

PROACTIVE MANAGEMENT OF REGIONAL AGENCY FOR DISASTER MANAGEMENT TO DEVELOP DISASTER MITIGATION IN SIGI DISTRICT

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Abstract: This study aims to identify the concepts and approaches used by the Regional Agency for Disaster Management (BPBD) in Sigi District in developing a Disaster Mitigation as this district severely suffered from natural disasters on September 28, 2018. The disasters covered floods and landslides. After these incidents, there were 4 follow-up minor floods and landslides that disrupted traffic flows. This current research focuses on proactive disaster management of the Regional Agency for Disaster Management in this district. Proactive management prepares mitigation and other efforts to prevent victims and losses. This study used a qualitative method and purposive sampling technique. It used both primary data and secondary data. The informant was from the Regional Agency for Disaster Management of Sigi District including the Preparedness Sector and Disaster Alert Community Forums in Villages. This study found that the Regional Agency for Disaster Management has not fully implemented the proactive disaster management approach as evidenced by the implementation of field programs. However, the community assisted by NGOs have shown proactive attitudes through the community's empirical experience and local wisdom.

Keywords: flood, natural disaster, SigiDistrict, landslide, proactive management

Introduction

Natural disasters caused by the active Palu Koro fault with a strength of 7.4 Magnitude affected almost all areas in Central Sulawesi Province. Even, it spread to South Sulawesi areas. According to experts, it is because of the length of this fault from the Makassar Strait, Palu Bay, Palu City, and Sigi District to Palopo in the South Sulawesi areas. It occurred on September 28, 2018, started with an earthquake in Sirenja Sub-district, Donggala District at around 3 in the afternoon at local time. Then, it was followed by a greater earthquake at 5:35 causing all individuals in the affected areas shocked and terrified. This incident severely affected 4 areas, including Palu City, ParigiMoutong District, Sigi District, and Donggala District. A few seconds later, some other disasters occurred including Tsunami in Palu Bay; liquefaction in Balaroa, Petobo, and Sibalaya, and down lifts on the terrace of Palu City.

Indeed, all communities including the government tried to save themselves. They run in all directions to avoid the disaster but they still could not avoid the liquefaction and the Tsunami. On the one hand, the absence of evacuation routes and shelters causing the communities to panic without knowing where to go and save themselves. Those who avoided the Tsunami went to higher places as the topography of Palu City covers hills and mountains. Then, individuals in buildings and houses who ran outside to avoid collapsed buildings due to the earthquake were injured due to panic. Even, some jumped from the top of buildings such as hotels to quickly get out of the building.

Then, the question is whether the public and the Government have known about the disaster? If yes, what about the mitigation? Considering the losses and a high number of victims, of course, the community especially the government have not fully understood the disaster mitigation.

After the disaster on September 28, 2018 passed, some natural disasters such as flash floods and landslides still occurred in Sigi District. Floods occurred as a result of overflowing river water and landslides were caused by fragile mountain cliffs due to earthquakes. The affected villages covered Salua Village (Kulawi), Bangsa Village (Dolo Barat), Namo Village (Kulawi), and Pangana Hamlet (Bolapapu Village, Kulawi). Even, floods and landslides still become a threat during heavy rain due to the vulnerable topography of Sigi district affected by the 7.4 magnitude earthquake. This assumption was built when the research team and Abdullah, disaster observers of Faculty Mathematics and Natural Science of Tadulako University worked together as facilitators.

The disaster encouraged the Regional Agency for Disaster Management of Sigi District to be proactive in developing community preparedness and resilience in affected areas. This study aims to identify disaster management in pre and post-disaster as well as future progress actions to develop a better disaster mitigation framework. Of course, it has to be supported by the availability of regional budget allocation for disaster management (provision of disaster mitigation tools) and the ability of employees to become facilitators and assistants to establish Rapid Response Teams in Rural Areas.

Based on the problems described above, this study aims to identify the proactive attitude of the Regional Agency for Disaster Management of Sigi District to develop disaster management. Then, it is expected to be adopted into public policy and provide scientific evidence to formulate future strategic plans to maximize disaster mitigation to be more effective and efficient covering all affected villages in the district. This study is also expected to be the first fundamental research considering the need for more updated research on disaster management.

