

The Level of Tsunami Disaster Mitigation Literacy on Preparedness in the Payangan Beach Coastal Community of Ambulu Jember

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Abstract: *This research aims to evaluate the literacy level of tsunami disaster mitigation in the coastal communities of Payangan Ambulu Beach, Jember. The research method used was a survey with a questionnaire distributed to respondents who were part of the coastal community. The research results showed that the literacy level of tsunami disaster mitigation in the coastal community of Payangan Ambulu Beach, Jember still needed to be improved. Even though the majority of respondents are aware of the potential danger of tsunamis, understanding of concrete mitigation measures is still relatively low. The implication of this research is the need for more intensive education and outreach efforts regarding tsunami disaster mitigation for the coastal communities of Payangan Ambulu Beach, Jember. By increasing mitigation literacy, it is hoped that the community will be better prepared and able to act effectively in facing potential tsunami disasters in their area. This research contributes to the understanding of the level of tsunami disaster mitigation literacy in the coastal communities of Payangan Ambulu Beach, Jember, as well as providing a basis for program development -more effective and sustainable mitigation programs. With collaboration between the government, related institutions and the community, it is hoped that we can create a safer and more resilient coastal environment in facing the threat of tsunami disasters.*

Keywords: disaster mitigation literacy, tsunamis, coastal communities

1. INTRODUCTION

The increase in the frequency and intensity of tsunami disasters in recent years emphasizes the importance of community alertness and preparedness in facing this threat. One of the key factors in reducing disaster risk is the level of tsunami disaster mitigation literacy among coastal communities.

Literacy is a competency that includes a series of abilities for each individual to recognize, understand, learn and apply the knowledge gained when reading and accessing information (Yevelson-Shorsher & Bronstein, 2018).

Disaster literacy is the ability to face the threat of disaster through a set of knowledge that covers all aspects needed to increase disaster risk reduction. Disaster literacy studies are an alternative in disaster research or studies, especially in the realm of tsunami disaster mitigation (Suharini, 2019).

Disaster preparedness is said to be the first line of defense in any disaster situation. An important part of disaster preparedness is being able to guide the community on what to do if they experience critical conditions, so that they can minimize the impact of disasters and maximize efficiency in controlling them. (Superio, et al., 2019). Disaster literacy studies which aim to anticipate or minimize disasters are seen from several things, namely a person's knowledge and attitude towards disasters, policies and guidelines, plans for

emergencies, disaster warning systems, and the ability to mobilize resources. (Trifianingsih, Agustina, & Tara, 2022).

According to Suwaryo & Yuwono (2017) that the higher a person's level of education, the easier it is to receive information and the more experience they will have. This is based on the results of his research which found that the majority of jobs were housewives (IRT) and fishermen and this had an influence on the level of community knowledge regarding disaster mitigation. Fishermen are the most common type of work in Alue Naga Village, Syiah Kuala District, Banda Aceh. The research he conducted explained that work has an influence on the level of community knowledge about disaster mitigation. Fishermen are the most common occupation in Sambang Village, Sempor District, this is in accordance with the location of the sea area. Apart from fishermen, the jobs of Sampang residents are traders, and some are self-employed and do not work. Apart from that, residents of Sampang Village have also received several outreach sessions provided by students, health workers and the government, in this case the Regional Disaster Management Agency (BPBD), which has also been attended by residents who work as farmers. This is proven by the statements of several community members and village officials when the outreach activities took place (Suwaryo & Yuwono, 2017).

The coastal area of Payangan Beach is also an area where the majority of people are fishermen and is an area that is prone to natural disasters in the form of tsunamis. Increasing disaster mitigation literacy must continue to be carried out in order to increase community preparedness in facing the real threat of a

tsunami disaster that is right before our eyes. The knowledge of coastal communities on Payangan Beach regarding the tsunami disaster is still relatively minimal. Even irrational people consider a disaster to be a myth, so a tradition emerged, namely sea picking. Sea fishing is believed by coastal communities to be something that must be held every year in order to ward off disasters and show gratitude for the abundance of good fortune and marine products. This kind of understanding needs to be accompanied by disaster mitigation literacy skills, especially in facing the real threat of a tsunami disaster before our eyes.

Therefore, it is necessary to increase disaster literacy which is used to change people's irrational thinking patterns to rational ones without abandoning the traditions that are inherent in their area.

2. LITERATURE REVIEW

2.1 Disaster Literacy

Disaster literacy is a new theory that is based on health literacy which has resulted in a new study in the form of disaster literacy which focuses on an individual's ability to obtain, understand and use disaster information. (Zhang, 2021).

