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Environmental Communication Model for Disaster Mitigation of Mount Sinabung Eruption Karo Regency of North Sumatra

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Abstract

This study aims to find a model of environmental communications for disaster mitigation eruption of Mount Sinabung Karo regency of North Sumatra. Communications in the affected areas, especially near Sinabung mountain, are very complicated and faced with the problem of management conflict. In this research we will takes a model of good communication with local wisdom approach. The benefits of this research are to increase the effectiveness of public communications to solve the management conflict especially in disaster area.

Keywords: Environmental communication model, disaster, Mount Sinabung.

1. Introduction

Indonesia has many volcanoes that are still active and could erupt at any time one of them is Mount Sinabung. The eruption of mount Sinabung in Karo district of North Sumatra began in 2010 until now. The location of Mount Sinabung is high risk of disaster. The mount Sinabung disaster is a geological disaster. Geological disaster is a disaster caused by natural conditions, such as landslides, and volcanic eruptions [1]. Disasters require mitigation through communication. Communication is delivering a message from the communicator to the communicant to use specific media to achieve uniformity of meaning. Communication is needed in all areas, no exception in a disaster environment [2].

The communication processes in the environmental disaster has not been effective. **This is aims of our research.** In previous research Hamacher [3] explains that environmental communication is a communication process in a planned and strategic use of media products to support effective policy making, public participation and implementation of projects aimed at environmental sustainability. It is clear that an environmental communication as a two-way interaction of social processes that enable the persons concerned to understand certain

environmental factors and interdependencies. They also respond to problems in a better way with the use of this method. In order to overcome the differences of perception and disinformation about the eruption of Mount Sinabung, the theory of organization information can be used to think and act. The assumption of this theory that; (1) Human organization is in an information environment, (2) Information received by organization different in the term of unclearness, (3) Human organizations involved in human information processing to reduce the vagueness of the information [4]. Another research related to Mount Sinabung disaster also have been done by Puji [5]

2. Research Methodology

Data were collected by depth interview through communication training for disaster mitigation Sinabung and Focus Group Discussion (FGD) in the Karo regency of North Sumatra in particular together with the Regional Disaster Management Agency, the Head of the relevant Department, Head of district, Head of village, and community members.

3. Previous work and Discussion

Previous work that is related to our project is the project about communication mtigation in Merapi Mountain [6]. Figure 1 shows the model communication that have been done to increase the effectiveness communication process in disaster location.

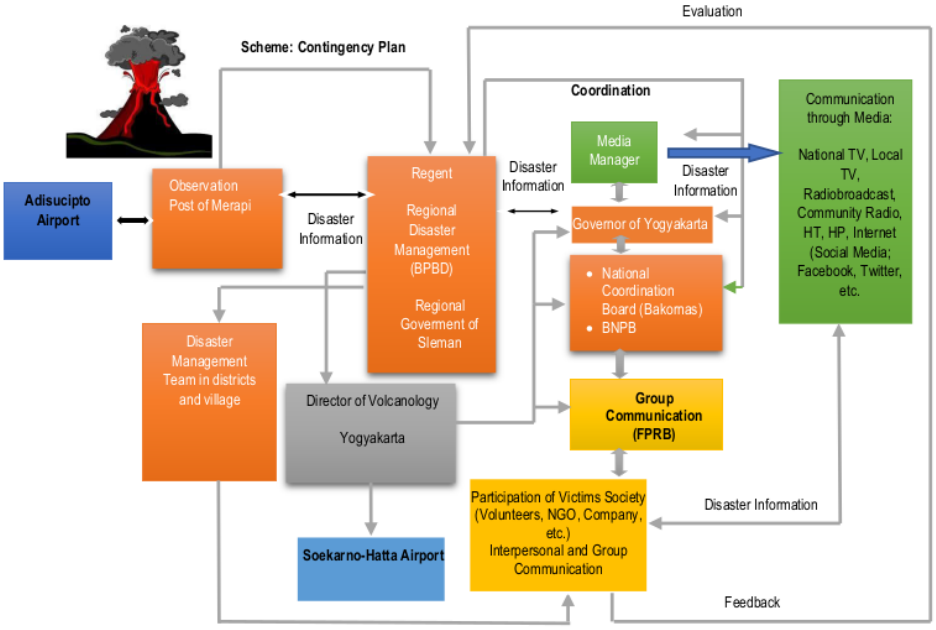

Figure 1. Communication Management Model of Emergency Response - Merapi Disaster 2010

