

**COMMUNITY-BASED NATURAL DISASTER PREPAREDNESS
EDUCATION IN DIMPONG VILLAGE, NORTH RAHONG DISTRICT
IN AN EFFORT TO REDUCE DISASTER RISK**

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Abstract

Every year Indonesia has the potential to experience various natural disasters that have an impact on human life, depending on its geographical location and natural structure, as well as climate change which also contributes to an increase in the incidence of natural disasters. The various natural disasters that hit Indonesia require people to be ready, responsive and alert to disasters. The community is a key element in dealing with disasters, apart from being the first to know about disaster events, the community is also the biggest victim in disasters, and is the source of disaster management. In general, Indonesian people are less prepared to face natural disasters due to a lack of knowledge in preparing themselves for disasters. The community in Dimpung Village, Manggarai Regency has insufficient knowledge regarding pre-disaster preparedness, especially natural disasters. This can be handled by providing information about pre-disaster preparedness and carrying out analyzes related to disaster risk reduction, including identifying dangerous conditions for the area, vulnerabilities in the community, and available capacity in the community. This disaster risk reduction effort is an assessment in implementing a new paradigm in disaster management in Indonesia. By providing education about pre-disaster preparedness, community knowledge increases in efforts to reduce disaster risk in their area.

Keywords: Disaster Preparedness, Disaster Management, Disaster Risk Reduction

INTRODUCTION

Disasters can occur anywhere and at any time, and some disasters cannot be prevented from occurring (Lestanata, Hidayatullah, & Pratama, 2022). Indonesia is one of the countries in the world most vulnerable to natural disasters and climate change (Hanif, Dewi, Hidajad, Fikri, & Saleh, 2022). Indonesia's geographic condition, which is located on the Pacific Ring of Fire, makes Indonesia the country with the most active volcanoes and also the highest potential for natural disasters (Aprilinda, Purwanto, & Wahyuningsih, 2023). Human activities also worsen environmental conditions, such as forest encroachment for plantations and

settlements or development activities that affect the ecosystem and ecology in buffer areas (Siti Zunariyah, Akhmad Ramdhon, & Argyo Demartoto, 2019). Based on the 2019 National Disaster Reduction Agency's disaster risk index, Indonesia still has a high disaster risk index (Badrujamaludin et al., 2021). Every year Indonesia has the potential to experience natural disasters that impact human life. The distribution of natural disasters in Indonesia varies, depending on geographical location and natural structure (Yaneri, 2020). The influence of climate change also contributes to the increase in natural disasters (Siti Zunariyah et al., 2019).

The term disaster usually refers to a natural situation, for example a hurricane or an earthquake, which is associated with the damaging effects it causes, for example loss of life or damage to buildings. Hazards refer to natural events, and vulnerability refers to the weakness of a population or system to the effects of these hazards (Hardy, Pulungan, & Permatasari, 2020). Law no. 24 of 2007 defines a disaster as an event or series of events that threatens and disrupts people's lives and livelihoods caused by both natural and/or non-natural factors, as well as human factors, resulting in human casualties, environmental damage, property loss and psychological impacts (Ariani, 2022). Natural disasters are disasters that often occur in Indonesia, natural disasters are disasters caused by events or a series of events caused by nature, including earthquakes, tsunamis, volcanic eruptions, floods, droughts, hurricanes and landslides (Qoidah & Widowati, 2020). The history of disasters shows an increasing trend in the number of victims and types of disasters. Various natural disasters have occurred in various regions in Indonesia from year to year and the victims are not small (Hardy, Pulungan, & Permatasari, 2020). The various natural disasters that hit Indonesia require people to be ready, responsive and alert (Hanif et al., 2022).

