ABSTRACT

Land cover is a phenomenon of the appearance of the earth's surface seen from biophysics when it is observed where it can illustrate the relationship between physical changes and social processes. With remote sensing image processing, land cover information can be obtained regarding the amount of neglected and under-paid land that can actually be used as settlements, rice fields, and also used as tourist areas that can be used to improve the economy quality of the area both in terms of increasing local and foreign tourists.

In this study, the authors used satellite images from the thematic landscapes around the Situ Cisanti region. Data was obtained from the Technology Center and Remote Sensing Data (PUSTEKDATA) from the National Aeronautics and Space Agency (LAPAN). The author classifies the land cover area using the Histogram of Oriented Gradients (HOG) method and the Support Vector Machine (SVM) classification to classify 3 types of land cover classes, namely forests, rice fields, and settlements.

In the research, the system of identification and classification of land cover used 3 classes, namely forest, settlement and rice fields. Each class consists of 100 data divided into 60 training data and 40 test data per class, this system produces the best performance value with an accuracy of 85.83% and a computation time of 0.0070 s using an image measuring 64x64 pixels. In the HOG feature extraction process using cell size 32x32, block size 2x2, numbins 9 and in the SVM classification process using the SVM OAA type and polynomial kernel type.

Keywords: Land cover, Satellite Imagery, Landsat Thematic Mapper Satellite, Histogram of Oriented Gradients, Support Vector Machine, Matlab.