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## The Influence of Disaster Knowledge and Community Attitudes Towards Preparedness for Landslide Disasters in Cemparam Pakat Jeroh Village Mesidah District Bener Meriah

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## Abstrak
**Background**: The high number of natural disasters in the country requires the vigilance and preparedness of all parties. Landslide events still occur in several areas in Indonesia, presumably for all parties to make preparedness and prevention efforts to face the threat of disaster.

**Objectives**: Preparedness is an important factor that is currently the focus of attention, considering that preparedness is a determining factor for disaster risk reduction that can be carried out and pursued from an early age.

**Methods:** This type of research is a quantitative research with a cross sectional approach. The population in this study were 207 respondents, using a random sampling technique using the Slovin formula, a sample of 68 respondents was obtained.

**Results**: The research shows that there is an influence of disaster knowledge, community attitudes and socialization of landslides on preparedness for landslide disasters. Village Studies in Cemparam Pakat Jeroh Village, Mesidah District.

**Conclusion**: the need for the government's role in providing business opportunities for people living in landslide-prone areas so that people can meet the needs of their family's life

**Keywords**: disaster knowledge, community attitudes, preparedness for landslide disasters

## Introduction
In the 21st century, Asia and Africa are projected to become centers of population growth, economic development, and urbanization in coastal areas, as well as small islands, making conditions very vulnerable to the impacts of sea-level rise and climate change. With more than

17,000 islands, Indonesia is highly vulnerable to the impacts of global climate change due to its geographical location. The average temperature is projected to increase by 0.5-3.92°C in 2100 compared to the current period (1981-2010). The climate change-induced rise in sea level is expected to reach 35-40 cm in 2050 relative to 2000 values. The model results estimate that taking into account the melting ice factor in the North and South Poles, sea level will rise by about 5 cm in the year 2100. Nearly 65% of the population living in Indonesia's coastal areas are vulnerable to the impacts of climate change, especially those caused by increased coastal flooding at sea level.[1]

The National Disaster Management Agency (BNPB) noted that during 2020 there were 2,925 natural disasters, data compiled by BNPB, disasters that occurred throughout 2020 were dominated by hydrometeorological natural disasters such as floods, flash floods, landslides, hurricanes, drought to forest and land fires. Judging from the distribution of disaster events, the five administrative areas with the highest disaster incidence were Central Java Province with 332 incidents, West Java 290, East Java 205, Aceh 151, and South Sulawesi 86. These incidents resulted in 198 deaths, 8 missings, 273 injuries. and displaced 2.3 million. While the material impact, natural disasters caused damage to houses 21,496 units, Worship 430, Education 382, health 67.[2]

To minimize damage and casualties, it is necessary to make preparations to minimize damage in the event of a disaster. Head of BNPB Regulation No. 17 of 2012, disaster preparedness is a series of activities carried out to anticipate disasters through appropriate steps to ensure a fast and effective response in the event of a disaster.[3] Disaster preparedness is also actions that enable governments, organizations, communities, communities, and individuals to be able to respond to a disaster situation quickly and effectively, including preparing disaster management plans, maintenance, and training of personnel.[4] Mesidah sub-district is one of the sub-districts that experienced a landslide in 2020 in the Bener Meriah district, two villages experienced a fairly heavy landslide, namely Cemparam Pakat Jeroh Village and Alur Putih Village, based on the narrative of the Head of the Mesidah district during a preliminary study that the cause of the landslide disaster could have been due to rampant illegal logging and weather factors and high rainfall that occurred at that time, the incident claimed 1 person's life, and several other people. his injuries, material loss, 22 heads of families were evacuated, road access had been cut off so that the agricultural and business sectors were completely paralyzed.

Given the high risk of landslides and the low capacity of the community in dealing with disasters in the Mesidah sub-district, especially Cemparam Pakat Jeroh Village, the researchers believe that research is necessary to see how the influence of disaster knowledge and community attitudes on preparedness for landslides in Cemparam Pakat Jeroh Village. The role of 1000 and understanding of emergency preparedness is not yet well defined.[3] There are still many nurses who haven't understood the role and function of the natural disaster phase. ICN Organization (International Council of Nurses) uses the disaster management continuum (Prevention/Mitigation, Preparedness, Response, Recovery/Rehabilitation) as a framework organizing to develop competency development.[5] But the skeleton ICN's disaster management work is still not widely known and implemented by nurses, especially in diabetics.[6] Nurses who are prepared for disasters can be assisted in physical, mental, and emotional care efforts. The purpose of this study was to determine the effect of disaster knowledge and community attitudes on preparedness for landslides.

