A Method for Classifying Land Use and Land Cover

Project Abstract

The growth of a society totally depends on its social and economic development. This is the basic reason why socio-economic surveys are carried out. Land Use Land Cover (LULC) change detection helps the policy makers to understand the environmental change dynamics to ensure sustainable development. Hence, LULC feature identification has emerged as an important research aspect and thus, a proper and accurate methodology for LULC classification is the need of time. With the proper utilization of Geographic Information System (GIS) and Machine Learning algorithms, LULC can be efficiently classified.

For this purpose, firstly supervised classification techniques are applied to Landsat images. Image classification of Landsat images is carried out by using maximum likelihood method with the aid of aerial truth data obtained from landscape photographs. The second part of the project deals with the use of advanced GIS software like ArcGIS. With the preprocessing techniques applied in GIS software, the entire process leading from the raw image acquired by satellite can be converted to map presenting the classified land use and land cover. Therefore, the use of GIS and Machine Learning algorithms aids in the proper method for the classification of Land use and Land cover.