

## **SOCIETY IN WISDOM TO KNOW THE SIGNS DISASTER IN THE ERUPTION MERAPI CANGKRINGAN, SLEMAN, YOGYAKARTA**

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### **ABSTRAC**

*This study aimed to analyze the experience of communities to disasters eruption of Merapi in Cangkringan and found signs that are believed society as a threat eruption of Merapi in Cangkringan, as well as discovering the concept of inheritance signs of eruption of Merapi to the next generation. This study used a qualitative approach to find signs that are believed society as a threat eruption of Merapi in Cangkringan, then studied scientifically along with disaster preparedness experts and practitioners from the academic environment. Informant in this study originated from Cangkringan society, NGOs, BNPB officer (Disaster Management Agency) region Cangkringan, Yogyakarta and interpreter Lock Mount Merapi. Engineering data was collected through observation and interviews. The collected data were then analyzed by using domain analysis, taxonomic, componential, and the theme of culture. The results showed that the views from the experience of informants about the signs of the eruption of Merapi is no corresponding with the study of which is owned by academics and practitioners, there is also irrelevant. The knowledge of the public about the signs of the eruption of Merapi in Cangkringan obtained from titen knowledge (experience). Community Cangkringan has sought to convey the signs of the eruption of Merapi in Cangkringan to posterity through oral tradition, so signs of Merapi eruption is easily acceptable to the community and to increase public awareness for better prepared to take a stand independently and spontaneously (leadership), so that the effort to build community disaster response can be realized.*

*Key words: disaster, local wisdom, community role*

### **A. INTRODUCTION**

Pursuant to Law No. 24 of 2007, that disaster management is not only the responsibility of the government alone but also requires the involvement and participation of communities, schools, colleges, businesses, as well as Non Governmental Organization (NGO) local and International. Each relevant stakeholders are required to play an active role in disaster management. The activities can be done through various means including the implementation of

spatial planning, relocation, policy development, and utilization of community wisdom for disaster preparedness.

The presence of disasters are not preventable, but casualties can be minimized if the population had an early preparedness against natural disasters. One way to minimize the impact of disasters is to harness the wisdom of the community in understanding the signs before the disaster took place (Fathiyah, 2007). Wisdom is the way society and the practice developed by a group of people, who came from a deep comprehension local environment, which are formed in these places for generations. There is some knowledge skelter sourced from the characteristics of local wisdom, which comes from within the community itself, disseminated informal and non-formal, owned collectively by the community in question, developed to generation and adaptable, and is embedded in the way of life of the community as a means to survive.

Benefits of community wisdom on disaster risk reduction was evident in the earthquake and tsunami in the Indian Ocean in late December 2004. The disaster has devastated life in coastal regions, claimed the lives of more than 150,000 people, but it's just as powerful disaster casualties are minimal in Simeulue Island region (Sumatra), which is the land closest to the center of the earthquake. While in the region farther has killed tens of thousands of lives (hummingbirds, 2012). The low number of casualties is due to the implementation of the view held in the population in the area of Simeulue, that if there is a wave of the sea or "smong" shown by the state of the sea suddenly receded without the influence of weather and climate, they should immediately avoid the coast and heading for the hills , This phenomenon has been believed by the people of Simeulue that had saved them from the tsunami disaster in 2004.

Based on the perspective of cultural wisdom, the natural behavior including the behavior of animals and plants by traditional society understood as a natural phenomenon that can be used as a hint of impending catastrophe. The story is long and natural events become a source of inspiration and subsequently elicits a response in the form of behavior to overcome the natural fluctuation. Furthermore, we are told from generation to generation as knowledge in dealing with nature and its amendments.

This study considered fairly panting remember people better trust Cangkringan signs obtained from their titen knowledge of the volcanology agency, so until now signs that people are still believed to remain alive in the midst of modern society. The signs of impending eruption of Merapi is merely common knowledge, has not been scientifically identified and disseminated throughout all levels of society to preparedness threat of eruption of Merapi in Cangkringan.

