

LOCAL WISDOM AS ALTERNATIVE OF DISASTER COMMUNICATION MANAGEMENT IN MOUNT SINABUNG, KARO REGENCY, NORTH SUMATERA, INDONESIA

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Abstract

This research has objective to describe local wisdom as alternative of disaster communication management in Mount Sinabung in Karo regency, North Sumaera. This research used descriptive qualitative method. And for data collection, it used; interview, focus group discussion (FGD), observation, dan documentation. The subject of this research was the people of Sinabung disaster, Local government of Karo, local leader, NGO, reporters, and etc. It used purposive and snowball sampling as the research sample. This research has finding that the people of Sinabung has some implemented local wisdom: 1). Local wisdom such as Karo language; (2) Jambur; (3) Philosophy, (4) Ecology; (5) Family system; (6) Work year. The result of this research recommended; (1) the government needs to raise the understanding, conscience, careness, and the people participation to use Karo language wisely and ethically, (2) Karo people must keep the philosophy, (3) People are obligated to care with their environment, and keep the clarity and purity of Mount Sinabung, and (4) Government must provide them the law through making the village rules related to the usage of Jambur as refuge, (5) People must maintain the work year ethic and family system that support the communication of Sinabung disaster.

Keywords: *Local wisdom, disaster communication of Sinabung*

INTRODUCTION

Mount Sinabung (in Karo language: Deleng Sinabung) is the volcanic mountain in Karo highland, Karo regency, North Sumatera, Indonesia. Sinabung, along with Sibayak in its rear are the two active volcanoes in North Sumatera and become the highest peak of it. The height of this mountain is 2,460 meters. It is noticed that this mountain is never erupted since 1600 but it become suddenly active on 2010 and 2013. There were 17 victims (until 11 February 2014), total of refugees on Wednesday 15/1/214 was about 26,174 people (8,161 HH), spread in 39 refuges.

According to Agriculture and Plantation Service on 6 January 2014, 10,406 hectares was failed to give results, that impacted on 712,2 million losses. It can be seen in 4 sub-districts; Naman Teran, Simpang Empat, Payung and Tigandreket. Every problem can be reduced if disaster communication management can be functioned properly.

1-2 November 2013, activity of Mount Sinabung was raised that the status of it was raised from level II into level III on 3 November 2013 at 03.00 of Western of Indonesia Time. That kind of condition,

disaster potency until May 2014, were; (1) Eruption is potentially happened, and the ashes of it can harm the plants in the surroundings; (2) hot cloud is dangerous because it consists of high degrees (>200 C) volcanic materials (ashes, gas, and stones) that may harm the people and burn everything it passes. (3) Lahar is quite potentially happened, because of tons of ashes/eruption materials and high precipitation. Lahar can be occurred in every river valley that started from the mountain peak. (4) The potency of avalanche in the northern slope of Mount Sinabung (Lau Kawar) is high because of detour hole of new fumaroles and it

happened several times in two locations in it. It can harm the houses in Lau Kawar, Kuto Gugung village and Sigarang-garang village. (5) The height of eruption columns and thundering sound causes the people there panicky, therefore socialization is needed and implemented in Kutanunggal and Payung village. (6) During the increasing activity of Mount Sinabung, Response Team also provided socialization in every village that included in Disaster Prone Area and as area that included as the way of opened-crater (Sukameriah, Simacem, and Bekerah).



Figure 1. Eruption of Mount Sinabung, 16 September 2013, 18:54 Western of Indonesia Time

(Source: Rendra Saputra,
<http://sports.sindonews.com/read/2013/09/16/24/783744/gelombang-pengungsi-gunung-sinabung-terus-bertambah>)



Figure 2. Lahar on 15 November 2013 in Gurukinayan village
(Source: sumber: www.vsi.esdm.go.id)

According to the secretary of Local Agency of Disaster Management of Karo Regency, Johnson Tarigan (interview of the writer on 15 April 2014), there were 17 victims because of Sinabung disaster. This miserable experience should not be happen if we always keep the carefulness. It is not easy, as local wisdom and recent technology are needed in order to avoid the negative effect of this eruption. Two eruptions on 17 September 2013, in the midday and afternoon, with hot cloud and volcanic ashes created anxiety for the people around Sinabung. At that time, there was no such technology that can record and there were no early warning system that can be delivered to the people. Fortunately, people around there were already evacuated. This is one of Karo people's local wisdoms.

