

DISASTER KNOWLEDGE OF STUDENT FOR DISASTER PREPAREDNESS

Nanda Khoirunisa

*Department Geography Education, Faculty of Education
Universitas Muhammadiyah Surakarta
nandakhoirunisa@gmail.com*

Abstract

Students are part of community that has the highest vulnerability to natural disasters. It causes of the lack of experience in dealing with disaster becomes the major factor. Disaster knowledge is important basic to prepare student and should be given as early as possible, because the varieties and characteristics of regions will affect the potential and threat level in the region. Therefore, the process of sustainable education becomes very important to prepare students for disaster particularly in earthquake that are very common in Indonesia. This research is conducted in Surakarta recency covers in sub district of Boyolali, Klaten, Sukoharjo, and Surakarta. The research wants to know disaster knowledge levels and to understand preparedness of student in facing earthquake disaster. This research use quantitative descriptive method. Collecting data use method with questionnaire that must be filled by the defined respondent. Result show that student knowledge is in understand category while for the preparedness in facing disaster is in almost ready.

Key words: disaster knowledge, disaster preparedness, student, and earthquake

INTRODUCTION

Billions people in more than 100 countries are Periodically exposed to at least one natural disaster (Moe et al., 2007) and Reviews those events impact for community and human life. Indonesia as a country located at the confluence of three tectonic plates are the Eurasian, Indo-Australian and Pacific. Indonesia is also an area which is included in the ring of fire of Pacific Ocean that has 126 active volcanos scattered throughout Indonesia archipelego except Kalimantan Island (Zaennudin, 2010). The potential of disaster is not only tectonic earthquake but also volcanic earthquakes. Indonesia was ranked third out of 153 countries on the risk of earthquakes (Musjtsari et al., 2015). Since 1973-2009, at least there are 8.204 earthquake events recorded with a magnitude of 5-7 and 56 events of the earthquake with a magnitude of more than 7 (Handayani 2010). Natural disasters are part of Indonesian society life whose the territory is highly vulnerable to disasters.

In 200 years (1815-2015) have occurred 335 earthquake disaster with a number of victims 15.518 (BNPB, 2015). Based on the fact, Indonesian people should be prepared against disasters especially earthquake disaster. Children, pregnant women, disabled people and old people are very vulnerable to natural disaster in society. This is due to limited knowledge and ability in dealing with the current state of disaster.

Community affected by disaster and will play an important role when a disaster occurs. This happens because aid from the government or agency that focus in emergency response need time to reach the disaster area. Society is divided into communities and one of them is school community. Results of a study conducted by LIPI in 2006 showed that the school community is still less prepared in anticipation of the earthquake and tsunami (Koswara, 2012). Students are part of community that has the highest vulnerability to natural disasters. It causes of the lack of experience in dealing with disaster becomes a major factor. The lack of disaster knowledge will increases the vulnerability of

people, strengthening communities against disasters is effective to reduce impact of disaster (Shiwaku and Shaw, 2008). Therefore the value of education of students cannot be underestimated can raises the awareness of communities (Sonak et al., 2008).

Knowledge is very important in emergency time to increase the survival rates. The level of knowledge of the individual can affect the level of preparedness in dealing with disaster. UNISDR (2009, 9) defines disaster preparedness as “the knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions”. Disaster knowledge is important basic to prepare individual and should be given as early as possible, because the varieties and characteristics of regions will affect the potential and threat level in the region.

The aim of the research is to understand the level of student’s knowledge and level of student preparedness in facing earthquake. Knowledge is part of preparedness, to improve preparedness will enhance the capacity against disasters.

RESEARCH METHOD

This research was done in school community at Surakarta residency covers in sub district of Boyolali, Klaten, Sukoharjo, and Surakarta. This research was taking students as respondent at 56 schools. The number of respondents are 4.741 came from 4 elementary schools, 26 junior high schools and 27 senior high schools. Therefore, the amount of respondents is as follow:

Table 1. Number of respondent

Catagories	Number of respondents
Earthquake knowledge	3.225
Earthquake preparedness	4.049

Source: Result Data

This research use quantitive destiptive method. Collecting data method used questionnaire that must be filled by the defined respondent and the data collected from primarily data and secondary data. Classification level of knowledge is divided into three categories and preparedness in dealing with the earthquake is divided into five classes. Knowledge category in facing disaster can Categorized as follow:

Table 2. Classification level of knowledge

Index value	Category
67-100	Very Understand
33-66	Understand
0-33	Not Understand

Source: Koswara et, all., 2006

Preparedness category in facing disaster can categorized as follow:

Table 3. Classification level of preparedness

Index value	Category
80-100	Very ready
65-79	Ready
55-64	Almost ready
40-54	Less ready
0-39	Unready

Source: Jan Sopaheluwakan et, all., 2006

RESULT AND DISCUSSION

Solo region covers Sukoharjo, Surakarta and Klaten that have been recognized as vulnerable areas for earthquake and flood disaster. Regency of Sukoharjo is one of areas prone toward earthquake disaster. Sukoharjo regency becomes the second rank in Central Java Province and placing the national 41st rank of regency that is natural disaster-prone (Sugeng, et al., 2011). Boyolali region is also included in the slopes of Mount Merapi which is the most active volcano in Indonesia therefore, Boyolali area is highly vulnerable to volcanology disasters such as earthquake.

The results of data analysis showed that the level of knowledge of students in Surakarta Residency included in the category of understand. The average level of student knowledge in facing earthquake disaster is

46.4 on a scale of 0-100. The level of students' knowledge of earthquakes, including both this was due to the distribution of information is also important in the context of the knowledge of the earthquake. There were 3.225 students that had been asked their knowledge in earthquake disaster.