One of the parties is seen as very instrumental in spreading signs of Merapi in CangkringanCangkringan is society itself. Some research on the role of the public have been found among other things, research conducted by suharti (2008)

concluded that the public has a role in the preservation of culture is to instill the values to their children and grandchildren associated with manners and politeness.

Research conducted by Swasono (1978) concluded that the community plays a role in the preservation of culture, namely in preserving customs, and connect fraternity through the family dynasty. Suwarjo research results (2009) concluded that people in villages and cities play a role in the preservation of the environment in accordance with the respective condition. Research Hiryanto (2013) concluded that local knowledge possessed the elderly can detect signs of the earthquake that occurred in DIY.

The findings of the research results, proving that people still play an active role in the inheritance of wisdom values that society's most fundamental values of togetherness, harmony, and respect for the environment. The place where they live, to live together, in order to achieve inner and outer harmony. Community wisdom in understanding the signs of the threat of eruption of Merapi in Cangkringan, need to be identified in order to be justified scientifically and easily understood by the public, so it can be applied as one of the concepts of preparedness in the face of the threat of eruption of Merapi in Cangkringan.

## **B. METHODS**

This study used a qualitative approach to the type of research phenomenology. This research was conducted in Cangkringan sub-district. The reason for choosing districts because geographically CangkringanCangkringan have a high vulnerability to the threat of Merapi eruption, but the community has more confidence Cangkringan signs obtained from their titen knowledge of the volcanology agency.

The focus of research analyzing the experience of the people against the threat of eruption of Merapi in Cangkringan and found signs that are believed to society as a threat eruption of Merapi in Cangkringan, as well as discovering the concept of inheritance signs of the threat of eruption of Merapi to the next generation, then the results are studied scientifically along with expert preparedness disaster and practitioners from the academic environment.

Sources of data in the form of 1) secondary data; books, journals, research results in the form of theses and dissertations, 2) primary data; recording informant, video interviews, and logbook. Data collection techniques such as observation and interviews, while data analysis techniques using domain analysis, taxonomic analysis, componential analysis, and analysis of the theme of culture.

## **C. RESULTS**

### **1. Experience of the People to the Merapi eruption in Cangkringan.**

Merapi eruption occurred on November 10, 2010, on a Friday night precisely at 23:15 pm. Mr. Asih explained that the eruption of Mount Merapi characterized by a roar (greg-greg) or (gludug-gludug) were great, the ground

shook and rivers Gendol full-powered hot clouds (interview Sunday, August 2, 2015, at 16.00, where Mr. Asih home). Before the eruption by Mr. Burman villagers Pelemsari, there were signs before the threat of eruption of Merapi, among other many wild animals tigers and apes came down from the mountain, as well as the air temperature is hot enough (interview Sunday, August 2, 2015, at 16.00, where Mr. Asih). Minah mother, father Agus and MrPujo stated, that there are differences in signs Merapi eruption occurred in 2004 with the eruption in 2010. In 2010 the sound of thunder (gludug-gludug) is very large and does not cease the roar, while Merapi eruption in 2004, clamor small and a relatively short time. (Interview Monday, August 3, 2015, at 16.00, where stalls mother Minah).

The experience of the eruption of Merapi told the volunteers LSM'Jogja Quick Response "Dodi Mas, Mas Day, Jimi Mas, Mas Dede, and Mas Indro said, at that time approximately 23:00 all residents shouted,"earthquake... earthquake at the time it is made public is poured on to the place of displacement. the atmosphere was observed by the LSM'Jogja Quick Response "was ash and the atmosphere is very dark, and the sound of thunder great. (interview Sunday, August 9, 2015, at 08.00, post a lava Jeep tour).

According to Mr. Asih as Interpreter Lock Merapi said despite Merapi have devastated Cangkringan people still nrimolanlilo (accept fully sincere without any backbiting behind). According to popular opinion Cangkringan, through nrimo then good luck (kebegjan) will come by itself, if it is accompanied by a note of resignation resigned sumrah, it is possible kebegjan come by itself.

