



Preparedness Behavior of The Destana Group in Management of Mountain Raung Eruption

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Abstract

The volcanic eruption disaster in Indonesia caused economic problems in the form of loss of property, community productivity, and damage to facilities and infrastructure due to volcanic materials caused by volcanic eruptions. a series of activities undertaken to anticipate disasters through organizing and effective and efficient measures is called preparedness. The purpose of this study was to determine the preparedness behaviour of the Destana group in facing the Mount Raung eruption disaster. This type of research is a case study with a qualitative approach. The main informants in this study were 5 members of the Destana group, Gunungmalang Village, Sumberjambe District, Jember Regency. Retrieval of data using method flow model analysis.

Introduction

Disaster events can cause several impacts, such as loss of life, health problems, and loss of property and property. Based on the Law of the Republic of Indonesia Number 24 of 2007 concerning disaster management, disasters are divided into three types, namely natural disasters, non-natural disasters and social disasters. Natural disasters are caused by an event or series of events caused by nature, including earthquakes, tsunamis, volcanic eruptions, floods, droughts, hurricanes, and landslides. Non-natural disasters are caused by events or series of non-natural events such as technological failures, modernization failures, epidemics and disease outbreaks. Meanwhile, social disasters are caused by events or series of events caused by humans which include social conflicts between groups or between communities, and terror.

Indonesia is the largest archipelagic country in the world, stretching 3,977 miles between the Indian Ocean and the Pacific Ocean. Geographically, Indonesia is an archipelagic country located at the confluence of three tectonic plates and there is a volcanic belt whose sides are old volcanic mountains and lowlands. This condition is very potential and at the same time prone to disasters such as volcanic eruptions(1). Geologically, Indonesia is located at the confluence of three plates namely the Pacific Plate, the Indo-Australian Plate, and the Eurasian Plate. (2).

According to(3)preparedness is a series of activities carried out to anticipate disasters through organizing and appropriate and efficient steps. There are five important efforts for preparedness according to the pocketbook made by BNPB, namely understanding the surrounding hazards, understanding early warning systems such as knowing evacuation routes and evacuation plans, having the skills to evacuate situations quickly and taking action initiatives to protect oneself, having disaster anticipation plans for families, reducing the impact of hazards through mitigation exercises by participating in training. The experience that can be learned from every disaster that occurs is that the community is the first and foremost role during the rescue process and also as the party most at risk of a disaster. (4). When a disaster occurs, the community is in a threatened condition. The choice to flee to a deserted island can make matters worse if society is not prepared. Thus, one of the most important efforts is to ensure security and avoid major disturbances due to disasters(5).

The most powerful volcanic eruption in history in Indonesia occurred on April 5, 1815, namely the

eruption of Mount Tambora which killed 92,000 people, On August 27, 1883, the eruption of Mount Krakatau occurred. (6) On June 21, 2015, the volcanic activity of Mount Raung experienced an increase marked by eruptions of ash and ejection of incandescent material (something that glows red because of heat) in the summit crater and recorded earthquake tremors (repeated and frequent earthquakes that occur with relatively small strength) with amplitude (vibrations) maximum which continues to increase significantly, on 29 June 2015 at 09.00 WIB it was increased from Level II (Waspada) to Level III (Alert). The sterile zone is 3 kilometres from the peak of Raung and the nearest village is about 10 kilometres from the summit. The direct impact of Mount Raung's ashes that are carried by the wind in all directions occurs in food crops and especially tobacco which is sensitive to quality problems (Sugeng, 2016). The major eruptions of Mount Raung occurred 5 times, namely in 1586, 1597, 1638, 1953 and 1956.