**Methods**

This study uses a descriptive correlational research design, the approach used is cross-sectional. The sampling technique in this study used a simple random sampling technique (Simple Random Sampling). The members of the sample were taken using a roll of paper as many as 207

families, then taken at random. Regarding the size of the sample to be taken, it is determined by the Slovin formula with an error rate of 10%. Educational Research states that for descriptive research, the sample size is 10% of the population.[7] In this study, the sample criteria were Inclusion Criteria: Community of Cemparam Pakat Jeroh Village, Head of Family of Cemparam Pakat Jeroh Village, Community aged 18 - 55 years, Community willing to become research respondents. The questionnaire instrument was used to determine the disaster knowledge of residents against landslides. The questionnaire used contains several statements followed by columns indicating the level from strongly disagree to strongly agree. The analysis used is descriptive-analytic.

## Results

From the results of univariate research on the characteristics of respondents in Cemparam Pakat Jeroh Village based on age, it is known that most of the respondents are in the age group <30 years as many as 9 respondents (43.4%), followed by respondents in the 30-40 year age group as many as 26 respondents (31.3%), than respondents in the age group of 4-50 years were 14 respondents (16.9%), and respondents in the age group more than 50 years were 7 respondents (8.4%). It can be concluded that the majority of respondents in Cemparam Pakat Jeroh Village, Mesidah District, are 30 to 40 years old.

Based on education, most of the respondents in Cemparam Pakat Jeroh Village, Mesidah District, had 11 respondents (16.2%) elementary school education, followed by respondents with junior high school education level as many as 21 respondents (30.9%), high school education level as many as 13 people (19.1 %), respondents with Diploma 3 education level are 9 respondents (13.2%), and the education level of respondents in Cemparam Pakat Jeroh Village, Mesidah District at Bachelor level 1 in 4 respondents (5.9%), Based on occupation, most of the respondents in Cemparam Pakat Jeroh Village, Mesidah District, were farmers, as many as 35 respondents (51.47%), followed by 1 respondent with a job as a teacher (0.9%), then 11 respondents working as civil servants ( 11.8%) and at least the respondent's occupation is farm labor, namely 16 respondents (23.5%), 7 respondents working as enterpriser (10.3%), and 1 respondent working as a private employee (0, 9%)

**Table 1.** Frequency distribution of the characteristics of community respondents.

| Characteristics | Frequency (n) | Percentage (%) |
|---|---|---|
| **Age** | | |
| <30 | 9 | 13,2% |
| 31-40 | 20 | 29,4% |
| 41-50 | 17 | 25,0% |
| >50 | 22 | 32,4% |
| **Education** | | |
| Primary School | 13 | 16,2% |
| Junior High School | 23 | 30,9% |
| Senior High School | 15 | 19,1% |
| Diploma 3 | 11 | 13,2% |
| Bachelor 1 | 6 | 5,9% |
| **Profession** | | |
| Farmer | 35 | 51,47% |
| Teacher | 1 | 0,9% |
| Civil Servant | 8 | 11,8% |

| | | |
|---|---|---|
| Farm Labor | 16 | 23,5% |
| enterpriser | 7 | 10,3% |
| Private Employee | 1 | 0,9% |

Based on table 1 shows the characteristics of the most respondents based on age, namely aged 46-55 years as many as 37 respondents (34.3%) the majority of the gender is male as many as 65 respondents (60.2%), the majority of education is high school as many as 44 respondents (40,7% and the majority of the occupations are farmers as many as 27 respondents (25,0%).

**Table 2.** Distribution of the frequency of elementary school children's knowledge about disasters.

| Knowledge | Frequency | Percentage (%) |
|---|---|---|
| Good | 16 | 23,5 |
| Sufficient | 42 | 61,8 |
| Less | 10 | 14,7 |
| Total | 68 | 100,0 |

The table above shows that most of the respondents have sufficient knowledge about disasters in Cemparam Pakat Jeroh Village, Mesidah District.

**People's Attitude**

The results showed that the attitudes of the people with good categories were 9 people (13.2%). While the attitude is sufficient as many as 39 people (57.4%), and the attitude is less than 20 people (29.4%).

**Table 3.** Distribution of the frequency of children's knowledge about disasters.

| Attitude | Frequency | Percentage (%) |
|---|---|---|
| Good | 9 | 13,2 |
| Sufficient | 39 | 57,4 |
| Less | 20 | 29,4 |
| Total | 68 | 100,0 |

The table above shows that most of the respondents have a sufficient attitude regarding the disaster in Cemparam Pakat Jeroh Village, Mesidah District.

