ABSTRACT

One of disaster caused by volcanic activity of Mount Merapi is secondary disaster. That disaster usually occurs after eruption, this volcanic activity produces volcanic and pyroclastic material deposit around the top of the mountain as a result of previous eruption. This material might collapse downward in the form of debris flow as it is affected by natural event such as high intensity rainfall. Therefore, a research is needed to analyze whether existing forecasting and early warning system are capable to provide information for the people living in hazardous area before the debris flood occur.

This research is carried out using field survey, observation and interview method. Data analysis use qualitative descriptive method by making description of actual condition of the researched location general condition and qualitative analysis of telemetry system installed on Mount Merapi. The qualitative analysis of telemetry system covers: network, hardware, software, power supply, security system, operation and maintenance, and human resources. Research analysis use primary and secondary data.

Research results reveal that average rainfall intensity above of 60 mm/hr might trigger debris flood. Early warning should be given at the rainfall intensity level of 50-55 mm/hr, and debris flood travel time from the top of Mount Merapi down to observed location of Pulowatu Village is 45 minute. Based on the analysis of the present forecasting and early warning system supporting equipments it is known that some of these equipments are not well function, so that debris flood cannot be predicted and detected. This is caused by lack of human resource quality of the officers in operating and maintaining the equipments. Concerning that matter, it is necessary to conduct some improvement due to have better and more accurate forecasting and early warning system in order to give information on before the occurrence of debris flood.

Keywords: telemetry system, rainfall intensity, information spreading