Local Wisdom

Local wisdom is a social value and has function as the principle, control, and rules/mores for defining the habit in maintaining the nature sources. Local wisdom is important to be understood and implemented in a community in order to keep the environmental balance and preserve it as well (Supriatna, 2008)

According to the summary from social department/Departemen Sosial, (now Ministry of Social Affairs), local wisdom can be defined as the point of view and knowledge and living strategy in shape of the people's activity in overcoming their problem (Departemen Sosial RI, 2006).

The research on local wisdom was implemented by Kaiar (*jurnal EKOSAINS / Vol. V / No. 1 / March 2013*) Basically, local or traditional wisdom is the part of the ethics or morality that can help human being to answer what kinds of morality that they should do, how they should do,

especially in managing the environment and resources. Ethics means ‘‘habit’’ or ‘‘behaviour’’, which can be defined as good-living, good-habit, whether in personal or in a group. This good habit is implemented and become a legacy from generation to generation (Keraf, 2010). This good habit then is changed into rules, norm, that is delivered, understood, known, and reachable in the community. Therefore, ethics can be understood as the rules on how a person being must living well as human being and ethics must be understood as the knowledge on what is good or bad of human habit.

The meaning of local wisdom (tradition) is all of the knowledge, beliefs, understandings, and habits and ethics that guide human behavior in their life within ecological community (Keraf, 2010). There were researches on local wisdom, such as; Siswadi, Tukiman Taruna, Hartuti Purnaweni (*Jurnal Ilmu Lingkungan, Volume 9, Issue 2: 63-68 (2011)*). They found that local wisdom in terms of values, ethics, moral, and norms, was used as habit and behavior principles of the people in preserving water in Purwogondo village, Boja subdistrict, Kendal regency. That local wisdom was implemented in every physics or non-physics activity (environment, facility, prayers, sacrificial things, incense, and etc.), routinely or accidental, therefore

such of those can prevent the environmental damage.

Disaster Communication Management

It is a production process of the message or information about disaster, from pre-disaster, whilst-disaster, or post-disaster. Some research on disaster communication has been done before, from; Lestari, Puji (2007); Badri, Muhamad (2008); Nugroho (2008); Lestari Puji, Susilastuti, Retno Hendariningrum (2009); Junaedi, Fajar (2011), Noviani, Ratna (2012), and Hidayat (2012), Lestari Puji, Agung Prabowo and Arif Wibawa (2012), Lestari Puji, Icha Dwi Sembiring, Agung Prabowo, Arif Wibawa, and Retno Hendariningrum (2013). According to Lestari, Disaster Communication Management in Gantiwarno subdistrict, was the process of planning, organizing, implementing, evaluating of the government’s policy related to 2006 earthquake disaster.

During that, Gantiwarno was not really caught their attention. Therefore, there were so many conflicts between community, between individual, within group, between group, or even among government, especially post-disaster, in emergency situation, in reconstruction and rehabilitation period. Then, local genius was implemented to resolve the conflict, for example, through musyawarah mufakat,

guyub rukun (gotong royong), which both of that can be seen as working together as one.

Nugroho (2008:2) states that disaster communication management via investigation on disaster-prone territory needs teamwork and coordination between governmental institutions. Without that, it is only a matter of reactive action. Lestari, Susilastuti, dan Retno Hendariningrum (2009) states about earthquake disaster conflict management in Bantul, Yogyakarta, 2006. Yogyakarta implemented local wisdom, which were javanese culture, such as *guyub rukun*, *gotong-royong*, *nrimo ing pandum* (accepting for what it is), and etc.

Badri (2008) also researched the disaster communication management in Bantul, Yogyakarta. It states that communication with the people during disaster was to accelerate the process of disaster reduction by involving local wisdom, especially musyawarah mufakat (gathering) that lead by the speaker. Badri also found about participative disaster communication management in managing the earthquake disaster in Bantul 2006.