In general, Indonesian people are less prepared to face disasters due to a lack of knowledge in preparing for disasters (Lestanata et al., 2022). Efforts to build a safe life for people in disaster areas are a challenge for the Indonesian government and society (Hanif et al., 2022). It is well known that with disasters, disease outbreaks always arise which are the impact of damaged environmental conditions, lack of sanitation, drastically reduced human immunity and a lack of medical facilities. Health services during a disaster are a very important factor in preventing death, disability and disease, because a disaster is an undesirable event and usually occurs suddenly and is accompanied by casualties. If this situation is not handled quickly and appropriately, it can hamper, disrupt and cause harm to people's lives (Hardy, Pulungan, & Permatasari, 2020). Various efforts are needed to anticipate the possibility of disasters that will occur, so that preventing risks, reducing risks or even eliminating disaster risks by reducing vulnerability and/or increasing limited community capacity is the simplest solution to the complexity of disaster problems (Aprilyanto, Khoirudin Apriyadi, Winugroho, Widana, & Wilopo, 2021). Disasters are facts that cannot be avoided but their impact can be anticipated or minimized, a clear division of roles between the various parties involved and the use of communication media can accelerate the dissemination of information (Ariani, 2022). In disaster management there are a series of actions carried out before, during a disaster, and after a disaster whose aim is to prevent and minimize casualties or material losses due to a disaster (Lestanata et al., 2022).

Currently, it is recognized that emergency response activities are a relevant form of service and their existence is still needed when a disaster occurs. However, disaster

preparedness and risk/impact reduction efforts must also be implemented as an effort to strengthen disaster emergency response (Irwan & Nakoe, 2021). Efforts to overcome crises resulting from disasters are a series of activities that begin before an outbreak and disaster occurs through prevention, mitigation (softening/taming the impact) and preparedness activities in facing outbreaks and disasters (Hardy et al., 2020). Disaster risk reduction efforts are an assessment of implementing a new paradigm in disaster management in Indonesia (Aprilinda et al., 2023). Disaster risk is the probability of a potential disaster of which the resulting damage is a key element. Threats (dangers) only become disasters if they impact vulnerable communities (Aprilyanto et al., 2021).

Pre-disaster mitigation and preparedness activities are very necessary to reduce the vulnerability of a community and to protect the community whenever a disaster occurs (Aprilyanto et al., 2021). Disaster preparedness must be anticipated by both government, private and community elements. In preparing for crises due to disasters by the government, efforts are needed, starting from developing regulations, preparing programs, funding and developing a network of disaster preparedness institutions or organizations (Hardy, Pulungan, & Permatasari, 2020). Preparedness is a component of disaster management that is carried out to anticipate the possibility of a disaster to avoid loss of life, loss of property and changes in people's lives in the future (Febriana, Sugiyantto, & Abubakar, 2019).

Until recently, disaster management has only focused on relief efforts, rescuing communities affected by disasters, as well as rehabilitation and reconstruction, which of course requires very expensive costs. These methods are continuously carried out without any steps to reduce the impact of disasters and the level of disaster risk (Irwan & Nakoe, 2021). Disaster risk in question is the threat of disaster, the needs of victims, as well as various disaster risk evaluations (Rakhman & Prihantoro, 2021). Community-based disaster risk management can be used to reduce disaster risk and increase community resilience to disasters (Febermen, Lasaiba, & Riry, 2022). Disaster risk reduction requires efforts from all stakeholders, such as society (individuals and communities), government agencies, non-governmental organizations (NGOs), even the business world, and communities are at the forefront of disaster risk reduction (Aprilyanto et al., 2021). Community preparedness for disaster risks plays an important role in saving lives and minimizing damage. Thus, the potential for danger to become a real disaster depends on the vulnerability of the population or their capacity to overcome it, which is not only determined by technological and material means, but also by knowledge and preparedness to face disaster threats (Siti Zunariyah et al., 2019).

The community is a key element in dealing with disasters, apart from being the first to know about a disaster, the community is also the biggest victim in a disaster and is the end to end disaster management agent. This means that any efforts in disaster management must lead to the community (Aprilyanto et al., 2021). The community itself is a supporting factor for social capital in disasters. This factor is based on social capital as a community strength that can face and recover from disasters (Rakhman & Prihantoro, 2021). The impact of disasters can be reduced through community-based disaster risk management, which is a process of reducing disaster risk by involving community groups in order to reduce vulnerability and increase their capacity (Febermen et al., 2022). Knowledge is a key factor for society in understanding the process of natural disasters, so that they are calmer in dealing with them (Hanif et al., 2022).

Disaster communication is also known as part of disaster management which has the role and function of receiving disaster risk reduction messages that are produced to disseminate messages and information therein which includes pre-disaster, during a disaster and post-disaster (Rakhman & Prihantoro, 2021).

