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PREPAREDNESS LEVEL OF STUDENTS IN PRONE SCHOOLS LANDSLIDE DISASTER

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ABSTRAK

Abstract: Natural disasters that occur require good disaster preparedness and mitigation efforts. Low knowledge of disasters is one of the factors causing the low attitude toward disaster preparedness. This study aims to analyze the disaster preparedness level of students in landslide-prone schools. The research design used a pre-experimental design, namely one-shot case study. The data were collected using a questionnaire with a purposive sampling technique based on the location of schools in areas that have a high risk of landslides. The data analysis technique uses statistical processing that is descriptive (statistical descriptive). The results showed that the level of students' preparedness attitude in schools prone to landslides was at a low level with an average percentage of 44.17% in five aspects of preparedness. The low level of preparedness is due to the lack of socialization by the school and the lack of inclusion of disaster material in the subject. The results of this study are also expected to provide important information for students and the community to have a natural disaster preparedness attitude and reduce the negative impacts caused by landslides.

***Abstrak**: Bencana alam yang terjadi membutuhkan upaya kesiapsiagaan dan mitigasi bencana yang baik. Rendahnya pengetahuan kebencanaan menjadi salah satu faktor penyebab rendahnya sikap kesiapsiagaan bencana. Penelitian ini bertujuan untuk menganalisis level kesiapsiagaan bencana siswa di sekolah rawan tanah longsor. Desain penelitian yang digunakan pre-experimental design yaitu one shot case study. Pengumpulan data menggunakan kuesioner dengan teknik purposive sampling berdasarkan lokasi sekolah di wilayah yang memiliki risiko tanah longsor yang tinggi. Teknik analisis data menggunakan pengolahan statistik yang bersifat deskriptif (statistic descriptive). Hasil penelitian menunjukkan level sikap kesiapsiagaan siswa di sekolah rawan bencana tanah longsor berada pada level rendah dengan persentase rata-rata 44.17% pada lima aspek kesiapsiagaan. Rendahnya level kesiapsiagaan ini disebabkan oleh kurangnya sosialisasi yang dilakukan pihak sekolah dan minimnya penyisipan materi kebencanaan dalam mata pelajaran. Hasil penelitian ini juga diharapkan dapat menjadi informasi penting bagi siswa dan masyarakat agar memiliki sikap kesiapsiagaan bencana alam dan mengurangi dampak negatif yang diakibatkan oleh bencana tanah longsor.*

A. INTRODUCTION

Kendal Regency is one of the regions in Central Java that has a high index of landslides (BPBD Kendal, 2021). Based on data from the Regional Disaster Management Agency (BPBD) of Kendal Regency, there have been 37 landslides during 2020 and seven landslides in early January 2021, which are spread across several sub-districts (BPBD Kendal, 2021). The areas with the highest landslide intensity were in Singorojo and Sukorejo Districts. Disasters that occur have an impact on community losses such as damage to houses, public facilities, loss of property, and even casualties (Syuaib, 2014).

Several schools in Sukorejo District of Kendal Regency is located in steep and sloping hills that often experience landslides when there is heavy rain. Currently, awareness and understanding of the various types of disasters that often occur in the vicinity are still very low. There is plenty of evidence to suggest that during natural disasters, misunderstandings and mistaken beliefs can lead to inadequate behaviour (Meliana et al., 2020).

Disasters that occur cannot be avoided, so efforts are needed as a step to minimize the damage caused by disasters (Ozkazanc & Yuksel, 2015). One of the ways to reduce the impact of disasters is by implementing education and public awareness of disaster risk knowledge (Supriyadi et al., 2019). Natural disaster mitigation can be implemented in schools. Disaster Preparedness School is one of the strategic efforts to build the preparedness of school residents against natural disasters, before disasters, during disasters, and after disasters (Sakban et al., 2020). The existence of such potential disasters also requires disaster preparedness, early warning, and mitigation efforts.

