



Abstract

Kajian Risiko bencana Banjir pada Kawasan Pertemuan Sungai Keyang, Slahung, dan Sungkur di Ponorogo

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Ponorogo which is the one of Regency in East Java with area 1371.78 has a flood disaster problem in almost every year. The previous study related this problem are composing detail design and flood area management concept in Ponorogo. In this study, flood area management concept only considered flood hazard map. Therefore, it needs to be done the risk analysis which considers hazard and vulnerability aspect. Flood risk map is the one of many parameters that can be used by government or decision maker to make a flood disaster policy.

This study aims to make a flood risk map in Ponorogo with focus of study in area of Keyang, Slahung, and Sungkur River confluence. The steps of analysis are Hydrology analysis, Hydraulic analysis, flood risk analysis, and mapping. The flood area mapping use the computing river overflow which is computed by hydraulic analysis. Vulnerability and risk was analyzed by using scoring method where the parameters weight was analyzed by using *Analytical Hierarchy Process* method. Data Analysis performed by some software, such as Microsoft Office, HEC-RAS, and ArcGIS.

The result of hydraulic modeling for 5 year return period flow shows that in the rivers which is modeled, the overflow was occurred. The area between Slahung and Sungkur Rivers received the highest overflow (5.31 million m³). Flood area mapping by using volume of overflow method resulted in smaller flooding area than that of the previous study. The area impacted was 897 Ha, smaller than before (3397 Ha). According to the flood risk map, Sragi, Pengkol, Morosari, Gandukepuh, and Baju village are the five villages with the highest risk area.

Keyword : *risk, flood, overflow, mapping.*