

## Drivers of urban land use changes in a rapidly urbanizing African City: A case study of Lusaka, Zambia

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Lusaka, like most African capital cities, has been experiencing rapid urbanization which is mostly uncontrolled and unplanned. The rapid urban growth of Lusaka City has created both environmental and social problems including increased informal settlements and urban poverty, unemployment, environmental degradation and limited access to basic public. To address the future urban planning challenges, understanding drivers of changes in urban land use (ULU) is essential. However, research investigating the drivers of ULU in Lusaka City is lacking.

Therefore, the purpose of this study was to investigate the drivers of ULU changes in Lusaka City from 1990 to 2010. First, we produced three ULU maps (1990, 2000, and 2010) using an integrated approach of remote sensing and GIS techniques. The data used to create the ULU maps included Landsat TM/+ETM data, Google Earth imagery, and spatial ancillary data including detailed road networks, cadastral polygons and land use data. The maps produced contained six ULU classes (i.e. unplanned high and low density residential; planned medium-high and low density residential; commercial and industrial; and public institutions and service areas). The expansion of the ULU classes was then assessed.

To identify the underlying drivers of ULU changes observed, a household questionnaire survey was conducted. First, a representative sample of households was determined. Then, systematic random sampling was adopted. The areas in the city were systematically chosen based on the four residential ULU classes while households were randomly selected to administer the questionnaires. A total of 1,405 households were interviewed. The questionnaire was designed to capture several drivers related to social, economic, environmental and policy/institutional factors.

The results show a City experiencing rapid urban growth with all six ULU types growing at a very fast rate. The City recorded about 233 percent increase in the total ULU area between 1990 and 2010. The survey results show that the rapid City growth observed is a direct consequence of uncontrolled population growth mainly driven by rural-urban migration for economic prospects, expectations for opportunities of higher education and wage employment. The problems in Lusaka City have further been exacerbated due to the lack of clear ULU policy direction, slow policy adjustments, incapacitated urban planning institutions, and low economic growth. This study offers vital insights in the context of future urban planning and policy making when attempting to secure a sustainable urban future.

Keywords: Drivers, Urban Land Use, Remote Sensing and GIS, Lusaka