Education has a key role in promoting and shaping disaster preparedness (Hoffmann & Muttarak, 2017). Disaster preparedness education has a positive effect on earthquake preparedness for elementary students (Indriasari, 2016). Disaster learning is also able to improve understanding of the concepts and preparedness attitudes of high school students (Nurhadi et al., 2017; Rahmawati & Wiyatmo, 2018).

Preparedness is an action or activity that is carried out before a disaster occurs (Widjanarko & Minnafiah, 2018). Preparedness consists of structural and non-structural preparedness (Triyono et al., 2013). Structural preparedness can be formed by carrying out activities that include structural, architectural, furniture and contents, and other supporting equipment. Non-structural preparedness contains five aspects, namely: (1) knowledge, and attitudes; (2) policies and guidelines; (3) emergency response plan; (4) early warning system; and (5) resource mobilization. Knowledge of natural phenomena and attitudes are very important factors and are the main parameters for measuring preparedness in anticipating natural disasters (Triyono et al., 2013)

However, disaster preparedness education is currently not specifically included in the education curriculum in Indonesia (Indriasari, 2016). The current conditions of disaster education in Indonesia: (1) the lack of knowledge and understanding of teachers regarding disaster risk reduction knowledge; (2) the lack of availability and access to syllabus guides and teaching materials by teachers and education actors which results in a lack of teachers' ability to integrate Disaster Risk Reduction (DRR) into the curriculum; and (3) vulnerability of physical conditions, school facilities and infrastructure to disasters (Wedyawati et al., 2017).

This study aims to analyse the level of preparedness of students in schools in areas prone to landslides. Furthermore, the results of the research will be used as the basis for taking disaster learning actions integrated into science subjects.

B. RESEARCH METHOD

In general, five stages in this research consists of: (1) introduction; (2) data collection; (3) data processing; (4) data analysis; and (5) conclusion, implication, and recommendation. The research procedure is described using a research flow chart shown in Figure 1.

The research design used was a pre-experimental design, namely the one-shot case study. Data collection using a questionnaire. The sampling technique used purposive sampling technique based on the location of schools in areas that have a high risk of landslides. The research subjects were 87 students with details of 40 students of MTs Darul Ishlah Sukorejo, 23 students of MTs NU 28 Bringinsari, and 24 students of MI Al Islam Gentinggunung in the odd semester of the 2020/2021 school year.

The landslide disaster preparedness questionnaire consists of five aspects, namely: (1) knowledge; (2) planning; (3) early warning system; (4) mobilization of resources; and (5) awareness adapted from a study conducted by (Latupeirisa & Pujianto, 2020).

The data analysis technique uses descriptive statistical processing (statistical descriptive). The preparedness index score is calculated based on the score obtained by the student compared to the maximum score multiplied by one hundred percent.

Furthermore, the determination of the category of the level of student readiness used three categories, namely high, medium, and low which refers to Table 1 (Triyono et al., 2013).

Table 1. Students' Preparedness Level

Index Value	Level Category
80-100	High preparedness
60-79	Medium preparedness
< 60	Low preparedness

