



Tsunami Disaster Media Literacy Through Word of Mouth Communication of the South Coast of Garut Coastal Community

Tita Melia Milyane^{1*}, Amalia Djuwita², Sri Wahyuning Astuti³, Muhammad Thariq Alamsyah⁴,

Moh. Honey Firdaus Al-Karim⁵, Muhammad Gathan Siddiq⁶

¹²³⁴⁵⁶Telkom University, Bandung, Jawa Barat, Indonesia

*Email: titameliamilyane@telkomuniversity.ac.id

Abstract. The tsunami disaster loomed over coastal communities, including those on the South Coast of Pameungpeuk, Garut Regency, West Java Province. This research focuses on the prediction of tsunami disasters in disaster-prone areas, namely Pameungpeuk Beach and how coastal communities respond to this. The purpose of this study is to find out how communication is built by coastal communities and through what way communication is carried out. Another objective is to find out the level of disaster literacy in the Pameungpeuk Beach Community. The method used is a qualitative method. Data collection was carried out through in-depth interviews, observation and literature studies. The theoretical concepts used are the concept of media literacy and word-of-mouth theory. The results of the study show that the community conducts word-of-mouth communication for disaster mitigation and management. At the level of disaster literacy, it was found that the Pameungpeuk Beach Community understands the risk of tsunami disasters that can occur at any time and has anticipated as much as possible. The community also builds interpersonal communication among residents, assisted by the role of religious leaders, where one of the ways is done is through religious lectures by religious leaders in their area. This study concludes that the Pameungpeuk Beach community has a fairly good level of disaster literacy and conducts word-of-mouth communication in disaster mitigation and management with the help of the influence of religious leaders.

Key Words: Media literacy, Word of Mouth communication, Disaster mitigation, Tsunami disaster management, coastal pameungpeuk

1. Introduction

Indonesia's history is full of the tragedy of the Tsunami, which killed 227,898 people on December 26, 2004, in Aceh, which began with a 9.3 magnitude earthquake. In 2023, BMKG has provided an early warning of a tsunami. On January 10, 2023, at 00:47:33, a 7.5 magnitude earthquake occurred at a depth of 130 km northwest of Southeast Mauluku, which had the potential to trigger a PD-4 tsunami. One second later, at 00:47:34, the earthquake occurred again with a magnitude of 7.9 at a depth of 131 km with a tsunami warning of WW-1. On April 25, 2023, another earthquake occurred with a magnitude of 7.3 at a depth of 84 km in the Mentawai Islands, West Sumatra with a PD-4 tsunami warning (BMKG, 2023). A tsunami is one of the disasters that hit coastal communities in Indonesia damaging the economy, society, and psychologically, especially for coastal communities, including the people of Surabaya who live on the coast (Palupi, 2022).

Now, Indonesia, especially the South Coast of Java, is predicted to experience a tsunami as high as 10 meters. According to the Head of the Meteorology, Climatology and Geophysics Agency (BMKG), Dwikorita Karnawati, the potential for a tsunami as high as 8-10 meters is expected to hit the South Java coast if there is a movement of the Opak Fault earthquake in Yogyakarta with a target magnitude of M6.6. In addition, there is also a source of plate subduction or megathrust earthquakes with a target magnitude of M8.7 in southern Java that is still active (Indonesia, 2023). Given the potential for a tsunami, researchers see that the southern coast of Java is very large, including Yogyakarta, Pangandaran, Sukabumi, Cilacap and Garut Regency. Although a tsunami has not been recorded in Garut Regency, Garut itself is an area with a high potential for natural disasters such as earthquakes, landslides and of course tsunamis.

Garut Regency has a strategic location as a buffer for the capital city of West Java Province, with a distance of 61.5 km from the West Java Provincial Government Center in Bandung and about 216 km from the Government Center of the Republic of Indonesia in Jakarta. In general, the Garut Regency is a dynamic region, various development dynamics continue to take place both in the political, economic, social and cultural fields, so that various developments occur in almost all sectors. Garut Regency is located at coordinates 6°56'49" - 7°45'00" South Latitude and 107°25'8" - 108°7'30" East Longitude. Garut Regency has an administrative area of 307,407 Ha (3,074.07 km²) with the following boundaries: North (Bandung Regency and Sumedang Regency), East (Tasikmalaya Regency), South (Samudera Indonesia), West (Bandung Regency and Cianjur Regency). (garutkab.go.id, 2017). Pameungpeuk is one of the coastal areas on the South Coast that also has the potential for tsunamis. Pameungpeuk is a sub-district in South Garut Regency with an area of 44.11 km² with a distance to the district capital is 82 km.



