earthquake hazards when outdoors. Furthermore, the

preparedness of school staff is considered low, with the majority of them not being ready to deal with disasters (Maidaneli et al., 2019). Other studies have also confirmed that the level of disaster preparedness, both among teachers and students in primary schools, remains inadequate (Ayub et al., 2020).

One way to enhance students' understanding is by incorporating disaster mitigation education, involving students in disaster mitigation education, providing preparedness training, and conducting disaster simulations at school. By taking these steps, they can better comprehend the actions needed to ensure their safety during disaster situations (Finnis et al., 2010). Similar views were also expressed by Lindell et al. (2015) and Oral et al. (2015) stating that individuals actively participating in earthquake hazard simulations have a higher level of knowledge compared to those who are not actively involved. This aligns with the perspective of Setiawan (2021), who states that the Education/school community sector is one of the sectors that are often seriously affected during disasters. Therefore, many schools have initiated disaster preparedness programs as a step to reduce disaster risks within the school environment.

To determine the extent of the level of preparedness in schools in minimizing the impact of disasters, an analysis of the level of preparedness of students towards disasters is needed. The purpose of the analysis of preparedness in schools is to measure the extent to which students' preparedness can cope with earthquakes and supporting factors for students' preparedness. If we know the level of students' preparedness, appropriate steps can be taken to improve students' preparedness in dealing with earthquakes. SMP Muhammadiyah 2 Bambanglipuro, SMPN 1 Bambanglipuro, and SMPN 2 Bambanglipuro are schools located in disaster-prone areas, where this area has significant infrastructure damage, a high number of deaths due to disasters, and the surrounding community also experiences psychological impacts. Therefore, this research is intended to determine the extent of earthquake disaster preparedness for students in Bantul junior high schools and how to minimize the impact of earthquakes.

Method

This research is a descriptive study that employs quantitative techniques through a survey method. The purpose of descriptive research is to understand a problem or condition by collecting existing facts. On the other hand, quantitative research is conducted using numbers as the basis for analysis, starting from data collection, data interpretation, to the publication of research results (Arikunto, 2016). The preparedness of students in SMP Muhammadiyah 2 Bambanglipuro, SMPN 1 Bambanglipuro, and SMPN 2 Bambanglipuro in facing earthquakes is determined through quantitative data analysis. The population in this study consists of students from SMP Muhammadiyah 2 Bambanglipuro and SMPN 1 Bambanglipuro, as well as SMPN 2 Bambanglipuro. The research sample includes 124 seventh-grade students. In this study, data will be collected using a questionnaire technique, which is a direct and closed-ended questionnaire with three answer choices. The questionnaire consists of four preparedness parameters: attitude parameter, emergency response plan parameter, disaster warning parameter, and social mobilization parameter.

This research questionnaire was created by the researcher by modifying questionnaires from previous studies conducted by Arikunto (2016) and Utomo et al. (2018). The use of the questionnaire is because the content of the questionnaire is easily understood. The questionnaire serves to obtain data on the preparedness of students in SMP Muhammadiyah 2 Bambanglipuro, SMPN 1 Bambanglipuro, and SMPN 2 Bambanglipuro. The research instrument used is a questionnaire sheet on students' preparedness for earthquakes that has been validated by experts for language, writing, and questionnaire content. The questionnaire has also undergone validity testing to determine its suitability for use in this study. The data analysis technique used in this study employs a quantitative approach, with descriptive analysis techniques. To describe the level of student knowledge, a descriptive analysis method is used. The questionnaire uses an interpersonal scale model with a highest value of 3 and a lowest value of 1. The level of preparedness of students in SMP Muhammadiyah 2 Bambanglipuro, SMPN 1 Bambanglipuro, and SMPN 2 Bambanglipuro is measured using the preparedness index in Table 2

Table 1. Preparedness Level Index (LIPI and UNESCO)