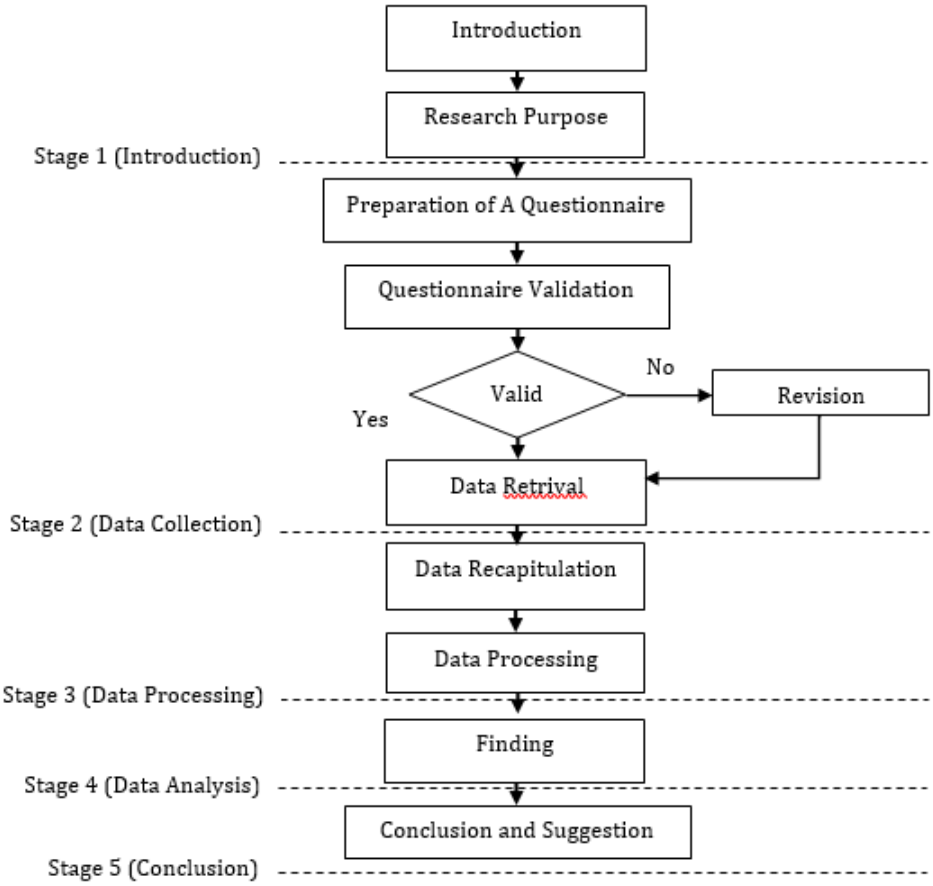

Figure 1. Research Flow Chart

C. RESULT AND DISCUSSION

In general, the level of students' disaster preparedness attitudes to landslides was in the low-level category with an average percentage of 44.17%. This level of preparedness is obtained through students' answers to a previously given questionnaire. The questionnaire consists of 35 statements covering five aspects of disaster preparedness with yes and no answer options. The answer "yes" is given a score of 1 and the answer "no" is given a score of 0. The five aspects are the knowledge aspect, the planning aspect, the early warning system aspect, the resource mobilization aspect, and the awareness aspect. The questionnaire result data was obtained from students' responses to each statement. Furthermore, the categorization of the level of preparedness was made into three categories, namely high, medium, and low levels (Triyono et al., 2013).

The students' disaster preparedness levels are presented in Table 1. Based on the students' disaster preparedness analysis, it was found that the students' disaster preparedness levels were included in the low-level category for four aspects. Meanwhile, the awareness aspect is in the medium level category. Four aspects in the low-level category are knowledge, planning, early warning systems, resource mobilization, while one aspect in the medium level category is awareness. The percentage comparison of five aspects of disaster preparedness is presented in Figure 2.

Table 2. Category Level Five Aspects of Students' Disaster Preparedness

Aspects	Maximum Score	Minimum Score	Average	Level Category
Knowledge	9	2	5.72	Low
Planning	10	1	5.70	Low
Early Warning System	3	0	1.02	Low
Mobilization of Resources	6	0	1.80	Low
Awareness	5	1	3.36	Medium