## **2. Signs are believed Society For The threat of eruption of Merapi in Cangkringan.**

Mr. Asih explains Mount Merapi status alert when Mount Merapi voice gludug-gludug big and long and is followed by the ash, the community Cangkringan should immediately rushed downstairs to find a safer area (interview Sunday, August 2, 2015, at 16.00, where home Mr. Asih Interpreter Lock Mount Merapi). Researchers conducted interviews with the father of Cangkringan BNPB Sugeng officers to verify the marks obtained by researchers from the informants. According to Mr. Sugeng as officers BNPB Cangkringan points out that before the eruption of animals migrated down to place the residential area because the temperature inside the forests of Mount Merapi increased, springs berubah into heat (interview Sunday, August 9, 2015, at 08.00, where the postal Jeep lava tour).

Pandangan community Cangkringan when there are animals down and the water turns into heat that is considered to be a natural thing, because people's experiences Cangkringan when it erupted in 2001 and 2004 when the animals began immigrating fall and spring turns into summer but Mount Merapi remains secure and the public Cangkringan fixed activities such as farming and usually graze in the forest. MbahHarto recounts when the eruption

of Merapi in 2010 people Cangkringan many who did not expect that the eruption of Merapi in 2010 lava toward Cangkringan, previously by MbahHarto Mount Merapi has given signs to put out a roar that was very large and the springs into dry up , but these signs are not recognized by society Cangkringan (interview Sunday, August 9, 2015, at 16.30, where house MbahHarto citizens Cangkringan).

From the experiences and knowledge of the communities associated with the signs before the threat of eruption of Merapi. Researchers have identified signs of the threat of Merapi eruption into two groups: the first group signs the status Merapi alert and the second group signs the status careful of Merapi. The contents of these signs as follows;

- a. The signs of the eruption of Merapi threat status Alert
  - 1) The temperature around the mountain climb
  - 2) springs become dry
  - 3) sometimes accompanied by vibration (earthquake)
  - 4) Plants around the mountain wither
  - 5) The animals in the vicinity of Mount migrate
- b. Signs of status careful of Merapi eruption threat
  - 1) A rumble (gludug-gludug) large
  - 2) Vibration (seismic) large
  - 3) Rain Abu
  - 4) Arrival of hot clouds "wedusGembel"
  - 5) The release of a flash fire on the mountain.

The public's knowledge about the signs of the disaster are not appropriate according to experts verify emergency preparedness, among others; 1) catastrophic volcanic eruption, the local knowledge is usually accompanied by an earthquake with a small-scale voice (greg-greg), but according to experts is not always followed by earthquakes, volcanic eruptions disasters unless accompanied by tectonic earthquakes. 2) which states that the public revelation of the eruption of Merapi usually occurs on Friday due to the Merapi eruption in 2010 occurred on Friday. Cangkringan society still believes that Friday is the day of respectability, while experts say Merapi eruption disaster happens is not always Friday.

### **3. The concept of Inheritance Signs Disaster Merapi Eruption To the Next Generation.**

Based on the findings in the field, shows that in order to provide information related to preparedness in facing the threat of eruption of Merapi, the need for community participation to participate bequeath signs of eruption of Merapi to the next generation through oral tradition, among others;

- a. Advise children and grandchildren to be vigilant.
- b. Delivering signs of Merapi eruption threat while performing the ceremony tradition harbor.

- c. Puter tradition of the village used to give information signs of impending threat of eruption.
- d. In cooperation with the NGO 'Jogja Rapid Response "to participate and inform.

**4. Put Practitioner against Wisdom Knowledge Society Signs associated with the occurrence of disasters Merapi Eruption.**

Findings of the respondents among the practitioners consulted further. Based on the input of practitioners, in this case is Mr. Makwan, ST, MT (Head of the Regional Disaster tackling Cangkringan) obtained the information, that the information submitted by the community is right, such as when the impending threat of Merapi eruption ash rain, animals are crying shouts and the sound of "gludug-gludug" large (interview Sunday, August 9, 2015, at 08.00, where the postal Jeep lava tour).

