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Qualitative study: School Experience in facing with Bantul Earthquakes Disaster Response

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ABSTRACT

Earthquakes can significantly affect children's development both physically and psychologically. School experience in disaster management becomes one of the foundations for formulating needs and policies in earthquakes disaster mitigation within the school environment. This study aimed to capture the experience of schools in Bantul, Yogyakarta, in dealing with earthquakes events. Using a qualitative approach, data were collected through in-depth interviews and analyzed thematically to identify codes and themes emerging from the data, related to school-based disaster management. Analysis yielded nine major categories describing how schools prepare for, respond to, and recover from earthquakes. The findings highlight the critical role of disaster education and preparedness within school settings and reveal the need for clear procedures supporting children's physical and psychological recovery after an earthquake. These insights underscore the importance of cross-sector collaboration and policy development to strengthen school-based disaster mitigation and post-earthquake recovery programs.

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Introduction

Indonesia is known as one of the countries with the highest risk of natural disasters in the world. This is due to its geographical position at the confluence of three major tectonic plates: the Eurasian Plate, the Indo-Australian Plate, and the Pacific Plate. This position makes Indonesia vulnerable to earthquakes, tsunamis, volcanic eruptions, and other natural disasters. One of the biggest Earthquakes s that ever happened was the Bantul Earthquakes in 2006. This earthquakes caused enormous impacts, including damage to infrastructure, loss of life, and a profound psychological impact on the community, including the school community in the region [1].

The Bantul earthquakes disaster provides an overview of how important the preparedness of the community, especially schools, in dealing with disasters. Schools not only function as educational institutions, but also become community centers that play a role in protecting students and the surrounding community. In disaster situations, schools are often evacuation sites and information dissemination centers. However, the Bantul earthquakes showed that many schools in the affected areas were not fully prepared for the disaster, both in terms of infrastructure and school community awareness [2].

School experience in dealing with earthquakes has an important role in building resilience to disasters. Weaknesses in the education system and lack of mitigation capacity can increase the vulnerability of communities to disasters. Therefore, understanding the experiences and strategies that schools use in dealing with disasters can provide valuable insights to improve preparedness and reduce the impact of future disasters [3].

Earthquakes disasters have an impact not only on the physical, but also on the psychological state of students, teachers and parents. These impacts can influence the learning process and overall school performance in the long term. Therefore, it is important to understand how schools deal with the psychological impact of disasters, both through emotional support to students and strengthening the capacity of teachers in the face of crisis situations. Education based on disaster preparedness can help reduce trauma and enhance students' awareness of disaster risks.

On the other hand, the study also highlights the importance of collaboration between schools, governments, and local communities in dealing with disasters. In the context of the Bantul earthquakes, support from various parties, including local governments, non-governmental organizations, and local communities, is a key factor in accelerating the recovery of affected schools. However, the success of this collaboration largely depends on the good coordination and active involvement of all relevant parties.

In addition, ensuring the sustainability of disaster mitigation programs in schools remains a challenge. Many mitigation programs only run in the short term and discontinue due to limited resources or insufficient commitment from relevant stakeholders. The sustainability of mitigation programs in schools requires a holistic approach, including education, training, and strengthening school infrastructure and policies.

Qualitative research methods used in this study will explore various aspects, including school policies, personal experiences of students and teachers, as well as the role of communities in supporting schools in the face of disasters. This approach aims to provide an overall picture of how schools can become more resilient in the face of future earthquakes threats.

This study aimed to capture the experience of schools in Bantul in dealing with earthquakes. This approach allows for an in-depth exploration of how schools respond to disasters, the recovery efforts undertaken, and the challenges faced. In addition, this study also aims to identify important learning that can be applied in other schools in disaster-prone areas. Thus, the study not only contributes to the literature on education and disasters, but also provides practical recommendations that can be implemented by schools in other disaster-prone.