Junaedi (2011:213) states that commucation in the context of disaster, especially broadcasting, is important to deliver the information about disaster to the poeple, including to the broadcast communication managed by radio

community. Noviani, Ratna (2013) states that Breaking News in Metro TV about Merapi disaster in 2010 tends to transform objective reality from the news into a mere television show. There were three story that is been surfaced at that time; Merapi eruption as disrupting moment, panic moment, dan uncertain moment.

Researcher also assess the model of disaster communication management in Mount Sinabung 2010 (Lestari, et al, 2013: 155). The model of it was so topdown, lack of mass media and communication involvement. Although there are so many local wisdoms seen in Karo, that may decrease the level of disaster management, disaster communication that based on local wisdom was not really caught much attention.

Those research was the evidence that disaster communication is an important activity that must be done to reduce the risk. Local wisdom is one of the alternative that can be implemented and developed in Karo regency, North Sumatera (Ronda Tarigan on FGD in BPBD, Karo regency, 17 April 2014).

METHOD

This research used qualitative method and practiced the development of the previous research, which was disaster management communication model in Mount Sinabung, Karo, North Sumatera,

that erupted in 2010 and 2013. The research used descriptive-qualitative method. The researcher described local wisdom-based disaster management communication to reduce disaster risk in Mount Sinabung 2013.

DISCUSSION

Local wisdom of Karo tribe

Karo tribe has a habit, hundred years tradition, that taught so many daily things, on what and how to behave. The wisdom is depicted in so many ways within the tribe;

1. Language

Karo tribe is so preserve with their culture, such as Karo language-using in daily activities or even in disaster condition. When communicates with people outside Karo, they somewhat little bit difficult to speak in Bahasa, especially those who lived deep in the village and rarely seen in the city. Even, there was an event in FGD (17 April 2014, Karo), when a leader of a village speak to the audiences with high tone and, anger-seen intonation, little bit unethics. That is the local wisdom of language that is seen as the symbol through the voice, accent, or idioms that used in the process of disaster communication management of Mount Sinabung.

2. Jambur

Mount Sinabung refugees were gathered in Jamburs. According to *Kepala*

Pusat Data Informasi dan Humas Badan Nasional Penanggulangan Bencana, Sutopo Purwo Nugroho (16/9/2013), all refugees were spreaded in 8 points of refuges, which were in Jambur Sempakata, Jamin Ginting, after PLN Kabanjahe (2,730 people), Klasis GBKP, Kiras Bangun Kabanjahe (590 people), GBKP Kota Jalan Kiras Bangun Kabanjahe (600 people), Jambur Payung Jalan Tigan Derket (420 people), Jambur Taras Berastagi Jalan Jamin Ginting Berastagi (1.574 people), Agung Mosque, Veteran road simpang 3 Kabanjahe (170 people), Sentrum (PPWG Kabanjahe) Nabung Surbakti (88 people) and Catholic Church in Jalan Irian (87 people). "The refugees in Posko Jambur Taras Berastagi was moved to KWK Jalan Udara Berastagi.

Sutopo explained that Jambur is a local wisdom, which is open-air building, like a village hall or sanggar that usually used for a meeting, traditional ceremony, and other activities. Jambur shaped like traditional house, much bigger without wall. Jambur is a special place to hold a party, gathering, and in the past, it was used as execution place for those who disobey the king. "If there is no event, it is used for the youngsters to gather around, for badminton arena, and etc.", said Bapak Putra Sitepu (21 April 2014).

Bathroom, clean water, kitchen utensils, and other thing were provided in

jambur. When Mount Sinabung erupted in 2010, jamburs in every village can accommodate 12,000 refugees. Therefore, refugees were not in refugee camp. In the midday, men went back to the village to take care of their paddy field and their livestock and clean their house as well, and went to the jambur in the evening. Police has been deployed to secure the houses that were empty.

3. Philosophy

Karo tribe has principle ‘giving first, receiving later’. This is their principle in all aspects of their life. This philosophy can be seen from other quotes, which is *mangkok lawes mangkok res*, which means ‘they who give, will receive what they have given’. For Karo tribe, every action has its own consequence, as seen in a quote, *adi ngalo la rido, nggalar la rutang*, ‘if you receive something illegal, it will be a danger’. There is another quote, too; *pangan labo ate keleng, tapi angkar beltek*, which means, ‘you can do anything as long as you consider what happen later on’. ([http://mountsinabung.](http://mountsinabung.blogspot.com/2010/12/kearifan-lokal-masya-rakat-karo.html)

[blogspot.com/2010/12/kearifan-lokal-masya-rakat-karo.html](http://mountsinabung.blogspot.com/2010/12/kearifan-lokal-masya-rakat-karo.html)).