Figure 1 show the elements of environmental communication in Merapi Mountain disaster, but the culture condition in Mount Sinabung in Karo is difference with the culture in Java. **Karo people have a higher tendency to conflict**. The physical environment affect the character of the community. This has become a **barrier to communication environment** in Mount Sinabung disaster.

Several things that must be done in disaster mitigation efforts of Volcano disaster such as (1) a disaster resilient community should know threat characteristics in disaster-sensitive areas. (2) Analysis of disaster risk by performing threat analysis, vulnerability analysis, and analysis capabilities. (3) Build a communication network in the community through radio HT, mobile phone, internet network, to access information from both government and the public (5) The existence of a local action plan at the level of provincial government, district up to the village action plan at the community level, which are activities in disaster risk reduction, such as training on disaster, building means of early warning, communication network. (6) Focusing activities to reduce risk before the eruption of the volcano. (8) Disaster mitigation efforts in the community to reduce vulnerabilities and increase the ability of communities to reduce disaster risk. In this research we proposed a new model to solve the problem of **conflict** during the disaster in karo district. The trigger of conflict commonly come from miscommunication.

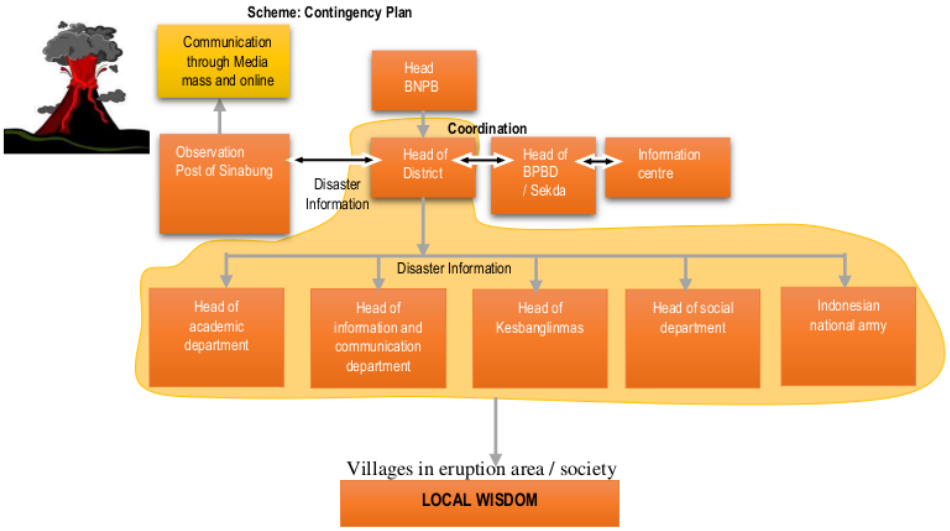

Figure 2. Environmental Communication Model for Mount Sinabung Disaster

In Mount Sinabung disaster mitigation, there are two things that are relevant: (1) risk management and (2) crisis management. Risk management includes preparedness, mitigation,

and prevention which will generate a protection, life, and comfort for the whole community. Risk management is closely related to development planning by central government areas including National Disaster Management Agency, Regent, Regional of Disaster Management agency, Head of Social Services, Kominfo, Kesbanglinmas, Police, Indonesian National Army, and Head of district. (See Figure 2). However, the role of government agencies in the disaster area – Sinabung mountain, could not immediately accepted by the society / community. The government will face a lot of conflict in the community, such as land compensation, jobless, salary, and much more. Approaches to the community through local wisdom [7], [8], is needed. Conflict management in disaster area also called disaster management. It is very easy to assume that if there has been disaster planning there will be successful crisis or emergency management. After all, that would seem to be the ultimate purpose planning. There is a big gap between what was planned and what actually happen in major emergency [9].

