Temporal land use change detection using remote sensing and GIS case study of district Lahore and Faisalabad, Punjab, Pakistan

Zille Huma Qureshi[1]; Sajid Rashid Ahmad[2] and Asdullah Khan Ghalib[2]
[1]*Divisional public school and inter college Lahore, Punjab, Pakistan*
[2]*Institute of Geology, University of the Punjab, Lahore, Pakistan*
zhumaq@gmail.com

Abstract

Change in land use is a result of primary and secondary activities of human and nature collectively. To get insight into hidden process related to land cover and land use changes measurement of change detection using temporal imageries can depict quantitative results.

This paper study and compare two heavily populated districts of Punjab that is Lahore and Faisalabad. To carry out the study temporal images of Landsat TM year 1992 and 2009 were used. Supervised classification method is used to measure the temporal change of district growth, in seventeen years. Four main classed were developed i.e. water body, vegetation, open land and build up area. Changes within seventeen years of both districts are extracted and compared with each other to analyze which city have faster growth rate in terms of land use.

To get all the results ArcMap10.x is used to stack, classification, mapping and result finding from the images. Results illustrate Lahore district built-up area was 10.89 % turned to 22.39% of the total area of the district where as Faisalabad district built-up area was 0.98% turned to 3.8% of the total district area within seventeen years. This is due to indigenous population increase and migration from small districts around the both districts, changing land use from agricultural features towards urban agglomeration.