Index Value	Category
89.8 - 100	Very Prepared
79.6 - 89.8	Prepared
69.3 – 79.5	Almost Prepared
59 – 69.2	Less Prepare
47.8 - 5	Not Prepared

Result and Discussion

Preparedness of Students per Parameter

In this study, the number of respondents was 127 students from 3 schools in Bambanglipuro district, Bantul, namely SMP Muhuhammadiyah 2 Bambanglipuro, SMPN 1 Bambanglipuro, and SMPN 2 Bambanglipuro. This research selected the location

because it was an area that experienced significant impacts when the earthquake occurred in 2006. From the data analysis obtained, the results are as follows:
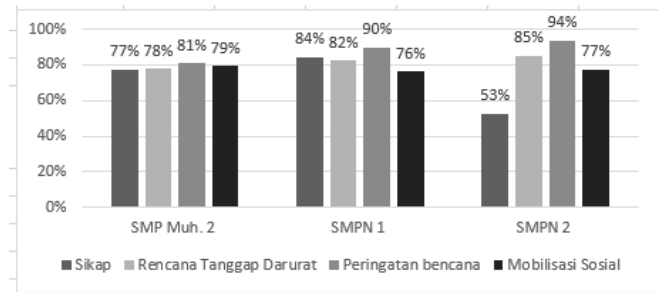

Figure 1. Difference in preparedness per parameter

Attitude Parameter

From the three schools, it can be seen that they have different levels of preparedness. Students who are in the ready category are at SMPN 1 Bambanglipuro, while students who are in the almost ready category are at SMP Muhhamadiyah 2 Bambanglipuro. Students at SMPN 2 Bambanglipuro are still in the not ready category. The readiness level obtained from the two schools is possible because students' knowledge about their preparedness is better, so they understand the attitudes that should be taken when an earthquake occurs. In contrast, the not ready category at SMPN 2 Bambanglipuro is possible because of a lack of knowledge and understanding of earthquakes, which can affect their attitudes in facing the disaster. As stated by Sopaheluwakan (2006), knowledge about disasters is an important factor that encourages people to take protective and preparedness measures. The students' knowledge level about earthquake disasters is influenced by various factors, including the availability of reading materials in the school library, internet access to obtain information, and the provision of disaster management materials and simulations during the learning process. Especially for students who live in disaster-prone areas, knowledge about disasters is crucial to strengthen their attitudes and concerns in anticipating disasters.

Preparedness is one way to anticipate disasters, although not all disasters can be mitigated. The purpose of disaster preparedness is not to prevent disasters but to minimize the effects and losses caused by disasters. Preparedness activities are not only carried out during a disaster but also before, during, and after a disaster. Therefore, preparedness can be considered a preventive effort in case a disaster actually occurs (S. A. Lestari et al., 2022). In disaster-prone areas, the primary capability that the community must possess is a disaster preparedness mind-set (Brown et al., 2014). The level of understanding of preparedness among students when dealing with earthquake

disasters is measured using four parameters: attitude, emergency response plans, warning systems, and social mobilization.

The attitude parameter in preparedness involves steps taken to minimize the impact of a disaster. It reflects an individual's response when a disaster occurs. Knowledge and attitude are fundamental insights that every individual should possess, such as understanding the history and causes of disasters, recognizing the symptoms, and knowing how to respond when a disaster occurs. If someone has good knowledge about disasters, it will have an impact on their attitude when a disaster happens (Cahyani et al., 2020).

Based on the results obtained, it can be said that all students have a fairly good level of knowledge, even though this is not in line with the findings of (Kurniawati et al. (2019) which states that the majority of students have limited knowledge in facing disaster situations. Knowledge is the result of an individual's recognition of objects through their senses, including sight, hearing, smell, feelings, and touch. Various factors can influence the level of knowledge before and after a disaster occurs. Efficient emergency planning can have a positive impact on students' preparedness behavior. Similarly, as stated by Chotimah (2019), knowledge about disasters is very important, especially for people in disaster-prone areas. This is because information about various types of disasters that threaten, symptoms that occur during disasters, and the steps to take for self-rescue and recommended evacuation locations are needed by the community before, during, and after a disaster occurs, thus helping to reduce the risk of such disasters.

