

## Balance of Natural Resources to Manage Land Use Changes in Subosukawonosraten Area

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**Abstract :** Natural resource is the main sources to fulfill human needs. Its utilization must consider not only human prosperity but also sustainability. Balance of natural resources is a tool to manage natural wealth and to control land use change. This tool is needed to organize land use planning as stated on spatial plan in a certain region. Balance of natural resources can be calculated by comparing two-series of natural resource data obtained at different year. In this case, four years data period of land and forest were used (2010 and 2014). Land use data were acquired through satellite image interpretation and field checking. By means of GIS analysis, its result was then assessed with land use plan. It is intended to evaluate whether existing land use is suitable with land use plan. If it is improper, what kind of efforts and policies must be done to overcome the situation. Subosukawonosraten is rapid developed areas in Central Java Province. This region consists of seven regencies/cities which are Sukoharjo Regency, Boyolali Regency, Surakarta City, Karanganyar Regency, Wonogiri Regency, Sragen Regency, and Klaten Regency. This region is regarding to several former areas under Karasidenan Surakarta and their location is adjacent to Surakarta. Balance of forest resources show that width of forest area is not significantly changed. Some land uses within the area are slightly changed. Some rice field areas are converted into settlement (0.03%) whereas water bodies become vacant areas (0.09%). On the other hand, balance of land resources state that there are many land use changes in this region. Width area of rice field decreases 428 hectares and more than 50% of them have been transformed into settlement area and 11.21% is converted into buildings such as factories, hotels, and other infrastructures. It occurs mostly in Sragen, Sukoharjo, and Karanganyar Regency. The results illustrate that land use change in this region is mostly influenced by increasing of population number. Some agricultural lands have been converted into built-up area since demand of settlement, industrial area, and other infrastructures also increases. Unfortunately, recent utilization of more than a half of total area is not appropriate with land use plan declared in spatial planning document. It means, local government shall develop a strict regulation and law enforcement related to any violation in land use management.

**Keywords :** balance, forest, land, spatial plan

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