Data from the Volcano Observation Post (PPGA) in a study conducted by (7) noted that as many as three districts in East Java had the impact of the eruption of Mount Raung in the form of hot clouds and volcanic material, namely Banyuwangi Regency, Bondowoso Regency, and Jember Regency. Mount Raung is an active stratovolcano in the form of a truncated cone with lava and pyroclastic products (the result of fast-moving volcanic eruptions consisting of hot gas, volcanic ash and rocks). Administratively, Mount Raung is included in the Situbondo Regency, Bondowoso Regency, Jember Regency, and Banyuwangi Regency in East Java Province.

The results of a preliminary study conducted by researchers related to the problem of the eruption of Mount Raung to the Preparedness Section of BPBD Jember Regency which has a duty of care for pre-disaster activities, as well as one of the Search And Rescue (SAR) trainers in Jember Regency who is also active as a conservation volunteer in disaster-prone areas, stated that three sub-districts are included in the Disaster-Prone Area (KRB) in Jember Regency, namely Sibolga District, Sumberjambe District, and Ledokombo District. Based on the three sub-districts, Sumberjambe Sub-District is the closest area to Mount Raung, and Gunungmalang Village is a village that is located at the point closest to the potential for lava flows caused by Mount Raung and there is still a lack of an early warning system in the village.

The Jember Regency BPBD Preparedness Section explained that it had implemented the program Regulation of the Head of the National Disaster Management Agency (BNPB) Number 1 of 2012 (2) regarding the General Guidelines for Tangguh Disaster Village/Kelurahan by forming the DESTANA (Desa Tangguh Disaster) working group in Gunungmalang Village, Sumberjambe District, Jember Regency which was inaugurated by BPBD Jember Regency in early 2015.

Destana is an organizational or group-based disaster risk reduction effort to protect the community from the threat of disaster, because the community is the direct recipient of the impact of the disaster, and at the same time the first actor to respond when a disaster occurs. Destana aims to recognize threats that exist in its territory and can organize community resources to reduce vulnerability and simultaneously increase capacity to reduce disaster risk. Communities are actively involved in studying, analyzing, managing, monitoring, evaluating and reducing disaster risks in their area, especially by utilizing local resources. Members of the Destana group need to understand preparedness so that they can organize the community so that they are ready at any time when facing a disaster.

Based on this background, researchers are interested in researching and knowing how the behaviour of the Destana group is to cope with the eruption of Mount Raung in disaster preparedness activities in Sumberjambe District, Gunungmalang Village, the village is the closest area affected or a Disaster Prone Area (KRB) exposed to volcanic eruptions. Roar.

Methods

The type of research used is a case study with a qualitative approach to determine the preparedness behaviour of the Destana group in facing the eruption of Mount Raung. The location of the research was carried out in Gunungmalang Village, Sumberjambe District, Jember Regency. The number of main informants is 5 people, 1 key informant, and 3 additional informants. Retrieval of data using flow model analysis techniques.

Results

Destana Group Preparedness Knowledge

(8) Argues that knowledge is the result of a person's sensing of certain stimuli. Humans can sense by using their five senses, for example, the sense of smell, the sense of taste, the sense of touch, and the sense of sight. Personal factors such as one's knowledge are factors that can influence one's behaviour (9). The results showed that Destana members already knew about the definitions, functions and benefits of forming a Destana group in Gunungmalang Village, This research was in line with BNPB Regulation Number 1 of 2012 (2) explained that a Tangguh Disaster Village/Kelurahan is a village or kelurahan that can recognize threats in its territory and can organize community resources to reduce vulnerability and simultaneously

increase capacity to reduce disaster risk. Following are the results of in-depth interviews by researchers:

"Destana is a disaster-resilient village, which was formed or inaugurated by BPBD Jember, Initially some of the residents here had the initiative to form a disaster preparedness group and then chat with BPBD..." (IU 3).

"His function is as a community coordinator, if for example there is a disaster here, bro, continue to help people who want to provide socialization to the residents of this village, bro... rich from BPBD or volunteers, bro... I often communicate with BPBD about Mount Raung's activities, the benefits are so that there are no victims when there is a disaster..." (IU 1).