Material and Methods

This study employed qualitative research using a phenomenological approach. Phenomenological approach focuses on understanding and interpreting individual's lived experiences in depth, including how they perceive events, interact with others, and engage with their environment. In this context, the presence of a phenomenon can be interpreted as something that exists and appears in the consciousness of researchers by using certain ways and explanations of how the process of something becomes clear and real. Phenomenological research focuses on finding, studying and conveying the meaning of phenomena, events that occur and their relationship with ordinary people in certain situations [4]. This study is classified as pure qualitative research because its implementation focuses on understanding and describing the intrinsic characteristics of phenomena as experienced by individuals

The qualitative study was conducted through in-depth interviews with six informants to explore their experiences during the earthquakes until data saturation was reached [5]. The informants in this study were:

1. Principal who served during the 2006 earthquakes as many as 2 informants
2. Class teacher who served during the 2006 earthquakes as many as 2 informants

3. Students who were students during the 2006 earthquakes as many as 2 informants.

For maintaining the data and the conclusions credible, a variety of tactics were used. The strategies used included limiting the main sources of review to the abstracts of the important publications, documenting the steps of data collection and analysis, establishing appropriate communication with participants, spending adequate time on data collection and analysis, and member checking the data and findings.

The interviews were recorded, transcribed into English, and validated by an experienced qualitative researcher. All data were anonymized prior to analysis. A common coding frame was developed in NVivo. The author outlined four principles: autonomy, justice, beneficence, and non-maleficence. The analysis followed the six phases of thematic analysis proposed by Braun and Clarke [6]. These phases are: familiarizing with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. Codes were applied to different blocks of the texts, and the transcripts were reviewed iteratively. The initial coding process was conducted openly and was followed by axial coding to establish meaningful connections among emerging themes.

The purpose of the study and the standard of reporting and utilizing the results were sufficiently explained to the participants. Additionally, we assured them that their privacy would be protected and that they may choose to take part in or leave the study at any time. Private rooms were used for all interviews, and numerical codes were used to anonymize all voice recordings. Each participant provided written informed consent to participate in the study and to have their interview recorded.

Results and Discussions

A. Finding

Table 1. Characteristic of informants.

No	Informants	Roles
1	P1	Principal
2	P2	Principal
3	T1	Teacher
4	T2	Teacher
5	S1	Student
6	S2	Student

The informants in this study consisted of two principals who served during the 2006 earthquakes, two classroom teacher who were teaching at that time, and two individuals who were students during the 2006 earthquakes.

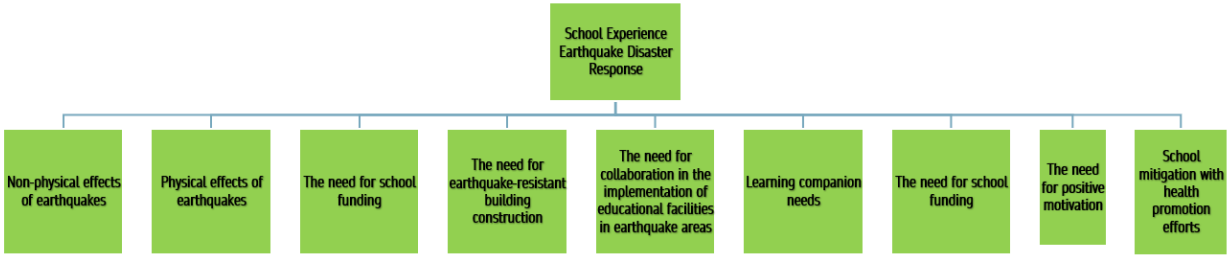


Fig. 1. Finding themes.

1. Theme 1: Non-physical effects of earthquakes

   "The Earthquakes in our place was very big, because the epicenter was opak area, my brother passed away"

   "Even though there are buildings still choose tents, because I am really traumatized until now if there is an Earthquakes I will definitely leave the House"

2. Theme 2: Physical effects of earthquakes

   "The school is a bit run down, cracked, but not used school"

   "Worry if the building collapsed, then 1 month no activity lessons at school, then moved to another elementary school"

3. Theme 3: The need for school funding

   "I want to go to college cannot afford, because the money to fix up the house "

   "Tuition assistance is only a few months, even though it is needed by parents only farmers, which is rather high the cost of building buildings can be paid in installments for up to two years"

4. Theme 4: The need for earthquakes-resistant building construction

   "Want the school building to be repaired immediately so that learning could be continue. The renovated building used a lightweight steel roof, as recommended by my friend"

   "Rarely used iron and mostly relied on cement, but always felt that the roof needed to be strong"

5. Theme 5: The need for collaboration in the implementation of educational facilities in earthquakes areas

   "At that time, we got school books from UNICEF, we need LKS-LKS, school uniforms, and shoes"

   "Can help bags, uniforms, school supplies, shoes"

6. Theme 6: Learning companion needs

   "Need a teacher/tutor because lass combines early childhood students up to Grade 6 in the same group"

   "No additional teachers were assigned. Students still received lessons, but unlike during the earthquake period, the school hours were no longer the same"

