

Geological Structure as the Main Factor in Landslide Deployment in Purworejo District Central Java Province Indonesia

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Abstract : Indonesia is vulnerable to geological hazard because of its location in subduction zone and have tropical climate. Landslide is one of the most happened geological hazard in Indonesia, based on Indonesia Geospasial data, at least 194 landslides recorded in 2013. In fact, research location is placed as the third city that most happened landslide in Indonesia. Landslide caused damage of many houses and wrecked the road. The purpose of this research is to make a landslide zone therefore can be used as one of mitigation consideration. The location is in Bruno, Porworejo district Central Java Province Indonesia at 109.903 - 109.99 and -7.59 - -7.50 with 10 Km x 10 Km wide. Based on geological mapping result, the research location consist of Late Miocene sandstone and claystone, and Pleistocene volcanic breccia and tuff. Those landslide happened in the lithology that close with fault zone. This location has so many geological structures: joints, faults and folds. There are 3 thrust faults, 1 normal faults, 4 strike slip faults and 6 folds. This geological structure movement is interpreted as the main factor that has triggered landslide in this location. This research use field data as well as samples of rock, joint, slicken side and landslide location which is combined with DEM SRTM to analyze geomorphology. As the final result of combined data will be presented as geological map, geological structure map and landslide zone map. From this research we can assume that there is correlation between geological structure and landslide locations.

Keywords : geological structure, landslide, Porworejo, Indonesia

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