Literature Review

This section covers the theoretical basis and the roadmap used in this study according to the research theme or title. The references were taken from the results of research published by the National Agency for Disaster Management. The study used a proactive management paradigm combined with disaster mitigation. This paradigm is the result of the long journey of the research team in teaching Public Management courses as well as practical experiences in other sectors in humanitarian affairs concerning disasters. This combination formed a hypothesis on disaster management which was obtained from careful strategic planning to build a framework to reduce risks of the disaster. On the one hand, the New Public Service on disaster issues concerns more on the active role of the affected community in reducing risks of the disaster contained in the Government's strategic plan.

Therefore, the initially proposed argument is environmental factors affecting the organization, policies, and strategies. Environmental factors are grouped into three. First, the disaster factor is seen from the extent of the risk. This disaster risk assessment can be found based on the region's experience with the history of disasters - through local stories about the disaster, local terms, and the name of hamlets and villages according to the disaster situation, and scientific documents written about the disaster.

Second, social factors concern the relationship between disaster factors and population. The researcher viewed it from the social relationships that existed before and after a disaster. Based on the researcher's experience in the field, after a disaster, the social capital that once existed in the community — mutual cooperation and *Hintunwu's* philosophy — was gradually reduced by the disaster. On the other hand, the existence of a post-disaster recovery project makes the community off guard with the assistance and lost culture of unity due to the individualistic influences.

Third, the intervention factor comes hierarchically from international, national, and local aid agencies channeled by the Central Government. This factor affects decision making, centralization of foreign and domestic aid budgets—grants and loans—and disaster status (local, national, and international). The intervention factor strongly influences institutions engaged in disaster issues and controls each of the programs because they follow the character of private aid providers.

The illustration of the three factors above can be seen in the following figure.

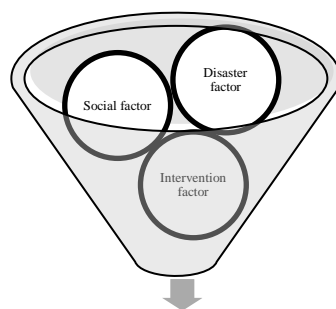


Figure 1. Environmental Determination

Disaster Management and Its Paradigm

Generally, the point of view of disaster considers that disaster is a natural phenomenon that occurred according to God's will and that humans will receive the impact. This view also applies to the bureaucracy which creates a reactive attitude towards disasters. This reactive attitude is an alert response when a disaster occurs. All manpower and resources are mobilized to evacuate victims, record damages and the number of victims, and consolidate logistical assistance to the evacuation area. Even the status of a disaster is determined after the disaster has occurred. In the case of post-disaster reorganization, it is crucial to develop proactive disaster management. This perspective is the antithesis of the reactive perspective of public organizations during the September 28, 2018 disaster in Palu City, Sigi District, Donggala District, and ParigiMoutong District. Public organizations work reactively meaning they act when a disaster occurs. It is not wrong, but the most important part of mitigation is reducing victims and losses by building facilities and infrastructure and developing proactive characters in managing disasters before they happen.

Public organizations such as the Regional Agency for Disaster Management of Sigi District have a lot of resources, while the community, as the most important element of the organization, has a resource called social capital. They have to be combined to make all available resources effective in implementing disaster mitigation.

DyahRahmawatiHizbaron, RiswanSepriyadi, and FaizalRachman stated that disasters give shocks or sudden attacks in normal conditions(Rijanta, Hizbaron, & Baiquni, 2018). This condition is a pre-disaster phase in which all elements will not expect a natural disaster to occur, for example, the disaster on September 18, 2018.

According to I Gede Astra Wesnawa and PutuIndraChristiawan, the main objective of the disaster mitigation paradigm lies in building construction that is friendly to certain natural disasters and human behavior patterns in community empowerment, educational curricula, and new residential areas that are safe from disasters (read, relocation)(Wesnawa & Christiawan, 2014).

Then, why it is important to involve the community in developing disaster mitigation? ChazienulUlumstated that people affected by natural disasters need to be involved in the process of developing disaster mitigation. By using the term 'community', Ulum wants to define community groups affected by the disaster in accordance with the conditions of the disaster (Chazienul, 2014).