In its development (Olowoporoku, 2017) has defined that disaster literacy refers to several abilities possessed, such as:

1. Identify

Disaster literacy is an individual's ability to recognize potential threats that can endanger humans, infrastructure, the environment and economic assets. In this context of disaster literacy, focusing on a person's ability to identify disaster information is very important. This means that the ability to recognize disaster information involves the way a person searches, finds, and investigates various information related to disasters.

2. Understand

Disaster literacy includes an individual's ability to understand information related to disasters, including understanding various sources or media of information, the content or messages contained in disaster information, instructions or instructions related to disaster information, as well as understanding various aspects of disasters, both before and after. during, or after it occurs.

3. Interpret

Disaster literacy refers to a person's ability to interpret disaster information, which is related to how a person is able to interpret various information obtained in various media.

4. Communicate

Disaster literacy is related to a person's ability to communicate potential disasters, disaster information, and is also related to how a person communicates information as a form of disseminating disaster information.

2.2 Preparedness in Facing Disasters

Preparedness is an effort to face emergency situations and identify various resources to meet needs at that time. This aims to ensure that the community has better preparation to face a disaster so that the impact of losses resulting from the disaster can be minimized. Kent defined preparedness (1994) namely: minimizing the adverse consequences of a hazard through effective prevention, rehabilitation and recovery measures to ensure the organization and delivery of aid and assistance after a disaster occurs in a timely, appropriate and effective manner. (Kent, 1994)

The definition of preparedness according to Carter (1992) is: actions that enable governments, organizations, society, communities and individuals to be able to respond to a disaster situation quickly and effectively. Included in preparedness actions are the preparation of disaster management plans, maintenance of resources and training of personnel. (Carter, 1992)

LIPI and UNESCO (2006) explain preparedness, namely: Preparedness is one part of the disaster management process and in the currently developing concept of disaster management, increasing preparedness is one of the important elements of pro-active disaster risk reduction activities, before a disaster occurs. (Anonim, 2006)

Based on several understandings from several experts and agencies above, it can be concluded that preparedness is an action or effort taken to be able to respond and then minimize the impact of losses resulting from a disaster..

3. RESEARCH METHODOLOGY

3.1 RESEARCH DESIGN

The research method used in this research is included in the Descriptive Method. According to Pabundu Tika (2005), the meaning of descriptive research is "more directed towards revealing a problem or situation as it is and revealing existing facts, although sometimes interpretation and analysis are provided". (Tika, 2005)

It can be concluded from several definitions according to the experts above that the survey method in research is to produce data whose truth can be proven. The application of survey methods to produce the required data depends on the data needed, can use various methods.

4. RESULT

To measure the level of disaster mitigation literacy on community preparedness in facing tsunami disasters in communities on the coast of Payangan Beach, referring to theories originating from LIP and UNESCO (2006). In

measuring the level of preparedness, 25 question items have been determined.

The research results show that the level of disaster mitigation literacy on the preparedness of the Payangan Beach coastal community is 45%. Disaster mitigation literacy consists of 4 indicators, namely identifying and finding information 36%, evaluating information 25%, organizing and integrating information 26%, and utilizing and communicating information effectively legally and ethically 25%.

The ability of the coastal communities of Payangan Beach to identify and find locations for tsunami disaster mitigation information is good. Supporting research has been carried out by (Priowidodo, 2013) The findings reveal that the traditional fishing communities on the coast of Pacitan Regency already know the natural characteristics when a tsunami occurs. The knowledge of this community comes from their ancestors from generation to generation.

The ability of the coastal communities of Payangan Beach to critically evaluate information is still relatively lacking because they still have an achievement of 25%. This lack of understanding occurs because of the level of education possessed by the community itself. In line with these results is research conducted by (Umar, 2013) This research concludes that someone who can evaluate information critically can assess what efforts are best in preparing for disasters.

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The ability of the coastal communities of Payangan Beach to organize and integrate information is still relatively lacking because they still have an achievement of 26%. Due to the influence of the environment where the community lives, whether it supports or not integrates and organizes information related to disaster mitigation literacy (Hidayat, 2009) the basic character of Madurese people, firstly, is individualism in the sense of being individualistic but not egoistic, secondly, namely having a rigid and harsh language, and thirdly, being firm or steadfast in holding beliefs, convictions and inclinations of heart..