**Community Preparedness**

The results showed that the level of community preparedness in the high category was 10 people (14.7%) while those with moderate preparedness were 34 people (50.0%) and those with low preparedness were 24 people (35.3%%).

**Table 4.** Distribution of frequency and percentage of community preparedness.

| Preparedness | Frequency | Percentage (%) |
|---|---|---|
| Good | 10 | 14,7 |
| Sufficient | 34 | 50,0 |
| Less | 24 | 35,3 |
| Total | 68 | 100,0 |

The table above shows that most respondents have a moderate level of preparedness in dealing with landslides in Cemparam Pakat Jeroh Village, Mesidah District.

## Bivariate

The influence of disaster knowledge and community attitudes towards preparedness for landslide disasters. The results showed that the level of community preparedness for good knowledge was in the high category 9 (13.2%), moderate 4 (5.9%) low 16 (23.5). On sufficient knowledge, namely high category 1 (1.5), medium 26 (38.2) low 42 (61.8). In the lack of knowledge, the high category is 0 (0.0), moderate 4 (5.9) is low 6 (8.8).

**Table 5.** Frequency distribution of the effect of disaster knowledge and community attitudes on preparedness for landslide disasters

| No | | | **Preparedness** | | | **Total** | *P-Value* |
|----|----------|------------|----------|----------|---------|-----------|-----------|
| | | | **High** | **Medium** | **Low** | | |
| 1 | Knowledge | Good | 9 (13,2) | 4 (5,9) | 3 (4,4) | 16 (23,5) | |
| | | Sufficient | 1 (1,5) | 26 (38,2) | 15 (22,1) | 42 (61,8) | 0,000 |
| | | Less | 0 (0,0) | 4 (5,9) | 6 (8,8) | 10 (14,7) | |

The influence of community attitudes on preparedness for landslide disasters For people's attitudes, it can be seen that in good attitudes, namely high category 6 (8.8), 3 (4.4) low 3 (4.4). On the sufficient attitude, namely the high category 6 (8.8), medium 21 (30.9) low 16 (23.5). In poor category, namely high category 2 (2,9), medium 10 (14,7) low 8 (11,8).

**Table 6.** Frequency distribution of the influence of community attitudes on preparedness for landslide disasters

| No | | | **Preparedness** | | | | *p-value* |
|----|----------|------------|----------|----------|----------|-----------|-----------|
| | | | **High** | **Medium** | **Low** | **Total** | |
| | | Good | 6 (8,8) | 3 (4,4) | 0 (0,0) | 9 (13,2) | |
| 1 | Attitude | Sufficient | 2 (2,9) | 21 (30,9) | 16 (23,5) | 39 (57,4) | 0,000 |
| | | Sufficient | 2 (2,9) | 10 (14,7) | 8 (11,8) | 20 (29,4) | |

Based on the table above, it shows that most of the respondents with a sufficient level of knowledge are classified as having a moderate level of preparedness in the face of landslides in Pakat Jeroh Village, Mesidah District, as many as 26 respondents (38.2%). From the results of statistical analysis of community attitudes towards landslide management preparedness, a p-value of 0.000 was obtained (p-value≤0.05). This shows that there is an influence of community attitudes towards preparedness for landslides in Cemparam Pakat Jeroh Village, Mesidah District. As for the attitude of the respondents, most of them have an attitude level in the sufficient category and are classified as having preparedness with a moderate category in the face of a landslide disaster in the village of mparam Pakat Jeroh, Mesidah district, as many as 21 respondents (30.9%). From the results of statistical analysis of community attitudes towards landslide management preparedness, a p-value of 0.000 was obtained (p-value≤0.05). This shows that there is an influence of community attitudes towards preparedness for landslides in Cemparam Pakat Jeroh Village, Mesidah District.

## Discussion

Based on the results of the study, it showed that most of the respondents with a sufficient level

of knowledge were classified as having preparedness with the moderate category in dealing with landslides in Cemparam Pakat Jeroh Village, Mesidah District, as many as 26 respondents (38.2%). Whether or not there is a correlation between public knowledge about landslides and community preparedness to face landslides will be proven by correcting the variables. The hypothesis is made stating that disaster knowledge affects community preparedness in dealing with landslides. So that the higher the public's knowledge about landslides, the higher the community's preparedness for landslides.[8]

From the results of statistical analysis of disaster knowledge on community preparedness to face landslides, a p-value of 0.000 was obtained (p-value≤0.05). This shows that H0 is rejected and Ha is accepted. So that public knowledge about landslides has a positive correlation with preparedness for landslides in Cemparam Pakat Jeroh Village. The level of community disaster knowledge with preparedness for landslides was found that the community had a good level of knowledge and landslide disaster preparedness was also good, but some respondents had poor knowledge levels and landslide disaster preparedness was not good, which was caused because respondents knew about what is meant by a landslide disaster but do not fully know the preparedness for a landslide disaster because the majority of them have never received socialization from relevant agencies such as BPBD and BNPB related to landslide disaster preparedness.