Disaster Mitigation

Preparedness can be built through disaster mitigation programs. In this case, it focuses on the proactive process of the Regional Agency for Disaster Management in developing disaster mitigation. It should proactive to minimize the impact of the disaster through involved in spatial planning by considering mitigation, allocating sufficient budget for mitigation, and training and community assistance. All those efforts can be done in a measured program. Schwab stated that mitigation is preparedness in response to an emergency (Hakim, 2019). It means that all resources are mobilized to anticipate natural disasters that may occur. Therefore, it is important for the government agency dealing with disaster management to map risks assessment in their respective areas. Furthermore, Twiggstated the starting point for disaster risk planning and preparedness lies in the risk assessment (vulnerability and danger)(Hakim, 2019). By understanding the risks and dangers of the natural disasters that have been predicted in advance and providing disaster mitigation for the community, it is possible to reduce the risks of the disaster. Therefore, it is important to involve the community in the mitigation process. Besides relying on training and community assistance, disaster mitigation is also necessary to equip the community with knowledge about the disaster. This knowledge can be included in the educational curriculum, research, socialization, and simulation activities. Andri CiptoUtomoexplained the strategy of the National Agency for Disaster Management to improve knowledge about disaster through the use of diorama. Knowledge is demonstrated in documentary movies and animation related to disasters. The goal is not only to provide knowledge of the dangers and vulnerabilities of natural disasters but to build awareness of natural disasters(Hakim, 2019).

A previous study by Rasli Hasan Sari, TaqwaddinHusin, and Syamsidik concerning the Smong local wisdom of the Simeulue Island community in disaster preparedness showed that natural signs passed down by their ancestors become the early warnings of disasters for the local community. In principle, the community in Simeulue learned from nature to form a disaster preparedness attitude(Sari & Taqwaddin Husin, 2016).

Research Methods

This study used a qualitative method and purposive sampling technique. It used primary data and secondary data. The data were collected through interviews, field observations, literature reviews, and FGD. The research instrument is the researcher.

Results and Discussion

The implementation of proactive disaster mitigation management by the Regional Agency for Disaster Management of Sigi District faced many challenges. In the future, this institution needs to have one canalization scheme in every preparedness program and more resources. The canalization is intended to capture all preparedness programs carried out by non-profit organizations in this district. Those institutions have their resources and activities that were not formulated together with the Regional Agency for Disaster Management. Meanwhile, this agency only acted in monitoring and evaluation thus far.

Building a canalization allows the Regional Agency for Disaster Management of Sigi District to strengthen its agency and centralize all preparedness programs in its master plan because of the high number of non-profit organizations or NGOs in this district. Since the beginning, this district has always been attractive for non-governmental organizations because it has many issues that can be their concern, ranging from poverty, women, indigenous peoples, and disasters. Disasters cover the issues of poverty, women, and indigenous peoples.

Besides canalization, the Regional Agency for Disaster Management of Sigi District should have a sufficient budget for the preparedness program. Preparedness is not only for emergency and post-disaster response, but it becomes the main foundation for a disaster-resilient community. The budget can be allocated from APBD (Regional Government's Budget) with 5-10%. As, disaster-prone areas, this district needs to maximize the resources properly to face disasters well.

One of the interesting findings of this study that can be the basis for good preparedness, namely the local wisdom and history of disasters owned by each village. The local wisdom comes from community culture that has existed from generation to generation and reappeared after the disaster on September 28, 2018. The history of the disaster are divided into two parts. First, the history that emerged from the Tutura community. Second, the history that was written scientifically by researchers from Sarasin Bersaudara, Abendanon, J.A Katili to the current researcher, Abdullah. All records of geological events or disasters have been presented, but the Government has never included them in any preparedness program.

The researcher believes that some points above are the best way to develop a community that is ready to face disasters through strong disaster management institutions. In a study conducted in Jono Village, Dolo Selatan Subdistrict, Sigi District, the researcher found that the community participatory created hazard maps facilitated by a non-governmental organization, Pusaka Indonesia Foundation, Jono Village Government, and Disaster Alert Community Group. The map covers two disaster-prone areas of earthquakes and floods.

