

KAJIAN LAHAR HUJAN KALI PUTIH SETELAH LETUSAN GUNUNGAPI MERAPI 2010

Delson
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ABSTRACT

Lahar that occurred in Magelang regency Kali Putih post Merapi volcano eruption in 2010 has given rise to a variety of damage to river structures, agricultural lands, and residential areas. This river has been equipped with sediment control facilities but still have quite severe damage in the first rainy season after the eruption. Merapi volcano eruption in 2010 produced 130 million m³ of sediment material, which is a "potential lahar were prepared to come", about 13 times larger than previous eruptions.

Studies done by identifying river basin, river morphology, topography, geology, and rainfall, as well as lahar events to analyze how to form lahar. Identify the use of river basin and rivers construction and use of river for analyzing control of lahar. Analysis of the potential hazards of lahar by visual observation and of topographic maps interpretation, assisted with geographic information system software (GIS) yields Lahar Hazards Potential Map. The results of comparison of vulnerability to capacity of communities are shown in Map Community Vulnerability. Overlap Lahar Hazard Potential Map by Map Community Vulnerability result in Lahar Risk Map.

Material eruption of Merapi volcano in 2010 that went into the Kali Putih catchment area of $\pm 6,346,000$ m², in a distance of ± 7 km radius from the center of the eruption is < 5.36 million m³. The material is in a state of instability, dominant fines, and are separated, at an altitude above +1,100 masl, slope $> 13\%$. Further triggered by the rains move together and follow the flow of surface and develop into lahar, and end up being sediment. Lahar movement is controlled by the 70 unit control structures that half of levee safety along the ± 11.613 km. Many of these control structures are eroded and collapsed thus decreasing function control. The High class lahar hazard potential area value 3 of the range of values 1-3 is Kali Putih river as the main point and 2 point diversion lahar flow.

The Medium class lahar hazards potential area value the 2 is the outside and the 3 point diversion the flow. Comparison of vulnerability to capacity from nine (9) village along the Kali Putih has a value of 0.58 to 1 from a range of values from 0.3 to 3 in the Medium class. Communities nine village along Kali Putih must accept the Medium class risk of lahar with values $> 1-3$ of the range of values from 0.3 to 9.

Key words: Lahar, Hazard, Vulnerability and Risk.