According to Sopaheluwakan (2006), knowledge about disasters is an important factor that motivates individuals to take protective and preparedness measures. The level of students' knowledge about earthquake disasters is influenced by various factors, including the availability of reading materials in the school library, internet access to obtain information from the internet, and the provision of disaster management materials and simulations during the learning process. Especially for students living in disaster-prone areas, knowledge about disasters is crucial to strengthen their attitudes and concerns in anticipating disasters (Sopaheluwakan, 2006).

The results of the research conducted by (Lindawati et al., 2017; Rahil et al., 2021) indicate that there are two factors that can represent various other variables affecting the level of preparedness. These factors are knowledge and attitude, as well as the availability of facilities and infrastructure. There is also a significant impact between individual knowledge

levels and preparedness levels. These results indicate that individuals with high knowledge about preparedness are four times more likely to have a high level of preparedness compared to individuals with low knowledge.

Emergency Response Plan Parameter

From the data obtained for this parameter, students at SMPN 2 Bambanglipuro and SMPN 1 Bambanglipuro are in the ready category, while SMP Muhhamadiyah 2 Bambanglipuro is in the almost ready category. This is possible because students understand the evacuation procedures in the school and also know the location of the evacuation area and gathering points provided by the school.

According to Bachtiar (2021), based on Law No. 24 of 2007 concerning disaster management, disaster emergency response is an activity aimed at quickly dealing with the negative impacts when a disaster occurs. This activity includes rescue and evacuation efforts for people and goods, meeting basic needs, protection, and care needed by refugees, as well as efforts to save and repair infrastructure damaged by the disaster. Through careful planning, it is hoped that the risks arising from disasters can be reduced while simultaneously enhancing resilience in facing them. This aligns with the statements made by Dodon (2013) and Erlia et al. (2017), which emphasize that disaster emergency plans are effective and efficient measures when dealing with disasters, especially when they occur and external assistance has not yet arrived. Furthermore, having a well-prepared emergency response plan is crucial for evaluating and minimizing disaster casualties. Such a plan should encompass preparations for first aid, determining evacuation routes, identifying meeting points, and having evacuation equipment available.

To maximize knowledge within the school environment, every individual within the school community should actively participate in the development of emergency response plans, with each person playing an active and clearly defined role. For instance, involving students in the planning of emergency responses. The aim is to create a school environment that is safe and well-prepared for disasters, involving participation from all stakeholders. Students are expected to become partners in implementing the school disaster preparedness program (Devica, 2020).

Disaster Warning parameter

From the data obtained in this parameter, students at SMPN 2 Bambanglipuro and SMPN 1 Bambanglipuro fall into the category of very prepared, 90-94%, while SMP Muhammadiyah 2 Bambanglipuro

is in the prepared category at 81%. This indicates that students in these three schools are aware of the disaster warning system and the importance of having a source of information for earthquake disaster warnings.

This aligns with the research conducted by Lestari (2017) which shows that 66.8% of the tested respondents indicated that the disaster warning system provided to them has made them prepared or very prepared to face disasters. In other words, the majority of the respondents have a high level of readiness regarding the disaster warning system.

According to tcuti sionakuo (LIPI-UNESCO/ISDR, 2006), an early warning system involves actions taken to prevent casualties from disasters by providing pre-agreed warning signs. This system includes warning and information distribution about the possibility of a disaster. The goal of these warnings is to enable the community to take appropriate and swift action to reduce the number of casualties, property damage, and negative impacts on the environment. To achieve this, it's important to conduct disaster drills and simulations, understand the steps to take when receiving disaster warnings, and know how and where to take shelter quickly.