Figure 1 : Map of Pameungpeuk, Garut Regency

Pameungpeuk Beach consists of several beaches that are crowded with tourists such as Sayang Heulang Beach, Santolo Beach, Rancabuaya Beach, Miramarreu Beach and so on. Although several beaches in Pameungpeuk have not been recorded in history to have experienced tsunamis, because of the potential of the area which is prone to disasters the number of visitors on the beaches of Pameungpeuk is recorded to increase every year.



Figure 2: Visitors at Santolo Pameungpeuk Beach

In tsunami disaster mitigation, the local government through the Regional Disaster Management Agency (BPBD) of Garut Regency has mitigated coastal communities through a hierarchical system of sub-district heads, village heads, RT heads and RW Heads. To compare different mitigation strategies, tsunami evacuation risk (in terms of

casualty rates) was used as a quantitative performance measure, an enhanced agent-based model was used to simulate tsunami evacuation (Wang & Jia, 2022). The Garut Regency BPBD also communicates and coordinates by utilizing the roles of the community such as religious leaders and through lectures in mosques. In general, disaster mitigation is carried out through the use of advanced tools and technology, but in Garut Regency, tsunami disaster mitigation is more about the social conditioning of the community through coordination and communication vertically and horizontally.

2. Research Method

This research uses a qualitative methodology. According to Dedi Mulyana, the purpose of qualitative research is to deal with specific things—not only open behaviour but also unspoken processes, emphasizing individual differences, and making ethical/aesthetic judgments about certain (communication) phenomena. From a qualitative perspective, reality is dual, complicated, pseudo, dynamic (changeable), constructed, and holistic. The researcher chose a qualitative approach because this research is natural and involves the ability of the community to understand the existing information and efforts to prevent or overcome disaster predictions submitted by BMKG and the local government. Data collection was carried out through open interviews and observations. Interviews were conducted with the coastal community of the South Coast of Pameungpeuk, namely 4 people and BPBD Garut Regency as many as 3 people, while observations were made on the news submitted by BMKG in various national media.

Data analysis is the most important part of research. If the data collected is processed and analyzed, it will be relevant and useful to answer research problems. To perform the data analysis, an interactive model of Miles and Huberman was used. Data analysis consists of three stages: (a) Data reduction, where researchers select and prioritize the simplification, abstraction, and transformation of the coarse data they obtain; (b) Data display, where the researcher makes a description of the data that is compiled to support conclusions and action taken. Data is usually presented in the form of narrative text at this step; (c) Drawing conclusion and verification. The researcher seeks to draw conclusions and verify by tracking each symptom found in the field, noting possible regularities and configurations, phenomenal power flows, and propositions.

3. Results and Discussion

Results

Disaster Mitigation

Disaster mitigation is carried out by the coastal community of Pameungpeuk Beach by looking at natural signals, namely the location of the Star in the sky which indicates when strong winds will blow, the position of the date and month where November 20-29 is the time when strong and strong winds blow in the ocean, providing temporary shelters in hilly/highland areas, as well as making embankments filled with sandy sacks placed along the coast. They do not specifically provide disaster mitigation tools, including those related to technology. Disaster mitigation is carried out independently and traditionally, which means using all supporting resources in the surrounding environment.

For evacuation routes, according to informants, there are evacuation routes created to anticipate future disasters, but these routes need to be improved to be better. In dealing with water levels, the community implements it

independently by involving neighbours around the coast/in front of the beach. Meanwhile, a quick evacuation is carried out by looking for boats and equipment that are usually owned by the owner of the boat or boat. So that for disaster evacuation purposes, the community usually already has data on the number of boats owned which will later be used for the evacuation process of themselves, their families and surrounding neighbours. Approaching the end dates in November and December, coastal communities are vigilant and rarely fall asleep at night, apart from their livelihood are fishermen who usually go to sea at night until the early hours of the morning, also because of the coming of strong winds and high waves from the sea. Meanwhile, women in coastal areas usually prepare themselves for disasters by preparing enough clothes and provisions if at any time they have to evacuate.

Most people have mobile phone communication devices, but they are usually not used for various information related to tsunami disasters, or large waves. However, their cellphones/smartphones are used to access various entertainment from social media.