The hazard map has been used by the community through simulation practice assisted by the NGOs. The simulation results showed that the Disaster Alert Community Group is actively observing the flood-prone areas along the river in this village. Besides, the map contains different evacuation routes and gathering points during earthquakes and floods. In terms of the flood, all areas of Dolo Selatan are prone to floods. Thus, the Regional Agency for Disaster Management must carry out flood simulations according to the existing hazard map.

In contrast to Jono Village, the community in Rogo Village used empirical experience during the earthquake on September 28, 2018 as knowledge capital to learn about disaster mitigation, particularly earthquakes. However, the village head stated that at present, the most important is flood disaster mitigation because floods occur randomly and are difficult to predict. Therefore, this village will utilize the village fund to conduct training regarding disaster¹. This proactive effort can be a role model for other villages.

¹Results of interview with the village head of Rogo Village on August 4, 2020

Moreover, mitigation at the village level is also strengthened by the local wisdom of each village. This local wisdom is marked by the history of disasters in the village and local terms for the disaster. For example, in Kaili ethnic community, they have local terms such as Bombatalu (Tsunami), Nalodo (liquefaction), and TagariLonjo (swamp) which now becomes Balaroa. Furthermore, Jono, Sambo, and Rogo Villages have local wisdom regarding the disaster in which the community has *Tutura* culture, an approach that tells disaster by word of mouth. It means the disaster is not documented or recorded (Jono, Sambo, and Rogo, 2020). Therefore, through *Tutura* culture, the community in these three villages uses it as an early warning system of disaster by recalling stories about the disaster and observing sudden weather changes. Particularly, the community in Jono Village recorded all disaster stories, disaster studies, and community empirical experiences during the disaster on September 28, 2018 into a hazard map.

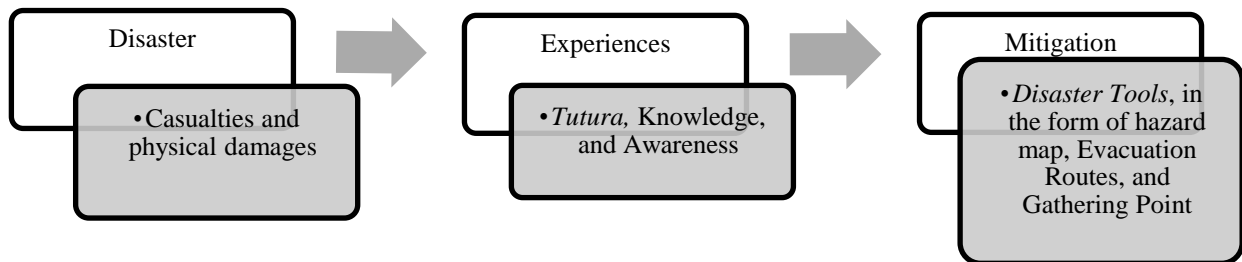


Figure 2. Illustration of Village Disaster Mitigation Process

In short, there are 3 factors affecting disaster at the village level. First, the empirical factor is processed by the community in their local wisdom. Second, the NGO factor plays an important role in building disaster awareness in a modern way at the village level. Third, the involvement of the village apparatus through village resources is budget allocation. These factors need to be utilized by the Regional Agency for Disaster Management of Sigi District as they are the main bottom-up resources capable of supporting the preparedness programs at this district.

Those factors need to be controlled into a regional policy that is simultaneous with the conditions of the affected village. Therefore, Sigi District will have a disaster-prepared community structure in the future.