Dimpong Village has a tropical climate, where based on observations, Dimpong village is affected by drought, part of the area is covered with wood (mixed), consisting of forest and bushes. The area of Dimpong village is 5.92 km² with a total population of 1388 people (Aggregate Population Data Semester II 2021, Manggarai Regency Population and Civil Registry Service). BPS data (Village Potential Data Collection, 2021) shows that Dimpong village does not have an early warning system for natural disasters, does not have safety equipment, and there are no signs and disaster evacuation routes. The actual problem that occurs among the people in Dimpong Village is that they do not have adequate knowledge regarding disaster risk management, especially disaster events that may be a danger or threat to the Dimpong village area as well as pre-disaster preparedness as a response to reduce the impact of natural disasters. Providing education or counseling related to disaster risk management which includes disaster preparedness is provided with the aim of increasing the knowledge and understanding of Dimpong Village residents regarding community-based disaster preparedness in reducing the risk of disasters that may occur in the Dimpong Village area. This outreach activity uses various educational sources from the Ministry of Health as well as various resource books. These educational sources are in the form of materials and videos that use language that is easy for the public to understand and contain information about disaster risk management and pre-natural disaster preparedness.

IMPLEMENTATION METHOD

This community-based disaster preparedness outreach activity was carried out in Dimpong Village. Community service begins by inviting community representatives consisting of community leaders including RW, RT and youth leaders. This educational activity consists of several activity stages, including (1) giving a pretest about disasters and pre-disaster preparedness, (2) socializing about natural disasters and disaster management (especially pre-disaster: disaster preparedness), (3) identifying disaster risks in Dimpong Village and analyzing disaster risk reduction, and (4) evaluation (posttest).

RESULTS AND DISCUSSION

This activity is a Community Service activity carried out in Dimpong Village, involving 25 Dimpong Village residents consisting of community leaders and young people.



Figure a and b: illustration of the condition of the Dimpong village area



Figure c: Disaster preparedness education and disaster risk identification

This activity resulted in increasing community knowledge regarding natural disaster preparedness based on the type of disaster which was the result of disaster risk analysis in the Dimpong village area. The results of disaster risk identification together with the community in Dimpong Village, this area has several vulnerabilities, including the geographical condition of the village which is located on hills, rocks, and not many trees can be seen growing in the area. Weather conditions in this area tend to be hot and the intensity of rain is moderate to high. Almost all people still cook using traditional methods for various purposes, so the use of wood for fire is still high. Based on this situation, the Dimpong village area is at risk of natural landslides. Community leaders need to hold village meetings together with village government officials regarding disaster management programs and determine evacuation points.

Table 1. Increased Knowledge of the Dimpong Village Community regarding Disaster Preparedness

Variable	Intervention	N	Mean	SD	<i>P-value</i>
Knowledge	Pre test	25	15,12	2,1	0,005
	Post Test	25	20,4	2,0	

Based on table 1 above, it can be seen that there has been an increase in public knowledge about disasters and disaster preparedness. The community itself is a supporting factor for social capital in disasters. This factor is based on social capital as a community strength that can face and recover from disasters (Rakhman & Prihantoro, 2021). The impact of disasters can be reduced through community-based disaster risk management, which is a process of reducing disaster risk by involving community groups in order to reduce vulnerability and increase their capacity (Febermen et al., 2022). Knowledge is a key factor for society in understanding the process of natural disasters, so that they are calmer in dealing with them (Hanif et al., 2022). Disaster communication is also known as part of disaster management which has the role and function of receiving disaster risk reduction messages that are produced to disseminate messages and information therein which includes pre-disaster, during a disaster and post-disaster (Rakhman & Prihantoro, 2021). Preparedness efforts carried out when a disaster begins to be identified include; (a) activation of disaster alert posts with all supporting elements, (b) alert/simulation/rehearsal/technical training for each disaster management sector (SAR, social, health, infrastructure and public works), (c) inventory of supporting resources emergencies, (d) preparation of support and mobilization of resources/logistics, (e) preparation of fast and integrated information and communication systems to support disaster tasks, (f) preparation and installation of early warning system instruments, (g) preparation of contingency plans and (h) resource mobilization (personnel and infrastructure/equipment) (Febriana et al., 2019).

CONCLUSION

Community Service Activities related to disaster preparedness which aim to reduce disaster risk can increase community knowledge in carrying out community-based disaster management, especially pre-disaster. There needs to be socialization activities and simulations related to disasters, so that people are more educated and motivated to better care for and preserve nature to reduce the risk of natural disasters.

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