Understanding Disaster Mitigation Volcanic Eruption Residents Primary School Mountain Slamet Banyumas

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Abstract. Indonesia is a country that has a level of vulnerability to catastrophic volcanic eruptions because it lies at the juncture of four tectonic plates. This condition requires that the community surrounding mountain slopes should have an understanding and knowledge of disaster mitigation volcanoes. Understanding of disaster mitigation in primary education is one of the solutions that need to be done in Indonesia, in order to reduce the impact of disasters. This study is qualitative research that aims to determine the extent of the public's understanding and disaster preparedness volcanoes. The more people understand the disaster mitigation will reduce the impact of natural disasters, especially fatalities. The results showed that in general the citizens of SD Negeri Ketenger already understand and realize the importance of disaster mitigation conceptual (theory). However, the constraint is not the implementation of disaster mitigation practice on students through learning and of BNPB.

Keywords: comprehension, disaster mitigation

Introduction

Mount Slamet is the highest mountain in Central Java province with high volcanic activity. BNPB (2014) mentions that in the period 1 to 11 August 2014 earthquake was recorded 474 eruptions or about 43 events / day, 5,070 earthquakes or 456 episodes per day. Administratively Mount Slamet covers Pemalang District, Banyumas, Brebes, Tegal, and Purbalingga with a number of settlements scattered around it. Some of the residential areas including volcano danger zone with a radius of 5 km from the mountain top. This condition makes the understanding people of mountain slopes Slamet disaster mitigation is crucial.

Understanding of disaster mitigation in primary education is one of the solutions that need to be done in Indonesia, in order to reduce the occurrence of a disaster that resulted in death and injury to children under the age of 15 years. The number of deaths of children is very high as well as the stress and trauma in fact, all of this would have happened, if from the beginning the children formed by having a positive self-concept in understanding disaster mitigation. Children who have knowledge about how to save themselves in the face of danger, will become more capable and have the confidence that positive without feeling fear and stress (Nirmalawati, 2011: 2).

Education to reduce the risk from disasters need to be socialized in disaster-prone communities so that victims can be minimized when a disaster occurs. Disaster mitigation education outreach needs to be done at the school for the students. Teachers have a strategic role to promote disaster mitigation education. Mitigation is one which aims to reduce the potential negative impact on the life or catastrophic events may imply that mitigation as taking
measures to mitigate the effects of a hazard before the hazard occurs. Implementation of participatory disaster mitigation of NGOs implied in Act No. 24 of 2007 on Disaster Management, and has become a priority in the Medium-Term Development Plan 2010-2014.

Elementary level students, as part of the community, which is quantitatively the largest structures in the hierarchy of demographic, requires an understanding of the earlier disaster mitigation especially for those who are in disaster-prone areas such as on a mountain slope Slamet. The importance of understanding about disaster mitigation because children who have the knowledge about how to save themselves in the face of danger, will become more capable and have the confidence that positive without feeling fear and stress (Nirmalawati, 2011: 2). Understanding and knowledge of disaster mitigation in primary education is one of the solutions that need to be done in Banyumas, particularly in Purwokerto which have potential vulnerability due to the eruption of Mount Slamet. This study will assess the extent to which the understanding and knowledge of the school community (students) base on the mountain slope Slamet that region highly vulnerable to the impact of the eruption. Then what kind of programs that have been carried out of the school to provide education will mitigation disaster on the student.

Methods

This study used qualitative research methods to assess the understanding of natural disaster mitigation volcanoes of students and teachers in primary schools in the mountain slope Slamet. The research location is in the public elementary school Ketenger Baturraden District of Banyumas, Central Java. The data collection in qualitative research can be done with some kind of data collection techniques. This study uses three data collection techniques. Data collection techniques used were interviews, observation and document study method. Triangulation technique is a technique that utilizes data validity checking something other than the data for the purpose of checking or as a comparison to the data (Moleong, 2006: 330). Triangulation is used in this research is triangulation and triangulation techniques.

Research Result

Results of interviews with principals and teachers of sports as key informants indicate that in general the students have enough understanding of the importance of disaster mitigation. Especially students in higher classes where materials related to mitigation and disaster were already entered in social studies. Informants also explained the students have been fully aware that they live and being on the slopes of the volcano. Students also learned how the evacuation process, where they had to flee and take refuge in case of disaster volcanoes. Then the part of teachers in general have understood the importance of disaster mitigation. Some teachers have also been trained on disaster mitigation held by BPBDS. In the learning process, the teacher was trying to teach the material on disaster mitigation, particularly at the high-grade material in the IPS. This was disclosed by the principal and one teacher.
Mitigation material becomes a very important material taught in primary school students. Indonesia as the country with the largest number of volcanoes in the world absolutely requires an understanding of how disaster mitigation. Efforts have been made enumerated by the school in an effort to instill an understanding of disaster mitigation materials to the students. The efforts by inserting the material disaster on some subjects that have to do with the material disaster mitigation. The problem faced related efforts to understanding mitigation teachers to students is the lack of opportunity to practice disaster mitigation directly. In addition, the students also have not all had the experience of disaster mitigation practices in the community.