Meanwhile, disaster mitigation efforts carried out by BPBD through vertical coordination communication with the sub-district head and village head, coastal community informants admitted that they did not know about this. However, information related to disasters is usually obtained from religious lectures in mosques and village elders.

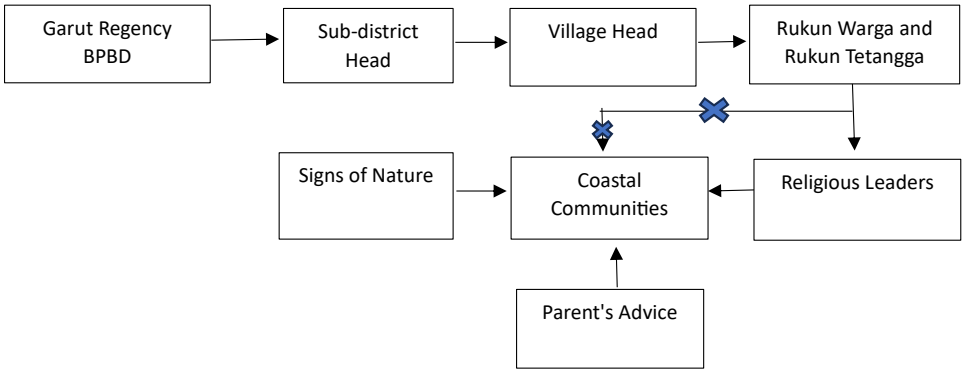


Figure 3: Pameungpeuk Tsunami Disaster Mitigation Information Model

Word of Mouth Communication

Word-of-mouth communication is considered the most effective communication among the coastal communities of Pameungpeuk Beach for disaster mitigation and management. This is because the community has a group life, sharing information in various casual chats at home and while drinking coffee at the stalls. Word-of-mouth communication is effective for residents while relaxing after harvesting the fish they caught, usually in the afternoon and at night. Word-of-mouth communication is also carried out based on hereditary beliefs from parents and ancestors in the past, carried out in a familial manner while doing routine work as fishermen. Through word-of-mouth communication, the informant said that the tsunami incident occurred fifteen years ago and became a story that parents continue to tell.

In this word-of-mouth communication, there is an exchange of information between the community and it becomes an oral culture that is trusted for accuracy. Culturally, coastal communities still have a strong sense of kinship and cooperation. Information and messages exchanged in this oral culture quickly spread and were accepted by all parties in the community. They trust the messages their relatives and neighbors spread, rather than

information in the mass media and digital media. They believe that disaster awareness is only carried out at the end of November and December.

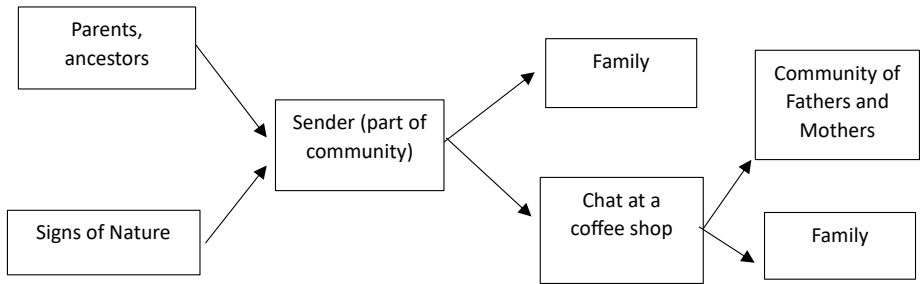


Figure 4: The process of exchanging information through Word of Mouth

Word-of-mouth communication has a high success rate in influencing the perception of message recipients, namely the community around the coast of Pameungpeuk Beach. This can happen because of the factor of trust in each other among members of the population and the factor of close kinship. The growth of trust among the population is supported by their respective experiences in overcoming disasters together. Where in the event of a disaster, residents and their family members help each other and cooperate in overcoming disasters, evacuating and preparing the intended place for the tsunami/high wave disaster evacuation process.

