DETERMINATION OF FLOOD RETENTION AREA
USE TECHNOLOGY OF REMOTE SENSING AND
GEOGRAPHICAL INFORMATION SYSTEM
(STUDY CASE: MOJOKERTO REGENCY)

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Abstract

Retention means deposit or storage capacity. Retention area is an area which is used to absorb water from rivers and rain as one of the alternative flood prevention. Therefore, mapping is required to determinate flood retention area, especially in Mojokerto regency.

Technology of remote sensing and geographic information systems enable to map the flood retention area in Mojokerto regency. Determination of flood retention area classified based on several parameters, there are type of land, pool area, rainfall and slope. Map of Mojokerto flood retention areas regency source 2008 image data from SPOT 4 and next is processed used ER mapper and Arc View 3.3. software.

The results from this research shows regions or areas that can be optimized as the flood retention area. Retention areas are located in area which experience routine pool like in the Gedeg distric, Jetis, Kemlagi, Bangsal, Mojoanyar, Mojosari, Ngoro, Pungging, Puri and Sooko. From the pool area, selected the land cover that can be optimized as the Retention area. Rainfall around 1500 - 2000 mm / year, with a normal (flat) until high slope. The best retention area is an area has type of andosol land, and the good retention areas is the area that has the type of alluvial land, mediterranean and litosol. The largest best
retention area is located on the imprisonment of the rice land 5062.825 Ha, which is then followed by a garden of 1283.028 ha, 294,224 ha of moor and pasture / scrub of 17,682 Ha. And the largest good retention area coverings are found in the field of land amounting to 11950.514 Ha, followed moor of 9786.27 Ha, Ha 4043.507 of the garden, grass / bushes of 422.66 ha, and the swamp of 2127 Ha.

**Keywords:** SPOT 4 image, Flood Retention Area, soil type, pool area, Rainfall, Slope.