

**EVALUASI SISTEM MITIGASI
BENCANA SEKUNDER LETUSAN GUNUNG MERAPI
DI KALI PUTIH KABUPATEN MAGELANG**

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ABSTRACT

Merapi mount lies in the border of Yogyakarta and Central Java province. It frequently erupts forming lava sediment deposit in the upper part of the mount, or is called as lava dome. During the rain, the sediment can cause secondary disaster in form of lahar flood, which is potential to produce casualties, especially to the miners working along the river. Kali Putih, that is located in Magelang regency, is the area that undergoes frequent lahar flood, that is 125 times in the period of 1931-1996. Meanwhile, there are 5,076 sand miners there. Therefore, it needs an evaluation toward the existing mitigation system that is related to the safety of sand miners.

The evaluation is done toward physical mitigation system (sabo dam) and non-physical one (e.g. early warning, counselling, and evacuation system). Physical mitigation system is evaluated by comparing the availability of control volume of sabo dam to the sediment load during lahar flood, and comparing the travel time of the lahar flood with and without sabo dam. Non-physical mitigation system is evaluated by testing the accuracy of the lahar flood estimation chart, and by identifying early warning equipment system installed in field. Interview is also conducted with the miners to see their perceptions and opinions toward the mitigation.

Result of the evaluation shows that the existing early warning system does not produce sufficient time for the sand miners to save themselves. The proposed solution is divide sand mine area in Kali Putih into 3 zones, each has different procedure of the early warning and evacuation. This is arranged to avoid casualties to the sand miners.

Key words: Lahar flood, sand miners, early warning.