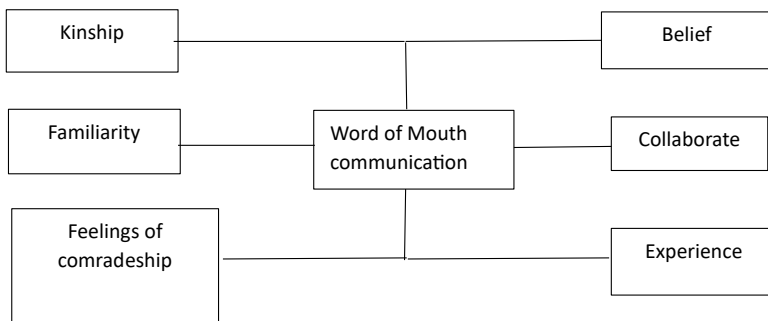


Figure 5: success factors of word of mouth communication

Media Literacy

The people of Pameungpeuk Beach understand the risk of a tsunami disaster that can occur at any time and have anticipated it as much as possible. They understood a tsunami as a wave of more than 6 meters high, and every year there must be a water level in one month every month. According to the informant, high waves had occurred several times and swept up to the courtyard of residents' houses (including in 2002), and residents had evacuated to the hill across the highway. However, the high waves (tsunamis), although sometimes make them anxious, because they are used to struggling with all the difficulties of natural disasters, do not make coastal communities think about moving their homes, because they live as fishermen and the important thing is to be vigilant on the 20th to 29th of every November and December, usually the tides occur twice in twenty-four hours.

In the concept of media literacy, a person will be said to be 'literate' when they have understood, understood, realized and can modify the information they get from the media. In this case, public awareness of the threat of

high wave or tsunami disasters is developed through word-of-mouth communication which has been running for generations. They are aware that disasters can happen at any time, but they will be more vigilant in November and December every year. The community admitted that they also felt anxious but tried to calm down in the face of the tsunami risk.

The community also builds good interpersonal communication among residents, assisted by the role of religious leaders, where one of the ways is done is religious lectures by religious leaders in their area. Coastal communities are indeed known to be thick in terms of obedience to religious leaders and tendencies as religious communities (believing in God). The storytelling method is the most preferred by coastal residents through lectures in mosques.

Discussion

Disaster mitigation should be a serious concern for every element of the government and society. Moreover, the Garut Regency is one of the disaster-prone areas in Indonesia, so it has become a must, BPBD as a regional disaster management institution prepares and adds sufficient human resources for disaster mitigation. The use of technology that can help with early warning should already be one of the tools available in disaster areas. Currently, there are 2 tsunami detection devices on Pameungpeuk Beach but the condition is not working and finally damaged.

Establishing a disaster preparedness village seems to have to be made not only at one point in the Pameungpeuk area but at several vulnerable points. The community also needs continuous education to increase vigilance. The public also needs to be educated on how to utilize social media and access BPBD social media to get the right information.

The main agenda of the local government in embracing the community, conducting many discussions in the field, conducting many visits, and empowering fishing community groups and PKK for disaster mitigation and management should be an approach based on local culture and wisdom.

4. Conclusion

The coastal community of Pameungpeuk Beach is currently conducting word-of-mouth communication for disaster mitigation and disaster management. Coastal communities will be more vigilant when entering November and December every year because they believe that high waves from the sea will come in those two months. Armed with the knowledge they gained from their parents, and by seeing the signs of the stars in the sky and the potential for a gust of wind, they realized when disaster would occur.

Word-of-mouth communication develops among coastal communities because of the trust in each other, the experience of experiencing disasters, the element of kinship and the same belief in the advice of parents. In this word-of-mouth communication, they exchanged messages and information and tried to prepare themselves independently to face the tsunami. Although the community sometimes admits to being anxious, they are confident that with the right signs of nature that are read, disasters can be overcome. Word-of-mouth communication can occur in a condition of a society that has a close relationship with each other, a community that gets along and cares for each other, but this is rather difficult to happen in a society that has been formed as an individualist society.

Suggestion

Media literacy about the tsunami disaster on the South Coast of Garut is an important thing, this is because coastal communities can become victims of the tsunami disaster at any time. The government's collaboration with stakeholders and volunteers for disaster mitigation and disaster management is going quite well but not optimally, one of which is due to the limited human resources at the Regional Disaster Management Agency (BPBD) of Garut Regency. Vertical communication has stopped at the lower levels and coastal communities have admitted that they have not received information related to the disaster. To be ready to face disasters, coastal communities prepare for possible disasters by communicating word of mouth and by looking at natural signs. At the level of disaster literacy, coastal communities understand the dangers of tsunamis and prepare to overcome them and protect their families and closest neighbours. In the future, it is hoped that research will continue on the portrait of disaster communication carried out by sub-district heads, village heads, Neighborhood Units and Neighborhood Units.

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