



Communication Barriers in Disaster Resilient Villages

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Abstract. The Disaster Resilient Village was formed to create a village community that is independent of the risk of disasters that may occur in Karo Regency. Destana in Sukatendel and Perbaji have been formed by the Disaster Management Agency for more than 2 years. It is hoped that the diffusion of disaster innovation carried out by BPBD through the Disaster Risk Reduction Forum will be able to create an independent Destana. The aim of this research is to determine the communication barriers experienced by FPRB in its success in creating a disaster resilient society. This research uses a qualitative approach to obtain data, namely through in-depth interviews with FPRB and also Destana facilitators. The research results show that there are funding, humanitarian atmosphere, unwillingness to change and egocentric nature which then influence the diffusion of disaster innovation in the two regions mentioned above.

Keywords: Disaster Resilient Villages (Destana), Disaster Risk Reduction Forum (FPRB), Diffusion of innovation

1 Introduction

Effective communication has a big influence not only when a disaster has occurred. Disasters are a part of human life that often cannot be predicted when, where, and how big the impact will be. The character of a disaster is often described as an event which then produces an impact on society which then produces a response back to the event. Community readiness to face disaster risks is also an impact of communication effectiveness. Limited knowledge and community involvement in the disaster management process can lead to misallocation of resources and misdirection of response attitudes. Communication in this sense follows a two-way approach. For example, natural disasters and their impact on critical infrastructure show that beyond communication between governments and scientists, ongoing communication with and between operators and the public is required. On the one hand, the public needs to be informed about potential dangers and trained on appropriate behavior in an emergency. On the other hand, the public provides local knowledge and insight into human behavior that is critical for successful disaster risk governance[1].

Bundnis Entwicklung Hilft and IFHV of the Ruhr-University Bochum reported that Indonesia is the third most disaster- vulnerable country after the Philippines and India. This vulnerability is measured from the World Risk Index/WRI Score, which is based on a very high scope of disaster exposure, high vulnerability, high susceptibility, very high lack of coping capacities, and middle high lack of adaptive capacities[2]. The National Disaster Management Agency (BNPB) stated that in the period 1 January-1 September 2023, 2,724 natural disasters occurred in Indonesia. Geographical, geological and also Pacific Circum factors are the causes of many natural disasters in Indonesia[3].

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Indonesia's geographical factors are located at the intersection of two oceans and two continents, causing Indonesia to experience two monsoon winds, namely the east monsoon and the west monsoon. The west monsoon causes Indonesia to experience a rainy season and the east monsoon causes Indonesia to experience a dry season. The rainy season can then cause flooding, especially with hydrometeorological factors in Indonesia which has many large rivers so that the amount of rain overflows these large rivers and is often followed by subsequent disasters such as landslides. A prolonged dry season can also cause drought disasters and dry forest fires due to lack of water. Indonesia's geological condition, which is the meeting place for the world's three main tectonic plates, namely the Eurasian Plate, the Indo-Australian Plate and the Pacific Plate, is one of the causes of tectonic earthquakes and tsunamis. Indonesia is also included in the Ring of Fire area or what is called the Circum-Pacific Belt, which is a series of volcanoes forty thousand kilometers along the Pacific Ocean.

Karo Regency is one of the regions in Indonesia that is starting to realize that there is a big potential for disaster in its area since experiencing a volcanic eruption in 2010. Mount Sinabung, which had been inert for approximately 400 years, then erupted and damaged agricultural fields, even 5 front villages had to be relocated to Siosar. Saving oneself from disaster is a new innovation in the Karo community. The reaction of the Karo people during the 2010 Sinabung eruption showed their low level of knowledge of disasters. The Karo people were friendly with Mount Sinabung before the eruption. They have benefit from Mount Sinabung with its fertile agricultural land which then becomes their main income. During the 2010 eruption, this friendship was destroyed by the release of thick volcanic ash which then burned several villages. This eruption damaged the economy, social system and culture of the Karo people around the mountain. Rulianto, Destana facilitator for the Karo Regency area, stated that when the eruption occurred, instead of evacuating, people watched lava and smoke[4]. This shows the low awareness of the Karo people regarding knowledge about disasters, in this case volcanic eruptions and how to take self-saving measures.