Philosophical values of Karo people also reflected from the design of their traditional home, which is resistant to earthquake. It can be lasted until hundred years without using single nail as seen in Lingga village. It can be seen from the ornament on it. According to Bapak Putra Sitepu (interview on 21 April 2014), Lingga is a unique Batak Karo village, that has 28 traditional houses, which of those are approximately about 250 years. Its name is Siwaluh Jabu. Waluh means ‘eight’ and Jabu means ‘house or main room’, but that house is already nowhere, extinct, only some of them still exist until now.

Siwaluh Jabu is resided by 6-8 families that still have family relation. It is more unique that, the house does not have any border line between the room, the roof was made of straw, only two doors; west and east, and both of them has a veranda called ‘ture’, made of circular bamboo, without a nail. What a wonderful local wisdom there.



Figure 3. Traditional House of Lingga

(source: Puput Julianti Damanik, <http://www.medanmagazine.com/desa-budaya-tersembunyi-di-balik-gunung-sinabung/>)

All of the ornaments are placed in ayo-ayo (front part of the house), dapur-dapur (kitchen), and in derpih (wall), and on the roof, two or four heads of buffalo with its tusks are placed as the symbol of strength. The ornaments placed there are like: *Pangeret-ret*, *Embun Sikawiten*, *Bindu Matoguh*, *Tupak Salah Silima-lima*, and *Tapak Raja Sulaiman* (Asmyta Surbakti, 2010). *Pangeret-ret* is the straw-made ornament that is extended and bonded into the front wall as the replacement of nail. The hole is placed in accordance with the picture, to strengthen the board, to make it firm. It is believed that lizard pattern can make wretched spirit that intrude the house run away. This ornament symbolizes strength, evil repellent, carefulness, and unity of the family.

Embun Sikawiten is the nature-pattern ornament that is the imitation of triangle-shaped flower-alike cloud chains. It has

function as the relation clue between kalimbubu (thick cloud in the above), and anakberu (cloud's shadow in the bottom). Kalimbubu is the protector of anakberu in terms of Karo community relationship. Cloud's shadow will move following the cloud above as the function of kalimbubu. *Bindu Matoguh* is the diagonal line, square-shaped ornament that symbolizes self-belief of Karo people to behave well, fair, obey, and not deceiving others (*encikep si mehuli*). The value of *encikep si mehuli* is as the good-merit if human always being good and honest to the others.

Tupak Salah Silima-lima is geometrical/natural ornament in linear star-shaped that brighten the earth in the night sky. It symbolizes the unity of *merga silima* (five clans) as respected and honoured Karo social system. Unity is defined as the strength as the strength of Karo people is seen in the unity. Those five clans are the main clan that has social structure and

inseparable relation between one and the others. The ornament is used as the protector of evil deeds that come to *merga silima*.

Tapak Raja Sulaiman is geometrical ornament in form of line, square, and floral pattern-alike. The name of the ornament itself is taken from the name of almighty king that the devil afraid of. As the highest king, Sulaiman is the most respected and the most terrific as well. Karo people believe that this ornament will prevent them from bad deeds. The meaning of this ornament is about unity and strength.

4. Ecology.

People around Sinabung always raise their emergency response and local wisdom. That local wisdom is such, always paying attention to environment signs as the results of volcanic activity. For example; from frogs, birds, that goes downhill from the mountain. They want to save themselves. This kind of wisdom is seen until now, because it can make people aware about disaster and its accuracy is quite high. Another example is the heat of Lau Kawar in the slope of Mount Sinabung. Water is usually cold there, but when it is warm, it can be a sign that there will be a disaster in Sinabung later (source: interview with someone in a village near Lau Kawar, Mount Sinabung, 22 April 2014).

By raising the awareness, it can prevent the worst thing. People should not only wait for the information from the government or PVMBG (source: Head of Local agency for disaster management of North Sumatera, Asren Nasution, Wednesday 6 November 2013).