In general, the signs of impending eruption of Merapi scientifically, among others:

- a. And climate extreme weather, such as high intensity of rainfall, rising temperatures, early lump up cumulus nimbus in certain locations and increasing the greenhouse effect.
- b. Natural conditions are not reasonable or not as common, for example recession of water in the spring.
- c. Drastic Changes in animal behavior;
  - 1) The flight of birds flock in large numbers down to the place of human settlements.
  - 2) The exit of the animals in the soil such as rats, snakes suddenly to the ground before the eruption.
  - 3) restless and the displacement of wild animals such as tigers, wolf forest, and wild boar.

**D. DISCUSSION**

The presence of the Merapi eruption are not preventable, but can be predicted with the knowledge of the community to Niten (watch for signs) the coming threat of Merapi eruption. This information will reduce the risk impact of the threat of eruption of Merapi, if distributed to a generation that has never experienced the threat of eruption of Merapi. Information of the part of the generation known as local wisdom (local wisdom).

The application of local knowledge by the public of emergency preparedness is one of the mitigation measures are effective. Local wisdom that was originally developed by the community and for the community, generally is dominated by the public and in its implementation does not require a lot of adjustment and socialization because local communities have been more understanding.

These results indicate that the role of the community is very important to impart knowledge about the signs of the eruption of Merapi all threats to future generations. The community has an active role cannot be ignored related building society's disaster preparedness. Related to The Hyogo compiled by various countries in the context of disaster risk reduction and building resilience of nations and communication to the disaster, this effort is one form of implementation of the framework for action that is promoting community participation in disaster risk reduction. These efforts have included one of the starting points for disaster risk reduction effect by knowing the signs of the threat of eruption of Merapi.

Society still has a lot of potential that can be donated to their grandchildren. According R.M.H. I Djajaningrat contained in Margawitya fiber, said that one of the roles of society to the next generation is to give pitutur means to give good advice. Associated with the effort to build a community that has a high preparedness against the threat of eruption of Merapi. Advice-advice given by parents, especially those delivered by community Cangkringan very important for the younger generation to remember the presence of recurrent disasters can and can not be predicted with certainty arrival. Position Cangkringan area that is extremely vulnerable to the Merapi eruption makes the understanding of early warning to communities become a necessity that can not be postponed.

## **E. CONCLUSION**

These results indicate that the community has the potential wisdom to respond to the environment. From the characteristics of traditional societies do not recognize scientific knowledge, people are only using science titen (notice tamda-mark).

Based on field interviews seem, that most people who become informants excerpts able to recall the events related to the crisis experienced in detail and clearly, this shows that people who become informants in this study had experience of the eruption of Merapi.

Based on the research that the role of people who become informants of this study life from childhood so that people get the experience of the eruption of Merapi in addition communities have gained the story of his ancestors on the signs of the eruption of Merapi. So that the community was instrumental folk wisdom of lowering knowledge about the signs of disaster.

The results showed that most of the knowledge received from the public are rational and correct, according to the one delivered by practitioners scientifically, but there is also one more familiar with the myth, and is therefore necessary to study the knowledge that comes from the folk wisdom of this continually. Efforts that can be done for example in academia held a workshop meeting with village elders in the region to discuss the local knowledge-based disaster mitigation and preparedness.

The role of the academics here is to integrate local knowledge in the context of indigenous peoples into scholarly study, so the results can be justified scientifically and the results published to the local community without losing unsur-local elements that accompany it. The results obtained can also be recorded so that coverage can be a wider range of targets. Thus, knowledge of local wisdom that has verified these experts can reach the entire society because it is basically the application of local knowledge by communities to reduce risk, to face and save themselves from the eruption of Merapi has provided many valuable lessons for practitioners and policy makers of the importance of community wisdom for risk reduction, thus the local community wisdom can be understood so that one model of community preparedness in the implementation of disaster risk.

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