

Raising Public Awareness About Flood Danger In Tanjung Agung Village, Bengkulu City

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abstract

Natural disasters are still a concern and problem in the world, including in Indonesia. Indonesia is a country that is prone to flooding, so it is very risky to cause material losses that can cost many lives. Tanjung Agung Village is one of the areas in Bengkulu City which continues to be flooded every year, even the frequency of flooding can be two to three times a year with inundation heights reaching one and a half meters from the ground. This community service is carried out for the residents of RT. 03 Tanjung Agung Village, Bengkulu City with activities including health education on preparedness to face flood disasters, simulation of flooding, mutual cooperation and tree planting. The results of the activity show that the community's desire to start caring for the environment can be seen from the enthusiasm of the community in every series of activities ranging from health education, simulation, mutual cooperation and tree planting as an effort to minimize the risk of flood disasters during heavy rains. It can be concluded that this activity has a positive impact on supporting and increasing knowledge and increasing awareness of the RT community. 03 Tanjung Agung Village, Bengkulu City regarding the danger of flooding.

Keywords: Disasters, Floods, Awareness.

INTRODUCTION

The territory of Indonesia is located at the confluence of three tectonic plates, namely Australia, Eurasia and the Pacific and has a wet tropical climate with high rainfall. So it is natural that the Indonesian region has the potential to be prone to disasters (Adiyoso, 2018). The National Disaster Management Agency (BNPB) noted that throughout 2020 natural disasters that occurred in the country had claimed 370 lives, 39 people were missing and 539 people were injured with the frequency of disasters reaching 2,925 events, dominated by floods, which were 1,065 incidents. followed by 873 cyclones, 572 landslides, 16 earthquakes and 7 volcanic eruptions. In 2021 from January to September Flood disaster again ranks first as a disaster with the most frequent intensity with 825 flood events which resulted in 497 public facilities and 1,014,605 houses being flooded (BNPB, 2021).

Flooding is an indication of an imbalance in the environmental system in the process of draining surface water which is influenced by the amount of water discharge, causing inundation on low land on the river side. Flood disasters cannot be prevented but need to be controlled by reducing the impact of the losses they cause. For this reason, it is important to do fast, precise and integrated handling. In general, the triggering factors for the risk of flood events in Indonesia are influenced by high rainfall, erosion, excess river capacity, clogged waterways and lack of land for water absorption and rivers located in densely populated areas so that they can become a threat of flooding during the rainy season. (Rosyidie, 2013).

In Indonesia, one of the areas that has received national attention regarding flood disasters is Bengkulu Province. Based on the Indonesian Disaster Risk Index (IBRI) in 2020, it shows Bengkulu Province is at the second highest disaster risk with a score of 162.00 after West Sulawesi Province with a score of 166.49 and followed by the Province of the Bangka Belitung Islands with a score of 161.54. Of the 10 regencies/cities in Bengkulu Province, 6 of them are in the high risk class and the remaining 4 have a moderate risk index (BNPB, 2020). The high rainfall in Bengkulu City throughout 2019 triggered 6 flood events which resulted in many losses including 4,630 residents' houses being submerged and 12,240 refugees. (BNPB, 2019a).

Tanjung Agung Village, which is located in Sungai Serut District, Bengkulu City, is an area that will experience the most severe impact in the event of a flood with the second largest flood area after Rawa Makmur Village. This condition is further exacerbated by the overflow of water from the Bengkulu River whose discharge is very large as a result of forest destruction in the upstream part due to various uncontrolled community activities such as deforestation and illegal logging. The frequent occurrence of floods in the kelurahan does not necessarily make people leave or move from settlements, even the government's relocation program plan does not get a good response from the local community. Given the high level of flood hazard in Bengkulu City, this community service activity aims to increase public awareness about the dangers of flooding, especially in the RT area. 03 Tanjung Agung Village, Bengkulu City.