Local wisdom of Karo on their environment can be seen through the reservation of the forest by the government. The wood there is only available for daily need, not to be sold. If they want to sell it, they must plant it first. Karo people are already understands about land conservation, through terraserring (*tambak-tambak*) that can make the land fertile and good. To avoid erosion or avalanche of the river's wall, bamboo trees are planted there. Karo tradition is also prohibits their people to cut the grass around 50 meters, and prohibit to cut the trees around 100 meters from water, in order to keep it safe. (<http://mountsinabung.blogspot.com/2010/12/kearifan-lokal-masyarakat-karo.html>)

5. Family System

People of Tanah Karo are very lucky to have such a local wisdom named *deliken sitelu*, that each clan has relation of *kalimbubu*, *sembuyak* dan *anakberu*. Karo people are quite better in understanding multisocial. Sentiment on the religion is not really seen as they have commitment to live

together as *deliken sitelu* that consists of *kalimbubu*, *sembuyak* and *anakberu* suggest. It is seen clearly in their daily life. When the writer visited Karo government office, *deliken sitelu* was clearly seen there. The way of speaking and habit are heavily influenced by *deliken sitelu*. Calls such as *Abang*, *kakak*, *eda*, *kila*, *bibik*, *mama*, *mami*, *nande*, *bapak*, *turang*, and many more of them, is the way to get closer and comfortable, even when one or two does not know each other, they will quickly adapt with this wisdom.

6. Work Year

This is seen as the principle of togetherness in Karo. There is yearly event called *Kerja Tahun Ngerires* on the date of *cukradudu* (Karo calendar), or in a good days. Each village has different good days. Every year, the people are being busy together with their farming. The results of it will be enjoyed together, too. In a work year, all of the people share their happiness without any restrictions. It reflects the independence of the people, in terms of food agriculture in Karo. Farming pattern always concern on their people's need of foods. Foods allocation as the ceremony in work year and strong logistic system are undoubtedly a good local wisdom. According to the chief of Batukarang village, Roin Andreas Bangun, [\[sumaterautara /pesta-budaya-batukarang-di-bawahgempu ran-erupsi-sinabung\]\(http://sumaterautara.com/pesta-budaya-batukarang-di-bawahgempu-ran-erupsi-sinabung\) Wednesday \(15/1 2014\), "This work year is different. One of the reasons is because of Sinabung eruption. Besides that, economic life of the villagers around Sinabung is down at this time. The impact of this eruption is very cripple. Our village is about 7 kilometers from Mount Sinabung, but as volcanic ashes happen, all of the villagers cannot do their activities. All plants such as chili, tomato, paddy on the field, and tobacco, and so on, are damaged. Hectares of farming land are certainly failed to be harvested. It is almost three months that the villagers of Batukarang cannot do their daily occupations. It is because of Sinabung volcanic eruption that gives us quite big problem."](http://harianandalas.com/kanal-</p>
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Local wisdom was proven to be effective to prevent disaster, such as Jambur for the refugees. Basir Sinulingga explained that Jambur is like a traditional house without any walls. It is a local wisdom, which is open-air building, like a village hall or *sanggar* that usually used for a meeting, traditional ceremony, and other activities. Jambur shaped like traditional house, much bigger without wall. Bathroom, clean water, kitchen utensils, and other thing were provided in jambur.

Local wisdom can go together with some modern EWS. One of the wisdoms

were seen when the animals go downhill to avoid disaster. It was proven highly accurate and effective. Now our task is to realize local wisdom to save the people. Therefore, it is great when the government tries to combine local wisdom and modern science and knowledge as the effective guidelines for disaster in Indonesia. We can avoid unexpected disaster through local wisdom and modern technology. Karo government is asked to raise local wisdom related to the sensibility on volcanic disaster of Sinabung that can be occurred everytime. The other local wisdoms are also seen in *deliken sitelu* that branches into *kalimbubu*, *sembuyak* dan *anakberu*.