According to BNPB (2021) Dodon in Sari et al. (2017), this system is adapted to the needs of areas vulnerable to natural disasters, including the use of various types of warnings such as gongs, drums, or other methods. Local governments can also develop warning systems with characteristics that are easy for the community to understand. The aim of this system is to trigger a quick response from the community and help them prepare for disasters, thereby reducing casualties, property damage, and adverse environmental impacts.

According to Susanto (2006), implementing disaster preparedness policies during a disaster is not easy. Therefore, in safe situations, various preventive measures need to be taken, including efforts to build and enhance unconventional disaster warning systems, even if the likelihood of an earthquake occurring in the area is low.

Social Mobilization Parameter

From the data obtained, in this parameter, all three junior high schools fall into the category of being almost ready, with SMP Muh. 2 Bambanglipuro at 79%, SMPN 1 Bambanglipuro at 76%, and SMPN 2 Bambanglipuro at 77%. This is different from the results of the research conducted by Putri (2018) titled "The Level of Preparedness of Students in Facing Earthquake and Tsunami Disasters at SMP Negeri 2 Kretek Bantul," which found a high category of 86.05%.

The results obtained in this parameter indicate that they have made some preparations and have sufficient knowledge regarding resource mobilization or actions required during disasters. Although they are not fully prepared, they have taken some steps to prepare themselves and have a basic understanding of what needs to be done in disaster situations. Some common factors that may contribute to the students being almost ready are increased awareness of the importance of disaster preparedness, access to limited resources supporting disaster mitigation (e.g., evacuation facilities), increased school awareness, participation in disaster drills and simulations at school, and access to information about disaster mitigation.

Resource mobilization is the action of developing the ability to manage various types of resources, including human resources, funding, and crucial infrastructure relevant to emergency situations. These resources have the potential to support preparedness.

Resource mobilization plays a crucial role in supporting preparedness. This parameter encompasses students' preparedness, which can be developed in various ways and in various locations, especially within the school environment (LIPI-UNESCO/ISDR, 2006). In schools, it is also important to establish disaster preparedness groups such as disaster warning groups, logistics groups, and first aid groups (Hidayati et al., 2020). This aims to enhance students' preparedness in facing disasters. However, on the flip side, resource mobilization can also be an obstacle if not executed effectively, as mentioned by Istihora (2020).

Murbawan et al. (2017) as cited in (Fitriyani et al., 2021), revealed that factors such as a lack of first aid skills, insufficient preparedness, and victim evacuation have influenced the limited resource mobilization. Even if there is related training available, only a small percentage of individuals participate.

Disaster Preparedness Criteria

Based on the graph, it can be concluded that some parameters in students' preparedness levels have a high achievement category. Of these four parameters, it is evident that SMPN 1 Bambanglipuro has a higher level of preparedness than SMP Muhammadiyah 2 in three

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parameters: attitude, emergency response plan, and disaster warning, but it is lower in the parameter of social mobilization. On the other hand, students at SMPN 2 Bambanglipuro have the lowest score in the attitude parameter but have the highest scores in the other two parameters: disaster warning and emergency response plan.

Students' Preparedness for All Parameters

The data in figure 2 shows the level of disaster preparedness of students in three schools in the Bambanglipuro area. From the data, it can be seen that SMPN 1 Bambanglipuro and SMP Muhammadiyah 2 Bambanglipuro have an almost ready and ready category of disaster preparedness, while SMPN 2 Bambanglipuro is in the ready category. This suggests that students in these three schools have a relatively good level of disaster preparedness. Although the data results show different levels of disaster preparedness between the three schools, further analysis is needed to find the contributing factors to these differences. In addition, appropriate solutions need to be found to improve disaster preparedness in each school so that the positive impact can be felt by the students. Thus, schools can contribute better to improving the disaster preparedness of their students.
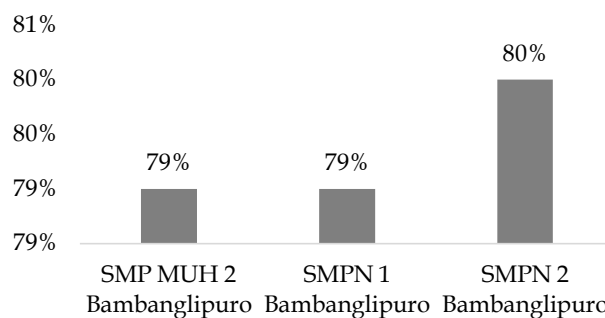