The Karo Regency Government then issued Karo Regent Regulation Number 7 of 2020 concerning the Karo Regency Disaster Management Plan for 2020-2024. This regulation is the basis for the Karo Regency Regional Disaster Management Agency (BPBD) to create a disaster management plan in Karo Regency, one of which is the Disaster Resilient Village. Disaster Resilient Villages were formed based on BNPB Perka No. 1/2012 concerning General Guidelines for Disaster Resilient Villages/Subdistricts. A Resilient Village/Subdistrict is a village/subdistrict that has the ability to adapt independently and respond to the threat of disaster, and if affected by a disaster can quickly recover from the negative impacts of the disaster. Disaster Resilient Villages can identify threats in their area and can organize community resources to reduce vulnerability and at the same time increase disaster risk reduction capacity. Currently, Karo Regency has Disaster Resilient Villages with different disaster characteristics. Sukatendel Disaster Resilient Village, which was formed in 2019 and Perbaji Disaster Resilient Village, which was formed in 2020, are villages that have the same disaster characteristics, cold lava floods[5].

The process of turning the two villages above into independent Destanas has been carried out by BPBD Karo through the diffusion of disaster innovations to their respective Disaster Risk Reduction Forums (FPRB). FPRB is a representative of village communities who are chosen to be innovators so that it is hoped that all village communities can become independent when a potential disaster occurs. The two villages also receive assistance from a disaster facilitator for a year each so that the FPRB can be more focused on making their villages into independent villages. The implementation of the FPRB's duties in creating disaster-independent village communities faced several communication barriers so that outreach to these two villages was not optimal.

2 Method

This research uses a qualitative approach with a case study method. The technique for determining informants uses a purposive sampling technique, where the informants have been determined, namely the Deputy Chair of the FPRB Destana Sukatendel and the Chair of the FPRB Destana Perbaji as well as a Destana Facilitator, Karo Regency, North Sumatra Province. This locus was chosen because these two villages experienced the same disaster, cold lava floods. Primary data will be collected through in-depth interviews with informants. Secondary data sources in this research are library books, theses, journals and documents related to disaster research. Apart from using interviews, data collection techniques also involve observation and documentation. Data analysis techniques can use the Miles and Huberman method through data reduction, data presentation and drawing conclusions.

3 Finding and Discussion

Conveying disaster messages requires dedication, time, planning and learning. Disaster preparedness education requires many disciplines, including communication, psychology, sociology, marketing, disaster management, and others. The biggest difficulty in increasing public disaster awareness is that communicators must be able to attract public attention. Society has many other problems that it faces every day. Information about disaster threats that are not immediately felt by the public will not receive sufficient attention. People who previously had concerns about financial problems, crime, disease, problems at work and school, and many other immediate problems, will not focus too much on information about disaster threats[6].

FPRB's activities as volunteers to carry out the diffusion of disaster innovations have a large potential for failure due to high communication barriers. This communication barrier could come from volunteers, in this case the FPRB as communicators or the village community as communicants. On the part of the FPRB as an actor, obstacles can occur due to lack of knowledge, understanding of its duties and functions, low ability of forum members to convey disaster messages to the public using simple language that can be understood by communicators or limited advanced learning media needed by communicators. to increase their knowledge regarding disaster resilience[7]. Communicants may also have obstacles to receiving messages such as differences in levels of understanding and low awareness of the benefits of disaster knowledge[8].

The obstacles that occur in Destana Sukatendel and Perbaji are mostly due to obstacles caused by various forms of attitudes and behavior. Behavioral barriers are also called humanitarian barriers, namely barriers caused by various forms of attitudes or behavior, both from the communicator and the communicant. Behavioral barriers appear in various forms, such as; A priori views, prejudice based on emotions, authoritarian atmosphere, unwillingness to change and egocentric nature[9]. Related to the behavioral barriers above, they can be seen in various aspects.

3.1 Funding

Public understanding of disasters needs to be increased in order to create awareness and give birth to a culture of disaster awareness to become disaster volunteers. BPBD itself has been educating and assisting FPRB for a year so that they have good understanding, attitudes and skills in saving village residents when a disaster occurs. This process is expected to produce (1) Village Risk Assessment; (2) Disaster Management (PB) Planning

and Village Contingency Planning; (3) Establishment of a Village DRR Forum; (4) Increasing the Capacity of Citizens and Officials in PB; (5) Integrating DRR into the Village Development Plan and Legalization, Implementing DRR in the Village; and (6) Monitoring, Evaluation and Reporting of Programs at the Village Level[10].

The Disaster Risk Reduction Forum is a village community that is selected to become volunteers in the process of community independence to save themselves when a disaster occurs. Volunteers are individuals who contribute their time to help other people without expecting rewards or material rewards that benefit them[11]. Based on observations made by researchers, the lessons delivered by BPBD and the initial assistance of facilitators to FPRB did not include volunteering material. The failure to deliver the volunteer message persuasively to the FPRB made most forum members feel that their duties were not mandatory. This lack of payment means that most forum members do not carry out their duties optimally. Most forum members do not carry out their duties because they have to go to the fields, because if they don't work in the fields they won't get money.