Table Summary of Questionnaire students

<table>
<thead>
<tr>
<th>No.</th>
<th>Aspect</th>
<th>result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mitigation understanding and embedding themselves during a disaster</td>
<td>savvy enough</td>
</tr>
<tr>
<td>2</td>
<td>There disaster evacuation route map volcanic eruption, disaster readiness bags</td>
<td>Not yet available</td>
</tr>
<tr>
<td>3</td>
<td>Understanding how the process as well as an early sign of volcanic eruption</td>
<td>savvy enough</td>
</tr>
<tr>
<td>4</td>
<td>Getting a previous disaster mitigation training both within the school and outside school</td>
<td>Has never been</td>
</tr>
<tr>
<td>5</td>
<td>Materials on disaster mitigation volcanoes / disaster in the learning material</td>
<td>never taught</td>
</tr>
<tr>
<td>6</td>
<td>Practice simulated volcanic eruption disaster mitigation in learning</td>
<td>Has never been</td>
</tr>
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Discussion,
The Importance of Disaster Education for Students

Disaster education is a learning process through the provision of information, knowledge, and awareness of learners in order to establish disaster preparedness at the individual level and the community. Through disaster education, learners are encouraged to determine the risk of disaster, collecting information related to disaster mitigation, and apply them in a disaster situation (Shiwaku et al., 2007). Each work unit or institution is obliged to facilitate the occupant with disaster education to ensure that appropriate action will be performed when a disaster occurs. Disaster education curriculum can be realized through education, training and disaster simulation. (6) Making people who are able to glue the social solidarity and a sense of shared social responsibility. (Honesti 2012).

Based on an agreement with the international community to build the resilience of nations and communities to disasters, Indonesia has established a National Action Plan for Disaster Risk Reduction (RAN PB) which contains five priorities for action that must be done, namely, (1). Disaster risk reduction is a national priority and regional levels and its implementation must be carried out by a powerful institution. (2). identify, assess disaster risks and enhance early
warning systems. (3). Use knowledge, innovation and education to build a culture of safety and resilience at all levels. (4). Reducing disaster risk coverage. (5). Improving disaster preparedness at all levels, so that a more effective response (Harini 2010).

The role of institutions

Disasters do not discriminate on race, sex, age, and place. Even disaster nearly often affects vulnerable groups, such as children, the elderly, women and the poor. Especially children, they are members of society most vulnerable to disasters because they have the capacity and limited resources to the disaster. There is widespread recognition that effective disaster education must begin at the individual, family, school, and community. Schools play an important role in building disaster awareness in society, thus efforts is how to build a school on alert for natural disasters. The school has several functions in disaster risk reduction, including facilitating and cooperating with the surrounding environment, increase public skill, evacuation centers when disaster strikes, and gave us a model of earthquake-resistant school buildings to the public. In relation to public awareness, the school can act as an intermediary in the community who are responsible for disseminating information to the student's family disasters and member community (Adiyoso; 2013)

| Table Purpose Community Skills Improvement (Suhardjo) |
|-----------------|---------------------------------------------|
| target communities | Target skills |
| Children | Can help self- |
| juvenile | Can actively participate in DRR |
| Adult | PRB could coordinate efforts |
| Teachers, parents, parents, principals, community leaders | Can disseminating DRR efforts, including when to relocation as the level of threat in the category in Danger III. |

School is one of the stakeholders interest in disaster management has a strategic position. That is because school is one source of information and knowledge. As an institution that is where the facilitation of the longest and most frequented by children, schools have a role to contribute to improving the knowledge and skills to be able to cope with disasters. Some guidelines for disaster preparedness school or safer from disasters have been issued by several agencies both governmental and nongovernmental. In the Guidelines for Schools / Madrasah Safe issued by the National Disaster Management Agency there is an important point to note, disaster preparedness not only covers only structural elements, but also includes non-structural elements. Non-structural element that needs to be developed in preparedness efforts at the school level includes (1) the knowledge, attitudes and actions, (2) the policy of the school / madrasah, (3) the preparedness planning and (4) mobilization of resources. Children as the largest proportion in the schools, need to be involved and be considered rights. BNPB explains that children have a role in
institutionalizing disaster risk reduction activities, and they also have a role to become a peer tutor for their friends to another. (Nurchayat, 2014: 19) BNPB explains that children have a role in institutionalizing disaster risk reduction activities, and they also have a role to become a peer tutor for their friends to another. (Nurchayat, 2014: 19) BNPB explains that children have a role in institutionalizing disaster risk reduction activities, and they also have a role to become a peer tutor for their friends to another. (Nurchayat, 2014: 19)