There were 4,049 students that had been asked by Reviews their preparedness in earthquake disaster. The results of the analysis of research data shows that the level of preparedness of students in Surakarta Residency included in the category almost ready. The average level of student knowledge in facing earthquake disaster is 52 on a scale of 0-100. This was because of a lack of training and a simulated earthquake in the school community. Students only get information and knowledge without practicing non-structural mitigation of increased preparedness in their environment.

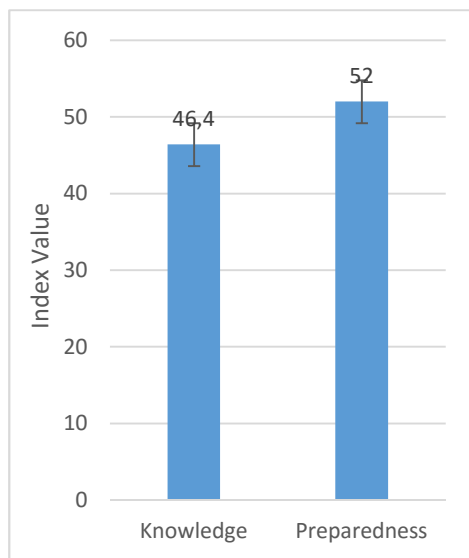


Figure 1. Comparison of earthquake knowledge and earthquake preparedness in face disaster

Preparedness for students in dealing with the earthquake consisted of three parameters: 1) knowledge and attitude; 2) emergency planning; and 3) early warning system. These three parameters are intertwined in the individual preparedness. The level of knowledge of students in Surakarta Residency in the category

including the well but preparedness included in the category are not prepared to deal with earthquake. Some research indicate that the knowledge of the students do not necessarily show the practical ability like preparedness (Sunarhadi, 2012). In this case, preparedness built from practical experience.

CONCLUSION AND SUGGESTION

Disaster knowledge of student for preparedness research in Surakarta residency in facing earthquake disaster is to understand the level of students' knowledge and level of student preparedness in facing earthquake. The study conclude that level of student knowledge at Surakarta residency about earthquake disaster include in understand category while for the preparedness in facing disaster is in almost ready.

The suggestion is school community should increase student preparedness needs to be maintained regularly and reconstructed by the simulation routine every semester or may be every month. This has not been done though understood as an important requirement to perform the simulation (Sunarhadi, 2015). Preparedness is very important to student that very vulnerable to disaster.

REFERENCES

- BNPB (Badan Nasional Penanggulangan Bencana). (2015). Data Kejadian Bencana pada Periode 1815-2015. www.dibi.bnpb.go.id.
- Handayani L. 2010. Peningkatan Aktivitas Gempa Bumi di Indonesia Tahun 1973-2009. dalam *Jurnal Lingkungan dan Bencana Geologi*, Vol. 1, No.2, hlm 71-78.
- Koswara, Asep and Triyono. 2012. *Panduan Monitoring dan Evaluasi Sekolah Siaga Bencana*. Jakarta: LIPI Press.Moe, T. L. and Pathranarakul, P. 2006). "An integrated approach to natural disaster management: public project management and its critical success factors". *Disaster Prevention*

- and Management*, vol.15, no.3, 396–413.
- Musjtsari D. N., Masyhudi Muqorrobin, Ustad Hamsah, Mukhlis Rahmanto, Muhammad Rofiq, Saptani, Lailatis Syarifah, Rahmawari Husein and Alif Nur Kholis. 2015. *Fikih Kebencanaan*. Yogyakarta: Majelis Tarjih dan Tadrij Pimpinan Pusat Muhammadiyah dan Lembaga Penanggulangan Bencana Pimpinan Pusat Muhammadiyah.
- Sonak, S., Pangam, P. and Giriyan, A. 2008. “Green reconstruction of the tsunami-affected areas in India using the integrated coastal zone management concept”. *Journal of Environmental Management*, vol. 89, no. 1, 14–23.
- Sopaheluawakan J., Deny Hidayati, Haryadi Permana Krisna Pribadi, dkk. 2006. *Kajian Kesiapsiagaan Masyarakat dalam Bencana Gempa Bumi & Tsunami*. Jakarta: LIPI Press.
- Sugeng Triutomo, dkk. 2011. *Indek Rawan Bencana Indonesia*. Jakarta: BNPB.
- Sunarhadi M. A., and Nanda Khoirunisa. 2015. Disaster Preparation Knowledge of Urban and Rural Students at Solo Region. *Proceeding on The 2nd International Conference Planning in the Era of Uncertainty: Sustainable Development*. 3-4 March 2015, Malang, Indonesia.
- Sunarhadi M. A., Ari Mulyono, Suharjo, and Muhammad Musiyam. 2012. Geographical Knowledge of Urban and Rural Communities in Earthquake Preparedness Case Study of Bulu Community, Sukoharjo. *Proceeding on International Conference on Disaster Risk Reduction and Education in State University of Yogyakarta. 16-18 September 2014, Yogyakarta, Indonesia*.
- UNISDR (United Nations International Strategy for Disaster Risk Reduction). 2009. *UNISDR Terminology on Disaster Risk Reduction*. Geneva: UNISDR.
- Zaenudin Akhmad. 2010. “The Characteristic of Eruption of Indonesian Active Volcanoes in The Last Four Decades” dalam *Jurnal Lingkungan dan Bencana Geologi*, Vol. 1, No.2, hlm 114.