



ANALYSIS OF LAND USE CHANGE CHARACTERISTICS BASED ON REMOTE SENSING AND GIS IN THE JIUXIANG RIVER WATERSHED

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Abstract- Based on remote sensing and GIS technology, the remote sensing images from 2003 to 2009 were used to the basic data sources, to analyze the characteristics of land-use change in Jiuxiang River watershed. Results showed that watershed land use structure were changed greatly from 2003 to 2009; the proportion of arable land decreased from 34.86% to 19.52%, whereas other types of land use increased. The area of construction land increased most rapidly, from 17.80% to 25.80%. Spatial differentiations of land use changes were very obvious in Jiuxiang River watershed. The arable land was mainly converted to forestland and grassland in upstream region, and was mainly converted to construction land and forestland in midstream region. However, in downstream region, this type of land use was mainly converted to construction land. High farmland conversion rate in current period was contributed to rapid urbanization in Jiuxiang River watershed. Therefore, some measures must be initiated to achieve land resources sustainable use.

Index terms: Land use characteristic, Jiuxiang River watershed, remote sensing, Geographic Information System (GIS).