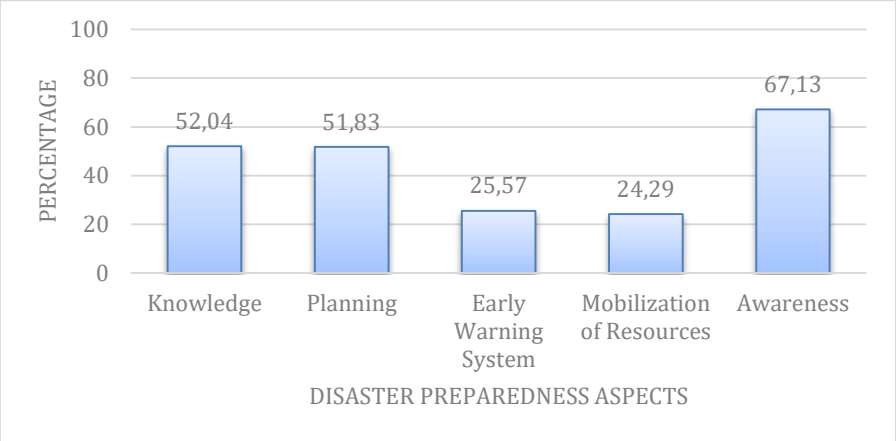

Figure 2. Comparison of Level Five Aspects of Students' Disaster Preparedness

Figure 2 shows the average aspect of student preparedness for landslides, the average knowledge aspect is 52.04%, the planning aspect is 51.83%, the early warning system aspect is 25.57%, the resource mobilization aspect is 24.29%, and the awareness aspect is 67.13% on average. The average of the five aspects was 44.17%. These results indicate that the level of preparedness of students to face landslides is still low. These results need to be improved so that students have high preparedness in dealing with landslide natural disasters.

The results of disaster preparedness were also found in research conducted by Meliana et al. (2020) which states that students' disaster mitigation literacy against floods in Semarang City is still low. The low literacy of disasters occurs due to the lack of experience and lack of information from students in dealing with disasters. The existence of a similarity in the low literacy and disaster preparedness of students in this study with previous research is an important note to take corrective steps.

Meanwhile, (Nandi & Havwina, 2018) in their research found different findings. The level of preparedness for schools to face the earthquake and tsunami in Banda Aceh was very ready (high). Differences in disaster preparedness among school members also arise from schools implementing the Disaster Preparedness School (SSB) program and schools that do not implement the program. The school community is the most important component in building disaster preparedness attitudes. Students who have sufficient knowledge about natural disasters and preparedness will have good confidence to actively participate in dealing with natural disasters.

Based on the results of the interviews, students stated that the school had never disseminated disaster education or conducted disaster simulations at both the school and subject levels. The high level of student preparedness in facing disasters is influenced by the factor of students' knowledge of natural disasters. (Nandi & Havwina, 2018) state that knowledge contributes to changes in people's mindsets and behaviour in dealing with natural disasters. In addition, there is a positive correlation between knowledge and preparedness behaviour, which means that the more knowledge a person has, the higher one's preparedness will be (Atmojo et al., 2018).

In general, disaster preparedness is not only limited to landslides, floods, earthquakes, and tsunamis but includes other disasters. Indonesia, which is a disaster-prone zone, must consciously make students and the community have good knowledge about disaster mitigation (Meliana et al., 2020).

The results of this study are expected to make students and the public aware of the importance of having a natural disaster preparedness attitude and reducing the negative impact caused by landslides. The results of this study also have the potential to be used as a baseline for further research to prepare and design integrated science learning for natural disaster learning to increase the level of student preparedness in facing landslides.

D. CONCLUSION AND SUGGESTIONS

The level of student preparedness in regional schools with a high index of landslides is still low in four aspects, namely knowledge, planning, early warning systems, and resource mobilization. In the aspect of consciousness, it is included in the medium level category. The low level of preparedness is due to the lack of education and socialization carried out by the school and the lack of insertion of disaster material in the subject. The results of this study are also expected to provide important information for students and the community to have a natural disaster preparedness attitude and reduce the negative impacts caused by landslides. The results of this study also have the potential to be used as baseline data for further research to prepare and design integrated science learning lessons for natural disasters to improve the level of student preparedness in facing landslides.

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