The Role of Community Based Organization in Disaster Response in Mt. Sinabung

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Abstract. In August 2010, Mt. Sinabung in North Sumatera erupted for the very first time in 400 years, until then the volcano was declared as dormant. In contrast to communities living around Mt. Merapi in Java, the Mt. Sinabung communities had little to no preparation when faced with the sudden volcanic eruption. The Sinabung eruption causes disturbance as it ruins the farmlands and community's source of livelihood, especially since most of the community members are farmers. Most of the time these farmlands are located not far from the house, by displacing them means moving them away from their main source of income, which becomes a problem, making some of the displaced keep moving back to their old villages to farm even though they are putting themselves in danger by doing so. This condition motivate the community to initiate an organization to monitor volcanic activities and give out early warning to villagers nearby and within the hazard zone to evacuate. This paper will study Beidar's involvement with community and government, how they operate, and how do they impact the community members living near the volcano. This data used in this study are primarily used from interviews with Beidar members and organizer, volcanic monitoring post, and local disaster management. Thematic analysis of the interviews shows the history of Beidar's development as an organization proudly independent of government and "recruitment" of members, important roles in the community including mediating between government and other local organizations (e.g., volcano monitoring station), specific monitoring, communication and evacuation activities (e.g., including search activites after eruptions and lahars), contact and sharing of experience with similar groups in Indonesia, and identified limits of their influence in preventing local people from returning to the red zone. This research concludes that Beidar was officially acknowledged as an organization at March 2014 under the wing of Volcanology agency. The Volcanology agency needed help to disseminate the volcano status information to the community. Recruiting local youth is seen as better alternative since the communities—especially the internally displaced persons communities—have little trust towards the government due to crisis and deemed them as 'incompetent'. Beidar, as a community-based organization is able to fill the gap between the community and the government in terms of information dissemination, especially because they are local and are acknowledged as a trusted part of the community. However, this dynamic has a side effect of the villagers' feeling of security with Beidar 'watching over them' and lowers their risk perception of the volcano, making them endangering themselves more by crossing over the hazard area to conduct their day-to-day activity.

1. Introduction

In August 2010, Mt. Sinabung in North Sumatera erupted for the very first time in 400 years, until then the volcano was declared as dormant. In contrast to communities living around Mt. Merapi in Java, the Mt. Sinabung communities had little to no preparation when faced with the sudden volcanic eruption. People were evacuated and returned home, until the volcano erupted again in 2013 with activity continuing up to the period when our research was conducted in May 2016. Many of the communities have been forced to relocate or stay in evacuation shelters for about three years.

The Sinabung eruption causes disturbance as it ruins the farmlands and community's source of livelihood, especially since most of the community members are farmers. Most of the time these farmlands are located not far from the house, by displacing them means moving them away from their main source of income, which becomes a problem, making some of the displaced keep moving back to their old villages to farm even though they are putting themselves in danger by doing so. This condition motivate the community to initiate an organization to monitor volcanic activities and give out early warning to villagers nearby and within the hazard zone to evacuate. This paper aims to explain the community based organization called as "Beidar", which means mountain goat in the local language. This paper will study Beidar's involvement with community and government, how they operate, and how do they impact the community members living near the volcano.
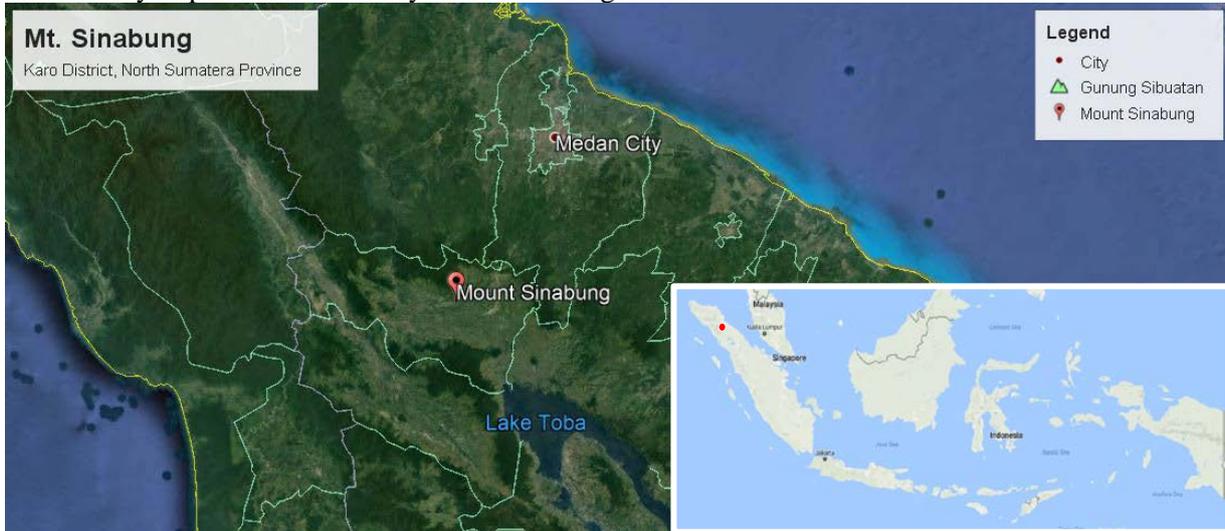