Disaster policies in the form of national to regional legislation are the basis for disaster management institutions to create disaster prevention and recovery programs. At the prevention level, policies are needed that regulate the roles of each party involved in disaster management, including the scope of prevention that can be carried out and the funding allocated. Diffusion of disaster innovation is also faced with financial obstacles from the government. Permendes No 11/ 2019 concerning priorities for the use of village funds in 2020, and one of them is for disaster action[12]. The deputy chairman of Destana Sukatendel stated that village funds were indeed allocated for disasters, but only at the emergency response stage. Funds are disbursed in the event of a cold lava flood and used to mobilize heavy equipment. There are no village funds allocated for pre-disaster activities such as disaster education for village communities. When Covid-19 occurred, village funds were also used for social assistance for village communities and there was absolutely no allocation for natural disasters.

3.2 Unwillingness to change and egocentric nature

Professor at the Faculty of Geological Engineering, Padjadjaran University (Unpad) Prof. Dr. Nana Sulaksana, Ir., M.SP stated that the volcanic material piled up in the dome was in direct contact with water. The accumulated material is then carried away by water and washed down through valleys and rivers. As a result, the lava flood was able to sweep away the area where the cold lava flow passed[13]. This incident occurred in the Sukatendel and Perbaji destana areas. High rainfall in this area often brings large amounts of volcanic material which endangers village areas, so mitigation needs to be done, namely making ditches to drain cold lava safely. The problem is that the ditch must be cleaned frequently so that it doesn't become clogged. The blockage will cause cold lava to overflow into the fields of nearby residents and damage agricultural areas and even potentially enter residential areas. The land clearing process must be carried out using heavy equipment that enters through residents' agricultural areas.

Interpersonal communication was carried out by the Chair of the FPRB by visiting the farm owner to explain the problems that were occurring and the potential for a major disaster to occur, but was rejected on the grounds that heavy equipment would damage the crops. The chairman of the FPRB has also come back with the village government to ask the land owner to allow heavy equipment to enter, but the land owner still refuses. This obstacle shows that there is no awareness among the community of the potential for major disasters that could occur in their area.

3.3 Authoritarian atmosphere

The Disaster Risk Reduction Forum is an institution whose members are elected by the village head. This institution was formed to run Destana. The Letter of Appointment of this institution and its members is signed by the village head. BPBD is a government agency that educates and trains FPRB. The Village FPRB has a consultative relationship with the Village Government and other village institutions. Apart from the Village Government and Village Institutions, the Village FPRB can coordinate with the Regency, Provincial, National Government and non-governmental institutions. BPBD's tasks are completed when the decree has been signed and the forum has been educated, trained and mentored. Furthermore, this forum is the responsibility of the village government both in monitoring their work and in terms of funding their activities.

What happened in the field was that the village head considered that the FPRB was the responsibility of the BPBD. After completing the signing of the decree, the village head hands off all actions taken by the FPRB. The Perbaji village head who was met after completing the facilitator's assistance answered that it was up to the FPRB as to what he would plan for disaster activities in the village. This was also seen in Sukatendel Village, where all village government officials did not know what plans the FPRB was carrying out regarding the disaster activities being carried out.

Village FRB membership consists of Village Government, village midwives, village doctors, village institutions (BPD, LPMD, Gapoktan, etc.), representatives of mass organizations, community and youth leaders (Karang Taruna), members of Satlinmas and members of Polmas, PKK elements, representatives of vulnerable communities (disabled people), the private sector and other elements of society[14]. In practice, the village head chooses FPRB members according to personal interests which then results in jealousy from other community members. The working period of the FPRB members is then equated with the working period of the village head. If the village head changes then the FPRB members who are not in line with the new village head will also be replaced. This is certainly detrimental because there is no longer an education and mentoring process carried out by BPBD. This certainly means that new members do not have sufficient knowledge about disasters to share with other communities.

The study was limited to finding at barriers in the disaster mitigation phase because this stage was the focus of FPRB Sukatendel and Perbaji. Subsequent research is very open to looking at the next phase such as emergency or post disaster response.

4 Conclusion

Communication barriers that occur in Destana Sukatendel and Perbaji are caused by various forms of attitudes and behavior. Inhibitory attitudes and behavior are reflected in:

- a. Attitudes and behavior regarding funds
- b. Unwillingness to change and egocentric nature
- c. Authoritarian atmosphere

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