Spatial changing pattern in land use/land cover using GIS: a case study of Sukhna choe watershed, India

Yangchan.J[1]*, Jain, A.K[2]., and Tiwari, A.K[2].

Abstract: The Knowledge of Spatial land cover information is essential for proper management planning and monitoring of natural resources. The objective of this study was to provide recent perspective for land use and land cover change that has taken place in the last 24 years, using Remote sensing and GIS capabilities in the Sukhna Choe (Small rivulets) watershed located in Chandigarh, partly in Punjab and Haryana. The study was carried out through GIS approach using SOI Toposheets, Satellite imageries for 1989 and 2013. Digital land use/land cover classification through unsupervised classification method based on field knowledge is employed to perform the classification. Erdas imagine 9.1 and Arc GIS 9.3 GIS software were used for data processing. The twenty four year period from 1989 to 2013 show the major type of land use change. Closed forest, scrubs and Agricultural land were decreased. Closed forest decreased from 2277.18ha in 1989 to 1834.07ha. in 2013. Scrubs reduced from 723.3ha in 1989 to 126.54ha in 2013 and agricultural land from 292.85 ha (1989) to 260.3ha in 2013. Meanwhile, water bodies Increased from 112.13ha to 292.39 ha during the corresponding year, which shows positive result for Sukhna Lake. Remote sensing and GIS data of different time periods is very useful for the detection of changes which are taking place in short time period.