Figure 1. Mt. Sinabung Location

Mt. Sinabung is a volcano located at Karo District, North Sumatera Province. It was considered category "B" or 'dormant' due to its inactivity for 400 years until it erupted the first time recently in August to September 2010; the explosion was massive, authorities evacuated at least 12.000 people from high risk areas(1). The volcano erupted again in 2013 and hasn't stopped ever since.
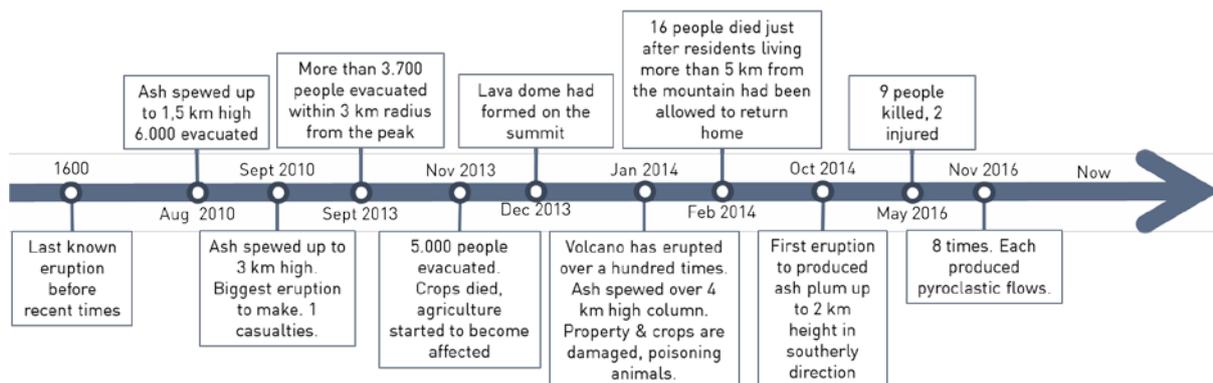
According to the Mount Sinabung Post-Disaster Action Plan 2015-2017, the eruption causes damages in many sectors such as residential, infrastructure, economy, social, etc. The worst is in residential sector, reaching 9.212 damaged units consisting permanent housing, semi-permanent housing and non-permanent housing; causing Rp. 480,21 billion (US$ 36,56 million) of damage and Rp. 25,69 billion (US$ 1,96 million) loss. Most of the damages happened are tin roofs corroded by the acid within the volcanic ashes. worsts happened in Tigandreket district, Simpang Empat district and Naman Teran district, while the most happened in Payung district with 3.719 housing units damaged.

The eruption causes disturbances as it ruins the farmlands used by the villagers to earn their everyday livings. Most of the time these farmlands are located not far from the house, by displacing them means moving them away from their main source of income, which becomes a problem, making some of the displaced keep moving back to their old villages to farm even though they are putting themselves in danger by doing so. Animal husbandry and fishery factors also experiencing some changes due to the disaster. Many cattle are dead or went missing, also damages to barns and fishponds.