Figure 2. Students' Preparedness for All Parameters

ANOVA Test

To compare the preparedness parameter between the three schools, an ANOVA test was used, and the results are as follows.

Table 2. Test for Differences between 3 Schools

	(I) School	(J) School	Mean Diff. (I-J)	Std. Error	Sig.
Turkey HSD	SMP Muh. 2 Bambanglipuro	SMPN 1 Bambanglipuro	-2.561*	1.046	.040
		SMPN 2 Bambanglipuro	-2.477*	.938	.024
	SMPN 1 Bambanglipuro	SMP Muh. 2 Bambanglipuro	2.561*	1.046	.040
		SMPN 2 Bambanglipuro	.084	.687	.992
	SMPN 2 Bambanglipuro	SMP Muh. 2 Bambanglipuro	2.477*	.938	.024
		SMP Negeri 1 Bambanglipuro	-.084	.687	.992
LSD	SMP Muh. 2 Bambanglipuro	SMPN 1 Bambanglipuro	-2,561*	1.046	.015
		SMPN 2 Bambanglipuro	-2.477*	.938	.009
	SMPN 1 Bambanglipuro	SMP Muh. 2 Bambanglipuro	2.561*	1.046	.015
		SMPN 2 Bambanglipuro	.084	.687	.903
	SMPN 2 Bambanglipuro	SMP Muh. 2 Bambanglipuro	2.477*	.938	.009
		SMPN 1 Bambanglipuro	-.084	.687	.903

From the above analysis, it can be seen that there are significant differences between SMP Muhammadiyah 2 Bambanglipuro and SMPN 1 Bambangliputo, with a significance level of 0.040, and between SMP Muhammadiyah 2 Bambanglipuro and SMPN 2 Bambanglipuro, with a significance level of 0.024. However, no significant difference was found among the three schools, with a significance level of 0.992.

Preparedness Index

Based on the index values per parameter, it can be said that: At SMP Muhammadiyah 2 Bambanglipuro, the attitude, emergency response plan, and social mobilization parameters are categorized as almost ready, while the disaster warning parameter is categorized as ready. At SMPN 1 Bambanglipuro, the attitude and emergency response plan parameters fall into the ready category, the social mobilization parameter is in the almost ready category, and the disaster warning parameter is in the highly prepared category. At SMPN 2 Bambanglipuro, the disaster warning parameter is categorized as highly prepared, the emergency response plan parameter is in the ready category, the social mobilization parameter is in the almost ready category, and the attitude parameter is categorized as not ready.

Preparedness is one way to anticipate disasters, although not all disasters can be anticipated through disaster mitigation. The goal of disaster preparedness is not to prevent disasters, but to minimize the effects and losses caused by disasters. Preparedness is not only done during a disaster, but also before, during, and after a disaster. Therefore, preparedness is considered a preventive effort if a disaster really occurs (S. A. Lestari et al., 2022). The level of understanding of preparedness among students in dealing with earthquakes is measured by four parameters, namely attitude, emergency response plan, warning system, and social mobilization.

The survey results show that the three schools are included in the ready and almost ready categories. Generally, the main factor that causes students in the three schools to be included in these categories is that they have adequate knowledge and understanding about earthquake disasters, including the things that must be done during and after an earthquake. This knowledge can be obtained through various sources such as family, community, and also school. SMPN 2 Bambanglipuro has a better level of preparedness than other schools, because the school is an education institution prone to disasters. Therefore, the school has better facilities and materials to improve preparedness for disasters.