METHOD

This community service is carried out from March to July 2021. Community Service Partners (PKM) are: RT residents. 03 Tanjung Agung Village, Bengkulu City with a series of activities consisting of:

1. Health education on preparedness in dealing with flood disasters
It is important for the community to get education about preparedness in dealing with floods. Education is given by way of explanations from resource persons using the help of power point slides and playing videos about the flood disaster. At the end of the material, the people present were given the opportunity to ask questions and discuss. The main points of explanation from the speakers included several things, namely: understanding of floods, causes of floods, impacts of floods, preparations that must be made in dealing with floods and what to do after a flood occurs.
2. Simulation (practice) of the process of flooding,
This simulation uses a drink bottle that has a hole in the bottom, like the ground. An example is given with two types of waste, namely tissue and plastic.
 - a. Initially, the tissue was put in the bottle. Then pour the water into the bottle. It was explained that the garbage from this tissue was clogged but the water could still flow to the ground.
 - b. Second, put plastic waste into a bottle, pour the water again. The explanation shows that plastic waste can cause flooding because it cannot be absorbed by the soil.
3. Gotong royong cleaning ditches, disposing of garbage and the environment around people's residences as an effort to prevent flooding
4. Reforestation through planting trees to maintain the balance of the water system in nature, prevent soil erosion and erosion that can trigger floods.

RESULTS

Tanjung Agung Village, Bengkulu City is one of seven sub-districts in Sungai Serut District, Bengkulu City with an area of 1,353 hectares and has a population of 810 people consisting of 210 families (KK). Broadly speaking, the position of Tanjung Agung Village, Bengkulu City is on the bank of the river downstream of the Bengkulu River which is very vulnerable and prone to flood disasters, especially during the rainy season. Floods that hit Tanjung Agung Village can inundate almost all settlements and houses with a high inundation that can reach 1.5 m (one and a half meters) from the original land surface.

Based on the experience of the RT community. 3 Tanjung Agung Village, Bengkulu City, flood disaster is no longer a strange thing. The cause of flooding is not only high rainfall or high tides, but unexpected floods which also often occur due to overflowing of the lake test dam originating from Lebong Regency. However, the community still persists in staying in the Tanjung Agung Village area, Bengkulu City. The phenomenon of people living in flood-prone areas indicates that the community service team from the Public Health Study Program, Faculty of Health, University of Muhammadiyah Bengkulu, conducted health education about preparedness in dealing with flood disasters in Tanjung Agung Village, Bengkulu City.

However, considering that the Covid-19 disaster that hit the world including Indonesia and Bengkulu City were still experiencing PPKM when community service activities took place, health education was carried out by gathering representatives of each family head while still implementing health protocols. With health education as well as video screenings as a form of the team's strategy to clearly show the community the various impacts caused by the flood disaster, the community also gains an understanding of the causes of floods, how to overcome them and the impacts or dangers experienced from the occurrence of flood disasters.

As an effort to support and increase the knowledge of the RT community. 03 Tanjung Agung Village, Bengkulu City, this community service activity also simulates (practices) the process of flooding. This simulation uses a drink bottle that has been perforated at the bottom and is likened to soil, with the examples given using two types of waste, namely tissue and plastic. Initially, the tissue was put in a bottle, then water was poured and it was explained that the garbage from the tissue caused the water flow to block but it could still flow to the ground. Furthermore, the same thing was done but using plastic waste, it was seen that plastic waste could be the cause of flooding because it could not be absorbed by the soil. With this simulation activity, the community can better understand the process of flooding, Besides that, this simulation activity is also good to do considering that so far there has never been a disaster simulation in the RT community. 03 Tanjung Agung Village, Bengkulu City. So that with this simulation, it can increase public awareness in maintaining environmental cleanliness by not throwing garbage carelessly which can trigger flooding. For this reason, the next activity in community service is mutual cooperation in cleaning the sewers and the environment around the RT area. 03 Tanjung Agung Village, Bengkulu City and planting trees as an effort to reduce the risk of flood disasters during heavy rains. So that with this simulation, it can increase public awareness in maintaining environmental cleanliness by not throwing garbage carelessly which can trigger flooding. For this reason, the next activity in community service is mutual cooperation in cleaning the sewers and the environment around the RT area. 03 Tanjung Agung Village, Bengkulu City and planting trees as an effort to reduce the risk of flood disasters during heavy rains. So that with this simulation, it can increase public awareness in maintaining environmental cleanliness by not throwing garbage carelessly which can trigger flooding. For this reason, the next activity in community service is mutual cooperation in cleaning the sewers and the environment around the RT area. 03 Tanjung Agung Village, Bengkulu City and planting trees as an effort to reduce the risk of flood disasters during heavy rains.