The results of this study are in line with research conducted by Mas'Ula, Sriartha, & Citra (2019) which examined the relationship between knowledge and community preparedness for floods in Pancasari Village.[9] The results of the research show that there is a relationship between knowledge and community preparedness for flood disasters in Pancasari Village. The degree of association is low or 0.255. Another study was also conducted by Luthfiana (2016), which examined the relationship between the level of knowledge of disaster and community participation in reducing the risk of landslides in Gunungpati District, Semarang City, the results of the study obtained a coefficient of 0.185.[10] The relationship between knowledge and community participation in reducing the risk of landslides in Gunungpati District, Semarang City, shows that there is a positive relationship but the strength of the relationship is weak.[10] This means that higher knowledge is not always matched by higher preparedness behavior. Knowledge is the main factor and the key to preparedness.[11] The knowledge possessed can usually affect public awareness to be ready and alert in anticipating disasters,[12] especially for people who live in areas that often experience disasters such as Cemparam Pakat Jeroh Village which in the last 10 years landslides, so it is necessary to increase public knowledge about disasters. landslides such as socialization and training to improve community preparedness.

Based on the results obtained that attitude has a close relationship with knowledge so that attitude is a determining factor for taking action. Factors that influence attitudes are personal experiences because personal experiences will affect future behavior and can increase good preparedness to avoid things that happened before.[13] Previous personal experience can also evaluate yourself so that it doesn't happen again in the future. Attitude is a response that is positive or negative, in a positive attitude the action taken tends to approach a certain object, while in a negative attitude there is a tendency to avoid certain objects.[14] Notoatmodjo also stated that the attitude in humans moves him to act. One of the factors that influence a person's actions is attitude. 40 A negative attitude and inability to deal with disasters will cause huge casualties and losses. The people of Cemparam Pakat Jeroh village have an attitude with a good category which actually presents a good attitude and is in a comparison that is not too much different. One of the factors that causes people to behave well if they have good or high knowledge which in the end will make the community have preparedness in dealing with disasters. Besides that, the community is actually already used to dealing with landslides because the location where they live is in a slope/hill area with quite high rainfall.

Preparedness is very important in preventing disaster risk reduction that is carried out before a

disaster occurs and aims to minimize the side effects of hazards through effective, timely, adequate, and efficient preventive actions for emergency response and assistance during disasters.[15] Preparedness efforts It also aims to ensure that the resources needed to respond in a disaster event can be used effectively during a disaster and know how to use them.[15] several actions should be taken as a form of preparedness during a disaster such as determining the priority of items to be brought under when a disaster occurs, distributing tasks when a disaster occurs, taking shelter in a safe place until further notice, agreeing on an evacuation place to be located. implement, ask for help from neighbors, provide assistance to neighbors. Nurses who are prepared for disasters can be assisted in physical, mental, and emotional care efforts. As an initial step towards disaster preparedness, the government needs to develop an adequate education, training, and financing system so that existing nursing personnel do not become redundant but are maximally useful.

## Conclusion

It is known that the knowledge of disaster and the attitude of the village community in Cemparam Pakat Jeroh Village, Mesidah District towards preparedness in dealing with landslides is in the sufficient category but there are still some people who do not know that landslides can be prevented by not clearing land for rice fields and areas that have been cleared. identified as prone to landslides, they should not be re-inhabited, because it is known that most of the work of the community in Cemparam Pakat Jeroh Village, Mesidah District is farming. Therefore, the government must play a role in providing business opportunities for people living in landslide-prone areas so that people can meet the needs of their family's life. With the knowledge and good attitude of the respondents, the prevention of disaster threats can be minimized. The preparedness of health workers is very necessary to be able to increase their capacity in disaster management. The role of health workers is very much needed in disaster preparedness and prevention efforts, community nurses can provide the community with proper disaster management and provide disaster mitigation training to the community.

## Conflict of Interest Declaration
There is no conflict of interest in the preparation of this research.

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