Tanah Karo has a tradition as harmonious people. FKUB of Tanah Karo is expected to have bigger role uniting the people through religion, languages, and cultural approaches. The tradition of *aron* concept should become a vessel to strengthen it. Tanah Karo is very luck to have *deliken sitelu* that can strengthen the bond of every family. The use of language is need to be understood, too. It is prohibited for a person to communicate with certain person regarding to his/her social/traditional level. For example, erturang, the children or law in different gender should not speak to each other. This communication pattern is used to avoid negative relation between them, but in

social life, they have *aron* as the symbol of togetherness.

Each group of society has its own local wisdom as strategy to adapt with their environment. It can make them succeed to adapt with their life. It cannot be separated from the legacy of their own culture from generation to generation. As studied by Raden Cecep Eka Permana, Isman Pratama Nasution, and Jajang Gunawijaya (Journal of *MAKARA, SOSIAL HUMANIORA, VOL. 15, NO. 1, JULY 2011: 67-76*), it found that; (1) Baduy people do cut and burn of the forest to make a field, and fire have never been occurred there. (2) Baduy people lives near the river, no floods occurred, (3) House of Baduy people made of flammable materials (wood, bamboo, sago, fibers), no case related to fire there, (4) Baduy is an earthquake-prone area, but no damages cause by it. Those kinds of cases are based on *pikukuh* (rules of tradition) of Baduy as the base of act and belonging. *Pikukuh* is the basic of traditional knowledge, which are being capable and wise, especially in avoiding disaster.

Basically, wiseness of the forest is based on the harmonious life between human and nature. People there always try to keep their environment intensively. Baduy, with all of their greatness, successfully preserve 5,635 hectares of forest in Ciujung river of Lebak regency. It benefits not only for Baduy, but also the

households that get clean and streamlined dropping of water from 120 rivers and the main river of Ciujung. Because of that, Baduy awarded with Kehati Award, in “Prakarsa Lestari Kehati” category, from Yayasan Kehati (Kehati, 2009).

Julian Steward, in his work “The Concept and Method of Cultural Ecology”, states about materialism paradigm that has relevancy with cultural ecology of the aspect between human and environment. He states that Cultural ecology differ from human and social ecology in seeking to explain the origin of particular cultural features and patterns which characterize different areas rather than to derive general principles applicable to any cultural-environmental situation.

Cultural ecology is different with human ecology and social related to those function in explaining the beginning, the patterns, features, that marks the various fields to gain the general principles that can be applied to every environmental or cultural situation (Steward, 1988 <http://mountsinabung.blogspot.com/2010/12/antropologi-bencana-alam.html> accessed 1 May 2014). Ecology as a knowledge grew on 20th century, but limited only to the study on plants and animals, more than on human being. Ecological aspect has important position in anthropology that has been expressed on 1930's by Julian Steward. Perhaps, the biggest piece of “

cultural ecology method “ that he found is that, environment and culture is not a different two fields, but both of them are related and involved in dialectical relationship, or namely as feedback or causality of reciprocity (David Kaplan and Robert A. Manners, 2005 in <http://mountsinabung.blogspot.com/2010/12/antropologi-bencana-alam.html> accessed 1 May 2014).

Between human and nature relationship, cultural ecology paradigm sight that nature influences the culture of the people. From this point of view, nature and human might have mutual effect. For example is seen among the people in a volcanic area. The contour of the mountain enables them to work as farmers. The land there has great fertile because of natural process of volcanic eruption. Meanwhile, the position of the mountain is considered as a sublime thing that becomes the beginning of rituals to regard it and to prevent disaster. That kind of ritual is also seen in Tengger in Mount Bromo, East Java, and Mbah Maridjan on Mount Merapi, which is finally erupted.

CONCLUSION

Local wisdom of Karo as the legacy should be understood more, in order to save them. Our task is to enhance local wisdom to save the people. Government may combine local wisdom with modern

technology for making effective guidelines of disaster communication management in Tanah Karo. Therefore, we can prevent unexpectable disaster through it.

Results of the research recommends; (1) government needs to raise the people's understanding, awareness, compassion, and participation ethically and wisely, (2) Karo people need to keep their philosophy, (3) People needs to preserve and care about their environment, (4) Government need to provide them with law related to the use of jambur as refugee camp in Sinabung, (5) People of Sinabung need to maintain their work year culture and family system that can support the communication system of Sinabung.

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