

THE POTENTIAL FOR RAINWATER HARVESTING IN MAKASSAR COASTAL AREA, SOUTH SULAWESI, INDONESIA

ABSTRACT

Land Development in a region reflects its hydro-geological space functions. The population and infrastructure growth in Makassar City has had an impact on land needs for various activities and the availability of water sources. The concept of Low Impact development (LID) is one of the approaches to overcome the problem of raw water scarcity in urban areas. This research was aimed at studying the potential for rainwater harvesting in the coastal city of Makassar by analyzing land cover changes spatially, rainfall changes and impacts of surface runoff on the land with the model of Soil and Water Assessment Tool (SWAT). The analysis results show that there was an increase of 3.92% in the land use for settlement in the Tallo River Watershed in the period of 2002-2012. On the other hand, there was a decrease of 1.19% in the land use for rice fields and shrub areas. The increase in land cover played a role in increasing surface runoff by 37.49%. In 2002 the runoff was 78,120 mm. In 2007 it increased to be 124,987. It can be assumed that land characteristics, rainfall and surface runoff become potential variables for developing sustainable conservation of rainwater resources.

Keywords: Water Conservation, Land Cover, Surface Runoff

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