5. DISCUSSION

Sumberejo Village is a village that is included in the category of tsunami-prone villages because its area directly borders the coast. The beach area there is Payangan Beach. Even though it presents stunning nature and is used as a tourist attraction, in fact it has a threat in the form of a tsunami disaster which continues to threaten the surrounding community. It is predicted that the impact or risk of a tsunami disaster that has the potential to occur in this area will have a wide impact on the community and the environment around the coast because on Payangan Beach there is a fishing village which is very

close to the coastline, it is estimated that the distance between the coastline and residential areas is only 50- 100 meters. This very close distance will of course be very dangerous and threaten society.

Small tsunami disasters, namely when sea water rises and reaches community settlements, have often occurred in the Payangan Beach area. The last large tsunami in the Payangan Beach area occurred on June 3 1994. This tsunami was the impact of the expansion of the tsunami that occurred at Pancer Beach, Banyuwangi. Even though it was only an expanding tsunami, the impact and losses caused by the tsunami at that time caused coastal communities to become victims, including deaths, injuries, loss of property, and damage to village infrastructure as well as environmental damage around the coast.. (BNPB, 2019)

Disaster literacy is one of the factors that can shape the level of community preparedness in responding to disasters. Disaster preparedness is an integral part of the disaster management process, and increasing preparedness is a crucial step in efforts to reduce the impacts caused by disasters. This view is in line with the results of the World Conference which produced the "Hyogo Framework for Action" in the period 2005 to 2015 which established five priorities for disaster reduction actions, one of which is strengthening disaster preparedness with effective responses at all levels or layers of society. Therefore, preparedness refers to actions that enable all individuals to respond quickly to disaster situations. (Maghfirah & Mutia, 2023)

Knowledge of disaster mitigation is very important for the coastal communities of Payangan Beach because the distance between their homes and the shoreline is very close and the majority of their livelihoods are fishermen.

Preparedness is not only a matter of the government's readiness as the party carrying out responsibility for disaster management, but also civil society or the private sector must also develop their capacity in disaster preparedness. Especially people who live in disaster-prone areas, especially people who are categorized as disaster-prone. The community as the main element in preparedness must have knowledge and readiness to face a disaster. The large number of fatalities due to a disaster is caused by a lack of awareness and preparedness of the community itself, so that the community has an important role or plays a role in efforts to optimize and reduce disaster risks.

Preparedness in facing disaster events that occur is very necessary to reduce the risks posed, this is because preparedness aims to minimize the threat of danger through effective, timely, and certainly efficient prevention when an emergency situation occurs (Chotimah, 2019). Same as the statement by (Fadilah, Permanasari, Riandi, & Maryani, 2020) To reduce the risk or negative impact of disasters, individuals need knowledge, understanding, and what is no less important is preparedness. Preparedness is the ability to prevent, detect

and anticipate potential disasters before they occur, especially in areas that have the potential to experience disasters.

As in this research, preparedness aimed at anticipating disasters can be seen from five parameters, namely a person's knowledge and attitude towards disasters, disaster policies and guidelines, plans for disaster emergencies, warning systems for disasters, ability to mobilize resources (Trifianingsih, Agustina, & Tara, 2022). It can be concluded from the results of the calculations that have been carried out, it has been found that the level of community disaster literacy is sufficient regarding community preparedness in facing the tsunami disaster on the coast of Payangan Beach.

The readiness of the coastal communities of Payangan Beach in terms of knowledge and attitude is shown, one of which is that when the west wind comes, the fishermen do not go to sea. Because the arrival of the west wind can cause big waves. The skills aspect that proves the readiness of the Payangan Beach coastal community is by filling sacks with sand which are then piled up on the edge of the coast. Apart from that, another method used is planting mangrove. Mangrove planting is carried out only in the southern part of the Payangan Coast.

Knowledge, attitudes and skills possessed by the community regarding disasters are the basic capital for increasing preparedness, then knowledge can influence a person's attitude and concern to take prepared action in facing disasters (Martanto, Aji, & Parman, 2017).

6. CONCLUSIONS

From the data above we can conclude that the level of disaster literacy is sufficient for community preparedness in facing the tsunami disaster on the coast of Payangan Beach.

7. RECOMMENDATIONS

Activities to strengthen disaster mitigation literacy are important because the threat of tsunami disasters will continue to threaten as time goes by global climate change continues to increase and change. Even though the results show that the preparedness of the Payangan Beach coastal community is quite good, real and continuous efforts need to be made to face the threat of the tsunami disaster.

Efforts that can be made to increase the level of literacy in the community are by practicing identification by coming directly to the field. Apart from training and providing awareness in disaster literacy. Related elements become a means of strengthening community literacy disasters. There are regional government programs that work together to increase the influence of disaster literacy on community preparedness on a regular basis.

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