According to the explanation from the key informant, the purpose of forming the Destana group in Gunungmalang Village was to increase the knowledge of the village community about disasters and Disaster-Prone Potential (DRR) around them, the following is an excerpt from an interview with the key informant:

"To increase community capacity to reduce Disaster-Prone Potential (PRB)..." (IK 1).

The results showed that all Destana members knew the characteristics of a mountain that would erupt, namely experiencing a strong shock and visible glow coming out of the mountain. The following is an excerpt from the interview with the informant:

"There was a loud rumbling sound and sometimes it felt like there was a golden vibration, then there was a glow coming out of the mountain, a kind of gravel or small stones, gold" (IU 1).

"Incandescent or hot rocks or gravel came out from the inside of the mountain, then you heard a roar from the inside of the mountain together with a fairly strong vibration, mas" (IU 5).

The results of the study showed that all Destana members knew about the impact of the eruption, namely respiratory problems. This research is in line with other studies (13) that state that the impact of air pollution on the respiratory tract can irritate the respiratory tract. The following is an excerpt from the interview with the informant:

"... if the eruption of breathing is difficult, bro, then there are also those who have itchy skin, and the eyes feel sore, bro" (IU 1).

"Shortness of breath, bro, if an eruption occurs, the residents' land here can be damaged, mas" (IU4).

The results of the study show that all members of Destana know about the evacuation route in Gunungmalang Village, namely at every crossroads leading to the gathering place there are evacuation route signs and assembly point signs are available. The following is a quote from the results of interviews with informants:

"There are already directions for the route, sir, installed at every intersection..." (IU 3).

"There are evacuation route signs in this village, sir, The signs were given to BPBD and they are installed at every intersection in this village, and it's not just an evacuation route board, sir, there is also a notice board here that this village is included in a disaster-prone area, mas" (IU 2).

The results of the research show that all members of Destana know that there are communities that are prioritized during the evacuation process. The following are excerpts from interviews with informants:

"...what is prioritized during the evacuation process are the elderly, pregnant women, children, and finally livestock, mas..." (IU 2).

"... those who are assisted first are the parents or the elderly, bro, pregnant women, children and the last one is livestock bro..." (IU 4).

The results showed that Destana members knew about the early warning system in Gunungmalang Village, that is, in that village, there was already an alarm signal in case of a disaster, but because it was not audible to all villages, members of the Destana group provided information using loudspeakers. The following is an excerpt of the interview by the informant:

"In this village, there is an alarm to notify if a disaster occurs, mas, It is approximately 6 meters from Mount Raung, but only in some places it can be heard, so Destana members usually inform the community by hitting the mosque drum and using a loudspeaker" (IU 1).

"... there is an alarm warning if there is a disaster, like a volcanic eruption, but unfortunately the alarm doesn't reach the entire hamlet, so the village helps inform the residents by announcing using a loudspeaker, for example, if the situation is critical, just used the mosque bed..." (IU 5).

Destana Group Preparedness Attitude

The results showed that Destana members had a reaction or response to provide information to all the people of Gunungmalang Village after knowing that signs of impending disaster had appeared in Gunungmalang Village and they had to immediately carry out the evacuation process. The following is an excerpt from an in-depth interview by the informant:

"(Destana) informed all residents that an eruption would occur, and helped residents to evacuate themselves and their livestock" (IU 1).

"(Destana who) made a mas announcement to all residents, if there was a disaster, then told them to immediately evacuate by carrying a standby bag" (IU 4).

Destana Group Preparedness Action

The results showed that the activities carried out by Destana members before the disaster occurred or during the pre-disaster were helping agencies and volunteers who wanted to provide information or carry out preparedness simulation activities in Gunungmalang Village, the following is an excerpt from the interview results by the informant:

"(Destana) helped with socialization and simulations carried out by BPBD, Army, Police, Health Centers, as well as volunteers who wanted to provide socialization in this village" (IU 1)

"(Destana provides) mass disaster mitigation training to residents so that they are ready if a disaster occurs at any time, usually the training is held in conjunction with BPBD and volunteers" (IU 5).

