

**ASSESSING AND QUANTIFYING  
ENVIRONMENTAL IMPACTS OF LAND USE  
AND LAND COVER CHANGES IN ELDORET  
MUNICIPALITY, UASIN GISHU DISTRICT  
KENYA,  
USING REMOTE SENSING AND GIS  
TECHNIQUES**

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**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENT FOR THE DEGREE OF MASTER OF  
PHILOSOPHY IN ENVIRONMENTAL STUDIES  
(ENVIRONMENTAL INFORMATION SYSTEMS DIVISION)**

**SCHOOL OF ENVIRONMENTAL STUDIES  
MOI UNIVERSITY**

**OCTOBER, 2001**

## **ABSTRACT**

Urban areas in most of the developing countries today experience fast changes in land use and land cover types. The contributing factors to this include rural to urban migration as well as natural increase in population which strains the available social facilities thus leading to high demand for urban prime land.

This study examined land use and land cover types and the nature of changes and environmental issues in Eldoret Municipality for the periods 1973, 1985 and 1993. The methods used in data collection involved: interpretation of remotely sensed aerial photographs, personal observation, field survey and review of written literature and reports.

Using aerial photographs taken at these dates, changes were determined and the results show that the built environment had increased by 303.3% between 1973 and 1993. The other land use and land cover types have also increased but this is mainly due to boundary expansion of the study area.

The study also identified and examined some of the environmental problems related to land use and land cover changes namely: encroachment upon agricultural land, deforestation and encroachment upon wetlands, modification of both micro-climate and surface hydrology, congestion and overcrowding, settlement on unsuitable sites and water pollution.

The study also examined various factors that contribute to land use and land cover changes. It is noted that three main factors have perpetuated the rapid land use changes in the study area. These are: boundary expansion, development plans and inception of growth centre policy in the area. All these have contributed to environmental problems.

A number of strategies to minimize the problem caused by land use and land cover changes, have been proposed. These include: protection of sensitive land resources, management of hazard-prone areas, conservation of open urban land, discouraging excessive urban expansion and adoption of bottom-up approach in urban environmental planning.

Recommendations are made for a sustainable urban development, through regular land use monitoring and adoption of environmentally sound land management strategies.