2. Literature Review

2.1. Community-Based Organization in Disaster Risk Management

Community organization is a process by which a community identifies needs and takes action, and in doing so... develops co-operative attitudes and practices (Murray G. Ross, 1967).(2)

The United Nations in 1955 considered community organisation as complementary to community development. United Nations assumed that community development is operative in underdeveloped communities and community organisation is operative in areas in where levels of living are relatively high and social services relatively well developed, but in where a greater degree of integration and community initiative is recognised as desirable.

Community service and action CBOs focus on improving the general physical characteristics of a community. Although particular programs may be quite specific, these organizations tend to view their programs not merely as ends in themselves, but rather to see such progrms within a broader community perspective. The CBOs categorized here differ from other problem-oriented CBOs in being more multipurpose. (Texas AM University, 2004)(3)

2.2. Volcanic Disaster Community-Based Organizations in Indonesia

2.2.1. Jalin Merapi

2.2.2. Jangkar Kelud

3. Methodology

3.1. Data Collection Method

This study is a part of bigger research on the role of culture in facilitating disaster-resilient community in Mt. Sinabung area. The data collection is done through distribution of questionnaires, observation, and in-depth interviews with community members and key informants such as the government, international and local non-governmental organization, journalist, activists, religious figure, and village head.

This study use the data acquired from interviews and observations with Beidar members and organizer, Mt. Sinabung volcanic monitoring post (PGA), local disaster management, Mt. Sinabung Volcanology Center and Mitigation of Geological Disaster (PVMBG) journalist, and local communities.

The questions asked of the interviewees were a combination of exploratory and theoretically-informed questions about their work.

3.2. Data Analysis Method

Data analysis is done using qualitative analysis. Data is transcribed from interview and observation in to written text, and coded using Atlas.ti software, categorized in to variables: *organization, activities* (early warning system, evacuation, other), *coordination* (government, other NGO)*, recruitment and funding*. The interviews started during the disaster itself. The fallibility of memory is anticipated and remedied by cross-checking the statements with those of other interviewees, with my own observations, and with other documents.

4. Findings

Sinabung erupted the first time in 2010, the sudden eruption combined with the lack of knowledge on the volcano's activity has claimed many lives and loss until present. The Volcanology Center and Mitigation of Geological Disaster office (PVMBG) at that time decided to disperse information on volcanic activities and eruption to communities surrounding Mt. Sinabung and send one of their partners whom is a native Karo to return to his hometown and help them to communicate with locals. This person, Hasron, then found a network to volunteer on dispersing information about Mt. Sinabung volcanic activities and eruption; although unnamed at the time, this network will soon become "Beidar".

Supported by the volcanology office, Hasron was invited to a meeting with Volcanology and UN-OCHA on October 2010, he was offered an assistance to build a community focused on risk communication in Mt. Sinabung.

> "*Back then, our members were village youths, they are beneficial as a channel (towards the community). For example, back then the maze of information from volcanology to community is not up. And then I was tasked to relay the information to community, and I told them (village youths) that this is what they have to do*" – Hasron, Beidar founder

Beidar was officially founded on March 2014 and acknowledged as organization. Their vision is to bridge volcanic information received from volcanology office to the community. Beidar is named off an endemic mountain goat species in North Sumatera. During the first eruption there were hoard of mountain goat went down the mountain, as if alerting the community of the imminent danger.

Figure 3 Beidar Team Members

Beidar's main activity is to act as 'volcano's early warning agent', they work closely with volcanology office in monitoring the lava dome and relaying information towards the community. Their main tool for communication is handy-talky and cellular phone, since social media such as twitter is not very familiar among Mt. Sinabung communities at the time. Since Beidar's members are also village

youth, each member is stationed in their village on standby whenever they receive any information on volcanic activity from volcanology. Not only to the community, at times they even provide some information to local newspaper on information related to Mt. Sinabung.