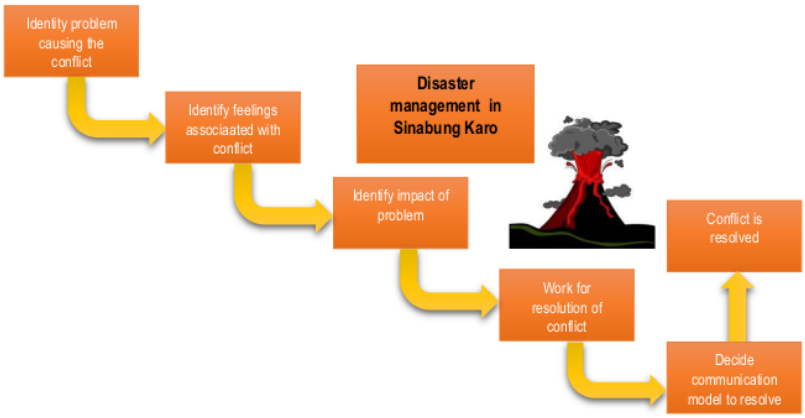

Figure 3. Environmental Communication Model and Mount Sinabung Disaster

Figure 3 shows the disaster management steps which must be done. Fisrt government or institutions that related to disaster area need to identify the problem of causing the conflict, such as compensation, new job in new area or any other triggers. Second, government or institutions need to identify feelings associated with conflict. Third, government need to identify impact of problem. Fourth, work for the resolution of conflict, and the last is decide communication model to resolve the communication problem in disaster area. Proposed model shows in Figure 2.

4. Conclusion

This study recommends that **Local Government of Karo** should make the process of planning and designing on environmental communications that strategically helpful in mapping

out any disaster communication problems. Stakeholders provide clear direction in developing an effective communication strategy for the creation of environmentally positive behavioral changes to support the welfare of the community and in particular to the victims of Sinabung disaster.

5. Acknowledgment

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References

[1] P. Zhang And Y. Duan, "Study On Failure Probability Model Of Lanchengyu Pipeline Under Landslide Geological Disaster," *Inf.- Int. Interdiscip. J.*, Vol. 15, No. 12 B, Pp. 5683–5692, 2012.

[2] M.-H. Kim And Y.-M. Kim, "Patient Role Simulation Practicum In Maternity Nursing: The Effects On Problem Solving Ability, Self-Directed Learning Ability, And Communication Skill," *Int. Inf. Inst. Tokyo Inf.*, Vol. 18, No. 9, P. 4015, 2015.

[3] M. Oepen And W. Hamacher, "Environmental Communication For Sustainable Development," *Univers. Verlaganstalt Eschborn Ger.*, 1999.

[4] R. West And L. H. Turner, "Pengantar Teori Komunikasi: Analisis Dan Aplikasi," *Jkt. Salemba Humanika*, 2008.

[5] P. Lestari, E. Paripurno, E. Wijoyono, I. Suntoro, And G. K. Brata, "Communication Model For Disaster Risk Reduction With Sms Gateway And Sop For Early Warning Communications Of Mount Sinabung In Indonesia," 2014.

[6] P. Lestari, A. Prabowo, And A. Wibawa, "Manajemen Komunikasi Bencana Merapi 2010 Pada Saat Tanggap Darurat," *J. Ilmu Komun. Jik*, Vol. 10, No. 2, 2014.

[7] R. O. Situmorang, A. H. Harianja, And J. Silalahi, "Karo's Local Wisdom: The Use Of Woody Plants For Traditional Diabetic Medicines," *Indones. J. For. Res.*, Vol. 2, No. 2, Pp. 121–130, 2016.

[8] P. Lestari, E. Teguh Paripurno, And S. Bahagiarti Kusumayuda, "Local Wisdom As Alternative Of Disaster Communication Management In Mount Sinabung, Karo Regency, North Sumatera, Indonesia," *Indones. J. Commun. Stud. Ijcs*, Vol. 8, No. 1, Pp. 101–111, 2015.

[9] E. L. Quarantelli, "Disaster Crisis Management: A Summary Of Research Findings," *J. Manag. Stud.*, Vol. 25, No. 4, Pp. 373–385, 1988.

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