ANALYZE OF GEOGRAPHIC INFORMATION SYSTEM WITH STATISTIC LOGISTIC BINER TO MANAGE BUILT UP LAND EXPANSION IN YOGYAKARTA

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Population growth increasing every year in Yogyakarta. Based on population census in 2010 from Badan Pusat Statistik (BPS) total inhabitant in Yogyakarta are 3.457.491 with population density 1.085,28 inhabitant per square kilometers. Abundant population growth makes social economic activities become more complicated and it also stimulate land use transitions for completing human activities. Pattern of land use change can predicted with some factor, there are central business district, roads (main road, local road, other road) and river. Uncontrolable land use change will influence degrade environment quality like decreasing ground water stocks. Pattern and land use change really important to known as a base for planning controlable land use. Land use change in Yogyakarta could be analyze from remote sensing data and geographic information system. ALOS satellite image which it has 10 meters spatial resolution can indicate existing land use and Yogyakarta's topographic map in 1996 will compared to have a new data that it is land use change. Geographic information system's analysis with statistic logistic biner method will produce only 2 results, there are 0 and 1. 0 shows that there aren't land use change to built up land and 1 shows that there are land use change to built up land. Overlay step between result of land use change and result of buffering from factor of land use change (CBD, road, and river) will has final result that it is rank of probability of land use change predictions. So remote sensing data and geographic information system could be used to measurement, mapping, monitoring, modeling of land use usage in Yogyakarta.

Kata Kunci: remote sensing, geographic information system, *statistic logistic biner*, land use change prediction.