Parameter disaster preparedness includes knowledge and attitudes towards disaster risk policies and guidelines, an early warning system for disaster emergency plans, as well as the ability to mobilize resources (Haryati in Nurchayat, 2014: 20). Meanwhile, according to BNPB disaster preparedness parameters include (1) the knowledge, attitudes and actions, (2) the policy of the school, (3) the preparedness planning and (4) mobilization of resources. In this study the authors restrict preparedness parameter consists of (1) knowledge and attitudes to disaster risk, (2) policies and guidelines, (3) the early warning system, (4) an emergency response plan, and (5) the ability to mobilize resources. (Nurchayat, 2014: 20)

a. Knowledge and attitudes towards disaster risk

Knowledge is the main factor and the key to preparedness. The level of knowledge possessed by the community will be decisive in shaping attitudes and public awareness to be ready and alert to the disaster. It has been the creation of knowledge on disaster in someone who already has indicated preparedness with their understanding of the conditions in the environment where the person lived. Environmental conditions are intended includes knowledge about disasters and disasters that may occur in its territory, as well as the impact of the physical vulnerability of the school. It is also important for students to know the actions that need to be done in times of disaster and disaster prevention methods. This knowledge is necessary for students to respond to disasters quickly and fast.

Decree of the Head of the National Disaster Management Agency Year 2012 on the application of the School / Madrasah Secure Against Disaster (in Nurchayat 2014: 23) explains that the need for activities for learners to be able to do the observation on hazards, vulnerability, risk and capacity in schools. In addition learners must also be able to identify disaster risk reduction in schools. Operationalized in attitude parameters with more emphasis on attitude in the face of disaster risk. Someone needs to have the motivation to anticipate natural disasters. Necessary for a person to build mutual motivation among individuals within a community or group so that the motivation is always awake.

b. Early warning system

The early warning system includes alerts and information distribution will a disaster. With this disaster warning, people can take the appropriate action to reduce the loss of life, property and environmental damage. Early warning systems can be a warning utilizing local knowledge, for example: the gong or bell. An important point in the early warning system is the presence of a marker of known hazards and can be received by any component of the school as well as their exercise routine or drill as well as involving the entire school.
c. Plans for emergency response

In the event of a disaster assistance from philanthropists, NGOs, government and other organizations have not been able to come at that time. Therefore, every community needs to make planning related to actions to be undertaken in case of disaster. Evacuation, relief and rescue are actions that are crucial so that victims can be minimized. Each component in the elementary school community need to mutually participate in the preparation of emergency response plans and each component must have a clear role and responsibilities. Children as one of the stakeholders need to be involved in the planning. Efforts to establish a safe school and ready disasters need to be done in a participatory manner including children. Children are expected to become partners in the implementation of school / madrasah safe from disaster. In these conditions, things that need to be retained is how children can be considered part of their existence and role.

d. The ability to mobilize resources

Available resources, both human resources (HR), as well as funding important infrastructure for potential emergencies that may support or otherwise become an obstacle in natural disaster preparedness. Therefore, resource mobilization becomes a crucial factor. In the pre-disaster need for human resource development, including an increase in the resources of students. The School can improve human resources by forming a team that will be deployed in an emergency. The team can be a task force coordinated team OSIS (Intra-School Student Organization), First Aid Team, and Security Team (Police School). In addition to the formation of a special team should also lack of firmness and understanding of the roles and responsibilities of each component of anyone. In emergency conditions, who should do what needs to be affirmed and clarified. (Nurchayat 2014: 25)

Conclusion

In general understanding of the citizens about the importance of primary school Ketenger volcano eruption disaster mitigation already in the category quite well (students) and good (teacher). School community already understand the meaning of disaster mitigation important conceptually but not yet offset by mitigation practices on students. Disaster risk reduction efforts in schools needs to have the support not only of teachers but education policymakers from the central level to the regions. The problem faced in improving the understanding of disaster mitigation that is not yet implemented disaster mitigation practices at both teachers and students of government and related parties. Suggestions in this research, the material on disaster mitigation / disaster education should be inserted in the subject / material that is considered appropriate.

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