International Journal of General
Engineering and Technology (IJGET)
ISSN(P): 2278-9928; ISSN(E): 2278-9936
Vol. 6, Issue5, Aug – Sep 2017; 63-70

International Academy of Science,
Engineering and Technology
Connecting Researchers; Nurturing Innovations

LANDUSE AND LANDCOVER CHANGE DETECTION BY REMOTE SENSING AND GIS TECHNIQUES - A CASE STUDY OF HEBBAL VALLEY, BANGALORE

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ABSTRACT

Human activities have brought out changes on the land surface drastically, in the recent past. Their quest for expansion of habitats has led to changes in land use and land cover patterns. Such studies are important to understand the effect of human interaction with the environment. In the present scenario, though development is essential, it is more important that it should be sustainable. The present study is undertaken in the Hebbal valley of Bangalore, Karnataka to estimate the land use and land cover changes over a period of time, using GIS and Remote sensing technologies. The change in land use and land cover patterns in the study area has been studied from 2001 to 2015. The analysis has been carried out using Survey of India topographical sheets, Satellite imageries and Arc GIS software. The results have shown that the agricultural land extent has been gradually reducing, and has reduced as much as 12.9 percent from the start to end of the study period. At the same time, built-up area extent has shown increases of 7.49 percent and also there is a slight increase in industrial area, in the study area. Simultaneously, a slight reduction in area under water bodies (1.17 percent) has been observed. Furthermore, a negligible decrease of waste lands under barren land/grass land has occurred. The overall results indicate a decrease in agricultural land extent and water, cover year by year.

KEYWORDS: Sustainable, Remote Sensing, GIS, Agriculture