The results showed that Destana members took action when a disaster occurred, namely The Destana group provided information to the community using loudspeakers and mosque drums and gave orders for the community to immediately evacuate to a predetermined place by carrying a standby bag and following the signs that already posted, the following are excerpts from interviews by informants:

"(Destana) notifies all residents if a disaster occurs, by hitting the mosque's drum and announcing it using the loudspeakers in the mosque..." (IU 1).

"(Destana) will announce to all residents that they must immediately evacuate themselves with their standby bags" (IU 5).

"(Destana did) WOROL-WORO (notification) to residents if there was a disaster and ordered residents to immediately evacuate, There were members of Destana who announced that there were also those who went directly to residents to ensure that residents had evacuated and brought their standby bag, mas" (IU 3).

The key informant also explained the activities of the Destana group in Gunungmalang Village, namely providing insights about disasters to increase the capacity of the community in Gunungmalang Village.

Discussion

The characteristic of informants in this study were members of the Destana group who were the main informants, totalling five people aged between 45 to 58 years, residing in Gunungmalang Village, male sex, had conducted disaster mitigation training, and had joined the group. Destana from the beginning of the formation of the group. One key informant is a member of BPBD Jember Regency in the field of disaster preparedness. Three additional informants are people who live in Gunungmalang Village.

Destana Group Preparedness Knowledge

This research is in line with research conducted by (10) namely Destana aims to protect people who live in disaster-prone areas. The statements of the main informants are at the level of understanding knowledge. Understanding is defined as an ability to explain correctly about a known object, and can interpret it correctly (11).

Meanwhile, the knowledge of the Destana group about the potential hazards that exist around the research results shows that all members of the Destana group already know the potential for natural disasters in Gunungmalang Village, namely eruptions, landslides and flash floods because the village is on a mountain slope, this research is in line with Parameters of community preparedness according to (3) which is written in the pocketbook *Tangguh Tangguh Tangguh Facing Disasters* states that a knowledge of the dangers caused by disasters that can occur in the area around the residence.

This research is in line with research (12) explains that a volcanic eruption is the discharge of magma onto the earth's surface which is composed of molten incandescent (lava), gaseous material (exhalation) as well as solid or semi-solid material that accumulated thousands of years ago and was thrown into the air (pyroclastic), volcanic activity is known as eruption.

According to an explanation from the key informant regarding the evacuation signs in Gunungmalang Village, the Jember Regency BPBD has installed evacuation route signs, assembly point signs, and signs for entering the Disaster Prone Area (KRB) in the area.

The results of the observations made were that there were signs for gathering points and KRB signs in Gunungmalang Village. However, no evacuation route signs were found in the village. Key informant 1 explained that the evacuation route signs had been installed for a long time and were damaged. Then the signs were thrown away and some were used as tools for rice fields by the village community.

The Destana group's knowledge of the evacuation process in the event of a disaster is consistent with the research (14) namely the activities of rescuing and evacuating victims, and property, fulfilment of basic needs, the community has been trained on how to save themselves from the dangers of a disaster. Key informants also explained during the interview that there were community groups that were prioritized during the evacuation process, namely the elderly, pregnant women, children and farm animals.

The informant's statement regarding the early warning system in the event of a disaster is in line

with research from(15)namely this siren will ring as a sign that the people around the foot of Mount Merapi must immediately evacuate to a safer place within the specified radius.

The results of observations made by interviewing the head of the Destana group showed that they did not know about the level or criteria of Destana. After mentioning each level and indicator of Destana, it was found that the Destana Group level in Gunungmalang Village was Destana Madya.