7. Theme 7: The need for school funding
8. Theme 8: The need for positive motivation

   "Parents still want their children to go to school, even though 1 year off and still studying with UNICEF's older brother"

   "My parents were worried about me going to school, so I often stayed home and eventually fell behind in my classes"

9. Theme 9: School mitigation with health promotion efforts

   "Earthquake simulations were conducted regularly—sometimes once a week, sometimes once a month. I forget which institution collaborated with the school, but the teachers explained the gathering points, and there were posters showing how to protect ourselves during an earthquake"

   "From school there are taught if there is an earthquakes there immediately gathered at the gathering point"

B. Discussion

Indonesia's natural conditions make it highly vulnerable to natural disasters, man-made disasters, and complex emergencies, despite its richness in natural resources. In general, the country faces multiple disaster threats, including geological hazards (earthquakes, tsunamis, and volcanic eruptions), hydrometeorological hazards (floods, landslides, droughts, and hurricanes), biological hazards (disease outbreaks in humans, livestock, and plants), as well as technological failures such as industrial accidents, transportation incidents, nuclear radiation, and chemical pollution.

Earthquakes have an impact physically and non-physically on the condition of the community, especially children who experience it and become traumatic events. Traumatic events are particularly impactful for victims aged children. The psychological impacts are sleep disorders, nightmares, feeling lonely even in crowded places, irritability, sensitivity and difficulty concentrating on schoolwork [7]. The emergence of memories related to traumatic events can be felt repeatedly in several periods (minutes, hours, days) so that it affects behavior and identity disorders. These conditions if not properly rehabilitated will cause psychological trauma that can disrupt the stability of life and have a bad impact on later life [8]. Anxiety and excessive worry even tend to be (traumatic) perceived in the form of sleep disorders, especially when it rains, children become quiet, do not want to have toys or other objects for fear of being lost to the flood. Related to education, there is damage to school infrastructure resulting in teaching and learning activities increasingly difficult to be implemented optimally [9]. Seeing the impact felt, it is necessary to carry out an activity to distract children from traumatic events so that children are still able to live and enjoy their daily lives well.

One of the most vulnerable groups of people affected by disasters is children. Children are especially vulnerable to disasters because they are less prepared for disasters and they are not aware of the threats in their environment. Data on disasters in various places studies have shown that school-age children are the most affected.

In addition to providing material assistance, victims of natural disasters also need moral support. The psychological impact of disasters in general includes loss, separation, trauma, and trauma, which affect ways of coping and behavioral outcomes. Stress can come from something small like what you experienced yourself or it can come from sources like disaster experiences, etc. Psychosocial support is one way [10].

Outside of a person (individual), efforts or support made by individuals, groups or communities in social interactions in everyday life that are full of compassion, love, and protection help self-adjustment to the problem or difficult situation at hand (coping). This support is essential for children to build self-esteem, a sense of community, learning, life skills, social engagement, and confidence in the future [11].

Various studies show that Earthquakes disaster mitigation education and training in schools is essential to improve the preparedness of students and teachers. Implementation of mitigation programs, both through curriculum, socialization, training, and psychoeducation, proved effective in improving knowledge and response to disasters. However, further efforts are still needed to ensure that all schools, especially those in Earthquakes -prone areas, have effective and sustainable mitigation programs [12]. The importance of educating children

about disaster preparedness at a young age through disaster preparedness programs early in school, allowing them to learn how to save yourself in an emergency.

In the face of emergency situations, of course, equipment is needed to minimize the risk of earthquakes disasters. This emergency safety equipment is especially for evacuation needs when an Earthquakes occurs. Generally, emergency safety equipment in schools is the same as emergency safety equipment in other public buildings such as hospitals, offices or factories. Generally, the equipment provided is a helmet, fire extinguishing gas or emergency glass breaking hammer. Similar to the existence of disaster literature, personal safety equipment to deal with emergencies when Earthquakes s occur is also not available in every school [13].

Conclusion

The presence of a disaster-resilient school significantly influences preparedness for catastrophes and disasters. Recommendations for disaster mitigation that can be implemented include: (1) establishing partnerships with local government to strengthening laws and policies related to mitigation and post-earthquake needs, (2) raising community and school awareness and capacity by integrating disaster preparedness into the curriculum, and (3) conducting training sessions and making optimizing available resources to support post-earthquakes recovery.

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Conflict of Interest

Authors declare that they have no competing interests nor conflicts of interest.

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