> "*I used to be a photographer, and sometimes I took photos on the lava dome's growth. I share those photos to Volcanology Office. And then if they confirmed that the lava dome is big enough we will join them in the field and observe the development directly. We'll be on standby in case we are needed to evacuate the community*" – Firdaus, Beidar 2nd Head

However, information dispersal isn't their only job, Beidar was also involved during evacuation and emergency response. Beidar members informed the community on the importance of using mask during ashfall and distributed masks to communities. They are also involved in recovery period such as reconstructing communities' house and donated iron sheet to be used as temporary roofing. They often assist in search and rescue assisting local disaster management office since they are located on the villages, it is easier for Beidar members to be dispatched in the process.

Beidar was trained for basic information dispersal by volcanology, but that's not the only training they are equipped with. During UNDP project Beidar members also participated in workshop related to setting up tents in IDP camps, village risk mapping to develop Village Information System (VIS). They were also invited by Volcanology to meet with similar organization such as Jalin Merapi and Jangkar Kelud, where they learn more about risk communication from other organizations that have already been established.

The organization maintain their independence through self-funding. They rely on members' donation on tools and uniform procurement. Their reason to refuse was because being funded by government could make them lose their neutrality in doing their job, in the words of the founder, "… the way I see in Tanah Karo, a lot of NGO and community organization have a 'shift of tone'; right now I can freely complain and criticize the District Head with no burden … we want to give the community the same amount what we are given." This view towards government is apparent in Karo communities, especially in IDP community, by being independent of government funding Beidar gained more trust from the community.

Hasron claimed that they have communicated what the community needs to local disaster management office but their cries have left unanswered. This has filled their growing distrusts towards authority, however their history with volcanology office has left them in better terms with volcanology office compared to Karo district government. Although Beidar has a close relationship with volcanology office, Head of Volcanology post claimed that their relationship is individual, not between organization. Even though at times Beidar helped them with monitoring, but volcanology office trust that they are better suited in information dispersal.

However, the high level of trust from the community may have turned in to unhealthy dependence. Many of the community members work as a farmer and own a farm within the hazard zone. And when they see Beidar members standing by on their posts they felt that it is safe enough for them to enter the hazard zone and visit their farmland. The government has often failed time and time again to prevent people to steer away from the hazard zone, people are desperate to earn their livelihood; Beidar members are also incapable of forbidding the communities to stay within the hazard zone, can only watch and prepare to evacuate the people in case they received volcanic activities warning from volcanology.

5. Discussions

Thematic analysis of the interviews shows the history of Beidar's development as an organization proudly independent of government and "recruitment" of members, important roles in the community including mediating between government and other local organizations (e.g., volcano monitoring station), specific monitoring, communication and evacuation activities (e.g., including search activites after eruptions and lahars), contact and sharing of experience with similar groups in Indonesia, and identified limits of their influence in preventing local people from returning to the hazard zone. The case

study of Beidar indicates how it provides a model for volunteer groups to emerge as repositories of local knowledge and wisdom, specific monitoring, community liaison and search skills which address gaps not covered by national and local government organizations or NGOs.

	Beidar (Mt. Sinabung, North Sumatera)	Jalin Merapi (Mt. Merapi, DI Yogyakarta)	Jangkar Kelud (Mt. Kelud, East Java)
Formation			
Characteristic			
Recruitment			
Activities			
Collaboration			
Funding			

6. Conclusions

This research concludes that Beidar was officially acknowledged as an organization at March 2014 under the wing of Volcanology agency. The Volcanology agency needed help to disseminate the volcano status information to the community. Hasron, the would be Beidar founder then recruited local youths to volunteer in passing the information they receive from the Volcanology agency through handy-talky and radio. The youths recruited are 'stationed' in their home village and are responsible for helping to evacuate the villagers. Recruiting local youth is seen as better alternative since the communities—especially the internally displaced persons communities—have little trust towards the government due to crisis and deemed them as 'incompetent'. Beidar, as a community-based organization is able to fill the gap between the community and the government in terms of information dissemination, especially because they are local and are acknowledged as a trusted? part of the community. However, this dynamic has a side effect of the villagers' feeling of security with Beidar 'watching over them' and lowers their risk perception of the volcano, making them endangering themselves more by crossing over the hazard area to conduct their day-to-day activity.

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