Destana Group Preparedness Attitude

Attitude is readiness and willingness to act towards objects in a certain environment as an appreciation of objects and not an implementation of certain motives. Attitude is not yet an action or activity, but attitude is still a closed reaction, not an open reaction or open behaviour (16). According to(3)which is written in the pocketbook *Tangguh Tangguh Tangguh Facing Disasters*, preparedness is a series of activities carried out to anticipate disasters through organizing appropriate and efficient steps and expecting participation from all parties to carry out preparedness.

The informant's statement regarding the reaction or response to providing information to all the people of Gunungmalang Village after knowing when signs of an impending disaster had appeared was in line with the research conducted by(17)that is, with good knowledge and attitude, very supportive of other aspects of preparedness also become good. In addition, disaster preparedness can also reduce the risks arising from these disasters. According to research from(18)explained that people who have an attitude of preparedness in dealing with eruptions are based on good knowledge of the signs of a volcanic eruption disaster so that respondents are always on standby to evacuate at any time. Respondents' attitude of preparedness, such as having sufficient supplies of food and clothing at home, and knowing the routes and locations for safe evacuation according to government recommendations.

Destana Group Preparedness Action

An action or practice is not necessarily created from an attitude. Realizing an attitude to become a real action requires supporting factors or enabling conditions, for example, facilities. Facility factors also require supporting factors (support) from other parties(8)It appears that both personal, environmental and behavioural factors have a relationship with one another (9).

Informants' statements about the activities carried out by Destana members before the disaster occurred or during the pre-disaster are in line with research from(4)namely outreach activities aimed at minimizing victims or losses caused by disasters. This statement is in line with the statement of an additional informant regarding the activities carried out by the Destana group, namely providing knowledge to the community about disaster preparedness by conducting outreach and simulations. The key informant also explained that the activities of the Destana group were to provide insight to village communities so they would understand disasters and map out disaster-prone areas to facilitate the evacuation process and data collection on the number of families in the event of a disaster.

Conclusion

Based on the results of research on the preparedness behaviour of the Destana group in dealing with the Mount Raung eruption, the characteristics of the informants in this study, namely, members of the Destana group who became the main informants, totalling five people aged between 45 to 58 years, residing in Gunungmalang Village, male sex male, has conducted disaster mitigation training, and has joined the Destana group from the beginning of the group's formation. One key informant is a member of BPBD Jember Regency in the field of disaster preparedness. Three additional informants are people who live in Gunungmalang Village. The knowledge level of the Destana group already knows about all indicators of disaster preparedness, however, during the observation to Gunungmalang Village, no evacuation route signs were found, and the head of the Destana group did not know about the level of the village. The Destana group also carries out activities, namely providing and assisting with outreach and simulations related to disaster preparedness. Attitudes and actions of the Destana group regarding disaster preparedness, namely having a response to making announcements or providing information through loudspeakers and hitting the mosque drum which is a sign that the community must immediately evacuate, then members of the Destana group help the community to carry out the evacuation process and prioritize those who are vulnerable groups, such as pregnant women, the elderly or the elderly, children, and finally farm animals. and the head of the Destana group did not know about the level of the Destana. The Destana group also carries out activities, namely providing and assisting with outreach and simulations related to disaster preparedness. Attitudes and actions of the Destana group regarding disaster preparedness, namely having a response to making announcements or providing information through loudspeakers and hitting the mosque drum which is a sign that the community must immediately evacuate, then members of the Destana group help the community to carry out the evacuation process and prioritize those who are vulnerable groups, such as pregnant women, the elderly or the elderly, children, and finally farm animals. and the head of the Destana group did not know about the level of the Destana.

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Based on the results of this study, suggestions can be given, namely that members of the Destana group should pay more attention to evacuation route signs and provide knowledge to the people of Gunungmalang Village about the importance of evacuation route signs in Disaster Prone Areas (KRB).

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6. Member of the DESTANA Group, Gunungmalang Village, Jember Regency

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