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## Community resilience: learning from Mt Merapi eruption 2010

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### Abstract

The concept of community resilience is one of popular approaches in disaster risk reduction. Eruptions of Mt Merapi in 2010 raised death toll reaching 377 people, resulting in loss of material at least Rp 3.56 T and the largest eruption in the first period of the last century. This study analyzes the community resilience in a high hazard area. The research question is how is community resilience of Kaliadem, Jambu and Petung post-Merapi eruption 2010. This study used Pasteur Framework to analyze the data. Based on research findings, the community have 13 of the 16 indicators of resilience. As the result, community from Kaliadem, Jambu and Petung villages have resilience to face the hazard of post-eruption of Mt Merapi 2010.

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*Keywords:* community resilience; eruption; Merapi; disaster risk reduction.

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### 1. Introduction

Almost one year after Mt Merapi eruption in 2010, community's life began to be normal. Community were starting to rise and restructure their livelihoods confronted by unexpected situations. Mt Merapi is one of the most active volcanoes in the world. In the period of 1900-2010, the frequency of eruptions occurs in 4-6 years. In 2010, Merapi eruptions became the biggest in one a past century. (Surono, et al., 2012).

Community has been living around Mt Merapi since hundreds of years ago. They have had a social attachment with the surrounding environment. Community Petung, Jambu and Kaliadem are examples villages which are

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located within III disaster prone area around Mt Merapi, where the III disaster prone area is the highest risk area in Mt Merapi.

The concept of disaster risk reduction is currently focused on building community capacity. In this case, it is to increase community resilience. Resilience is the ability of a social system to respond to and recover from a disaster (Cutter, et al., 2008). The community resilience is considered as more realistic idea to reduce risk in disaster that the emphasis on resilience rather than to disaster response and recovery (Collins, 2009). Resilience is defined as a procedure connecting a set of maze adaptive ability to a positive path of functioning and adaptation in component community after a disruption (Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008). This concept is becoming popular approach. One of the researchers who introduced resilience community assessment is Pasteur (Pasteur, 2011). Pasteur has suggested that the resilience of a community is measured by four major variables. The V2R provides a framework for a community-centered approach to reduce vulnerability (Pasteur, 2011).

**2. Methods**

*2.1. Data Collection*

This method of this research is divided into two, data collection and data analysis. Snowball method is used to choose respondent. Then, in-depth interviews are used as the methods of data collection. The interviews were conducted to disaster risk reduction activists, community, and government. The respondent can be seen on Fig. 1. Researcher-Respondent Flowchart. Immersion was used to determine the actual conditions of the community who live around Mt Merapi. The immersion is a technique to concentrate on the informants continuously, by involving in the societal site (Spardley, 1980). Immersion is one of methods to experience directly the real condition of the participant. In this case, participants are community who lived in the location under this study. Immersion offers contentment process, day in and day out monitoring, for site-specific ethnography (Hume & Mulcock, 2004).

Data collection was done in December 2011, roughly a year after Mt Merapi eruption 2010. Vulnerability to Resilience (V2R) framework by Pasteur was used to analysis. Pasteur introduced the framework to assess the community resilience. Her approach has four main variables in assessing the community resilience. The variables are preparedness, adaptive capacity, enabling environment and diversity as well as security livelihood.

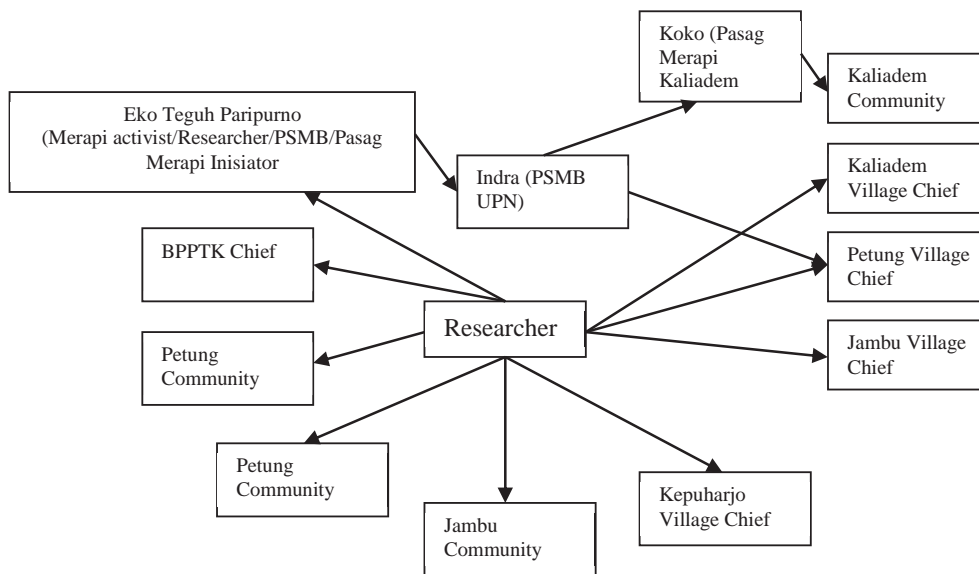


Fig. 1. Researcher-Respondent Flowchart

This study was conducted in Cangkringan district, Kepuharjo sub district and three villages-Kaliadem, Jambu

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