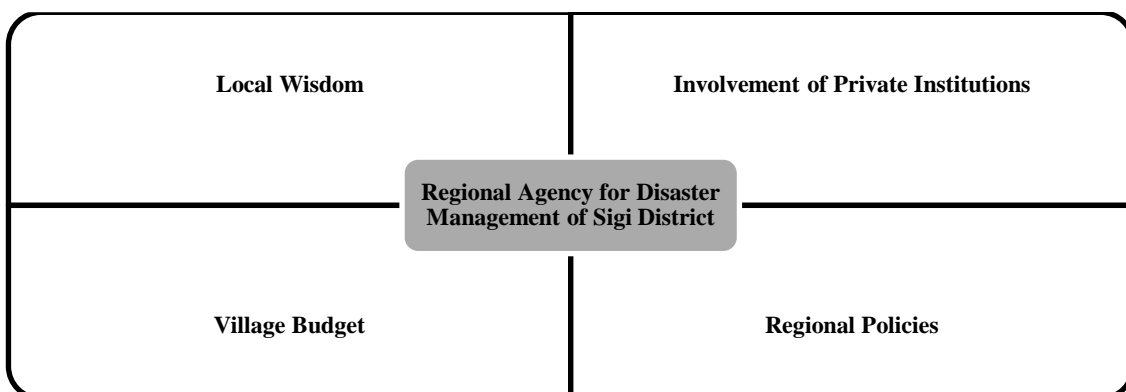


Figure 3. Factors Affecting Disasters

In building disaster mitigation in terms of preparedness, the most important thing is active community involvement. Proactive management for disaster management is bottom-up meaning that community empowerment becomes the main modality of proactive management.

In general, the key success of disaster mitigation using a proactive approach is involving the community. However, concrete modality is needed because the scope of community involvement is almost non-existent in disaster preparedness. The approach that sees the community as the recipient of bureaucratic policies and management only is no longer appropriate, especially when talking about disasters. It is because the frontline of the disaster is the

community. The government is an agent that arranges and facilitates the modality. The intended modality can be seen below.

To achieve the expected target requires a connecting bridge. It is called a transition from outcomes, outputs, and goals. Therefore, the management of this target achievement requires modality as a real manifestation of the scope of full participation or community involvement in the preparedness program of the Regional Agency for Disaster Management of Sigi District. The manifestation of this scope is a disaster-based community managed by the community and the Regional Agency for Disaster Management. This is the modality.

There are two important factors in building this modality; researchers call it public and bureaucratic factors. First, in the public factor, the principle is more on democracy, namely the desire to be involved in every phase of policy and management. Second, in the bureaucratic factor, it is more about the policy itself and the large resources and organizational mandate inherent in disaster institutions (Agustino, 2014).

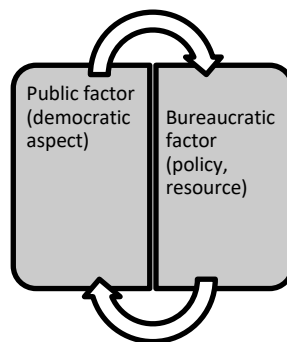


Figure 4. Public and Bureaucratic Factors

Those two factors have to collaborate or not contradict each other. In order to achieve the modality, those factors need to be the basis that determines the modality and overall preparedness. The outcome in the concept of proactive disaster management is the community of Sigi District who are ready and prepared for disasters, while the output is the reduction in casualties in a disaster. However, it requires active efforts through those factors and modality.

The modality in proactive disaster management is to build disaster-based communities in villages. As stated earlier, at the village level, the community already has disaster experience which is processed into local wisdom. However, this local wisdom has not been translated into a better disaster program. It will be better if the Regional Agency for Disaster Management of Sigi District responds to this through public facilities owned, namely the community disaster forum. Proactive Management proposed by Chazienul Ulum prioritizes community participation by forming its modality, namely the disaster forum (Chazienul, 2014). This concept is relevant when applied in villages in Sigi District. Considering that local wisdom is still high, accompanied by a history of disasters that have become a habit of the Tutura community, it is important to become a capital for disaster mitigation with a proactive approach. In Jono, Sambo, and Rogo Villages, Dolo Selatan Subdistrict, the community has a Community Disaster Forum formed by a private organization. The disaster group established by the Regional Agency for Disaster Management of Sigi District is in Bolapapu and Mata Ue Villages, Kulawi Sub-district. All forums observed by the researchers can work well in direct practice during and after a disaster in disaster simulation training. Through social capital, namely community collectivity, it is strategic to create communities that are responsive to disaster.

Conclusion

It can be concluded that the proactive management of the Regional Agency for Disaster Management of Sigi District in disaster mitigation needs to be improved. This can be seen from the field condition in which the active role of this institution is still limited to monitoring and evaluation or supervision. Indeed, this agency functions to prioritize disaster preparedness for the community. It is necessary to recommend more materials and disaster simulations besides earthquake disasters considering that this district is prone to floods and landslides to equip the community with better knowledge and disaster simulation practices.

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