DISCUSSION

Indonesia is a disaster-prone country, one of which is because geographically Indonesia's position is flanked by two of the world's major oceans (Indian and Pacific oceans) and Indonesia's geological position at the confluence of three of the world's main plates, which at any time could be a major disaster for Indonesia if the the plates collide with each other. As a form of disaster management efforts that occurred in Indonesia, the National Disaster Management Agency (BNPB) was formed which has simple duties and functions as BNPB as a director of disaster management and as a national disaster management implementer. During disaster management, BNPB is assisted by the Regional Disaster Management Agency (BPBD) in each province and the Regional Disaster Management Agency (BPBD) at the district level.(BNPB, 2019b).

Flood is one of the natural phenomena that usually occurs in an area that is drained by many rivers. The losses incurred are exacerbated by other hazards arising from floods such as disease outbreaks. Most of the people who are vulnerable to flooding try to live side by side with tolerable losses. Efforts made by the community to survive the flood are by elevating the house either by hoarding or building a house with a stage type, but of course this can only be done by people who have a high economic level. For people who are economically vulnerable, this form

of anticipation is impossible for them to do because the financing is expensive, so they can only surrender if their house is flooded.(Erita et al., 2019).

The risks and damage as well as alternative solutions for flooding in general have been widely studied. However, the existing problem of flood management solutions cannot completely overcome flooding due to various social problems that exist in the community. Given the high level of flood hazard, it is necessary to carry out disaster mitigation. Mitigation is a series of efforts to reduce disaster risk both through physical development as well as awareness and capacity building to deal with disaster threats. Activities in Pre-Disaster are aimed at reducing disaster risk,

preventive nature such as: Prevention, Mitigation or taming, preparedness includes early warning and planning. During a disaster (emergency response) includes: Warnings or danger signs, emergency assessments, operational plans, and emergency response and After disaster: rehabilitation, reconstruction(Febriawati, Angraini, & Kusuma, 2020).

The service that the team has done is in line with that carried out by(Diana et al., 2020)where after preparedness education, all the parameters of the preparedness index increased, the knowledge index parameter increased by 5%, family preparedness plans increased by 15%, knowledge of disaster warning systems increased by 6%, and resource mobilization increased by 10%. Participants still need socialization of disaster knowledge, simulation of the importance of evacuation, rescue and rescue, and socialization and campaigns about disasters through media that are in accordance with community conditions.

The results of this service show the enthusiasm of the partner community in managing organic waste so that the community can produce organic fertilizer independently. As a result of the socialization and training on waste management, the community realized the need to control household organic waste in order to create a healthy and clean environment. Proper waste management in reducing environmental problems and as a solution to overcome flood disasters(Ariyanti et al., 2021). Health education and preparedness training are forms of community preparation in dealing with disasters so that everyone is able to reduce threats and vulnerability through increased commitment to disaster risk prevention(Febriawati, Angraini, Wijaya, et al., 2020). In addition, in disaster preparedness efforts, the community also needs to recognize the importance of disaster management as a form of identification and reduction of disaster risk(Febriawati et al., 2017).

CONCLUSIONS And RECOMMENDATIONS

This community service activity is very useful for increasing understanding and awareness of the RT community. 03 Tanjung Agung Village, Bengkulu City regarding the danger of flooding. In addition, this activity also provides experience to the community so that the realization of a community that is responsive in responding to disasters and knowing how to prevent the impact of disasters with a series of activities carried out to reduce the threat and vulnerability of disasters. Then it is recommended there is a need for further assistance from local community leaders to be able to invite their citizens to be active in maintaining environmental cleanliness in order to prevent flood disasters

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APPENDIX (ACTIVITY DOCUMENTATION)



Figure 1. Health Education Activities on Preparedness in Facing Flood



Figure 2. Simulation Activities of the Process of Flood Occurrence



Figure 3. Group Photo of Residents After the Mutual Cooperation Activities



Figure 4. Tree Planting Activities