PREDICTING LAND USE CHANGE BY USING CLUE-S MODEL SI SA KET PROVINCE, THAILAND

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ABSTRACT: The research study is aimed to determine and predict the change of land use and land cover (LULC) in Si Sa Ket Province. The results will be crucial information for the effective management. The LULC classification of 2002 2006 and 2010 were analyzed based upon on Ortho Photo and digital imageries, then implementing GIS software for evaluating the LULC change by using the transformation matrices of 2002-2006 and 2006-2010 and predicting LULCC from the CLUE-S model.

The total area of 886,075 hectare of Si Sa Ket Province can be classified into 4 major LULC categories: Forested, Agricultural area, Water bodies and Others. In 2002, the percentage of each LULC category is 15.59 79.26 1.49 and 3.66, respectively. Forested area is continuously diminishing while water bodies and others are gradually increased.

The results of predicted area from Markov process are different from using different transformation matrix (2002-2006 and 2006-2010). However, based upon both transformations matrix the forested area tends to be reduced. In addition, the predicted agricultural area based upon the second period transformation matrix (2006-2010) is increasing and becomes the most dominated land use type in the study area.