However, in order to achieve a better level of preparedness for students, it can be done through learning, training, and socialization of disaster preparedness for teachers to students.

a) Teachers can provide learning about natural disasters, such as earthquakes, using interesting and innovative teaching materials, for example using flipbooks/e-books. This flipbook teaching material is an interactive teaching material that can use sound, video, and attractive images, so that students are interested in learning, and it helps them understand the material easier.

b) Training for students, Disaster preparedness training is also very important. This training can be conducted by disaster experts or competent parties in the field of disaster preparedness. In this training, teachers can learn how to evacuate, provide first aid to victims, and how to evacuate students to safe places.

c) Earthquake simulation: Schools need to conduct earthquake simulations regularly to ensure that everyone in the school knows what to do when an earthquake occurs. This simulation can also help identify weaknesses in the preparedness plan and provide an opportunity to improve it.

d) Socialization of disaster preparedness is also important to be carried out by teachers. This socialization can be done in the form of group discussions or through social media. Through socialization, teachers can build awareness of the importance of disaster preparedness for students. Teachers can also motivate students to actively participate in disaster preparedness activities, such as evacuation drills and making family emergency plans.

In addition to preparing disaster preparedness for students, schools also need to provide adequate earthquake handling facilities, including:

a) Provision of evacuation areas: Schools need to provide safe and open evacuation areas for students and school staff. Evacuation areas must be close and easily accessible to everyone in the school and equipped with clear evacuation signs.

b) Meeting points, with the meeting points students know where to go if an earthquake occurs while at school.

c) Personal safety equipment, with equipment such as safety helmets, shoes or boots, gloves, dust masks, emergency evacuation bags, and blankets.

d) Disaster mitigation, especially disaster preparedness, will run smoothly if every individual understands the risks of disasters and has the ability to be prepared for disasters and readiness in facing disasters. To prepare for disasters, adequate understanding of frequently occurring types of disasters, preventive measures, and efforts to improve resilience in facing disasters are needed. To anticipate the possibility of an earthquake, teachers and students need to have insight into pre-disaster actions, handling during disasters, and post-disaster recovery efforts (Tahir et al., 2020).

Conclusion

The Based on the research data, it can be concluded as follows: The preparedness of students in three different schools varies based on four measured parameters. SMP Muhammadiyah 2 Bambanglipuro shows a readiness level that is nearly prepared in terms of attitude, emergency response plans, and social mobilization, and falls into the "prepared" category for disaster alerts. In SMPN 1 Bambanglipuro, parameters like attitude, emergency response plans, and disaster alerts are categorized as "prepared," while social mobilization is considered "nearly prepared." On the other hand, SMPN 2 Bambanglipuro is categorized as "prepared" in two parameters, which are emergency response plans and disaster alerts, while social mobilization and attitude fall into the "nearly prepared"

category. Overall, the preparedness levels in these three schools are quite similar, with SMP Muhammadiyah 2 Bambanglipuro and SMPN 1 Bambanglipuro both having the same level of preparedness, which is 79%, categorized as "nearly prepared." Meanwhile, SMPN 2 Bambanglipuro has a preparedness level of 80% and falls into the "prepared" category. To enhance the students' preparedness level, efforts such as teaching, training, and socialization regarding disaster preparedness to both teachers and students are essential. Innovative and interactive teaching methods, like using flipbooks, can aid students in better understanding the material. Additionally, schools should provide adequate earthquake response facilities, including evacuation areas, meeting points, and safety equipment.

Conflicts of Interest
Conflicts of interest may arise between researchers and the institutions where they work. For example, if the researcher has an academic obligation or pressure to produce many or prestigious publications, this can influence the choice of research subjects or the interpretation of data to achieve the desired results. Such conflicts can compromise the integrity of research and negatively impact the reliability and validity of findings reported in journals.

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