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**DEVELOPMENT OF A PROPERTY TAX INFORMATION  
MANAGEMENT SYSTEM FOR COUNTY**

**GOVERNMENTS:**

**A Case Study of Kapsabet Sub-county**

**FAITH JERUTO BIRIR**

**REG. No. G291-003-0001/2013**

**A research project report submitted to the Department of Geomatic  
Engineering and Geospatial Information Science in partial fulfilment of  
the requirements for the award of the degree of Master of Science in  
Geospatial Information Systems and Remote Sensing in Dedan Kimathi  
University of Technology**

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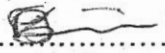
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## Declaration

This is to confirm that I, Faith Jeruto Birir, whose registration number and signature appears below, undertook this project as my final year project. I also confirm that this is my original work and has not been presented in this or any other university for examination or for any other purposes.

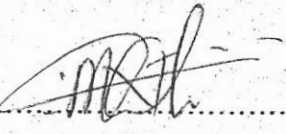
Faith Jeruto Birir

Reg. Number G291-003-0001/2013

Signature.....

Date..... 2/03/2015

This research project has been submitted for examination with my approval as the university supervisor.

Signature.....

Date..... 6.3.2015

Dr. Moses M. Ngigi

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**Abstract**

Complete and reliable information is important for planning and decision making. Various challenges face Kapsabet sub county revenue sector in regard to property tax rates and single business permit fee collection and management. The main challenges include lack of full information on the owners of the properties to enable tracing of tax defaulters, poor record keeping in that record books are torn and some information is missing and the spatial data is not updated; land that has been subdivided is not reflected in the records. The property information is in hard copy which is not compatible with the attribute data. There is no spatial link between the location of a property and its corresponding data, rendering all forms of spatial analysis impossible. The main objective of the study was to address this problem by developing a web-based property tax information management system with the aim of providing a proper way of effecting tax collection and management.

The system developed is composed of three subcomponents: database management system component, web-based mapping display component and a short message service system component. The database provided is centralized, mapping component contains tools for data updating and visualization while the web-based hosts the mapping visualization and also provides additional information related to property taxes. The short message service (SMS) component provides information on property taxes arrears.

To develop the system, stable GIS software and other Open Source software were used. Information on parcels, buildings, building units, land rates and single business permit fees was incorporated in the resulting system. Adoption of the system will aid Kapsabet Sub County in fulfilling its mandate of providing social amenities to its people by leveraging the power of Geographic Information Systems. The tax information system has provided an interactive link between real property and office records. The results from the database development are various maps and list of coordinates for the tax defaulters. The system enables the Kapsabet sub county staff to identify and quantify taxable and non-taxable areas, identify spatially the tax defaulters, non-defaulters and unaccounted land. It will also enable them to identify land use and institute laws and regulations on development of the area. The tax defaulters can easily be traced by use of handheld GPS with the coordinate list.

The short message service (SMS) has provided a convenient way of relaying information and reminding the property owners on the payment of taxes through their mobile phones. This system may be used by land and business owners in the diaspora to access information on their property through the web.

**Key Words:** Property tax, GIS database, Spatial link, GeoServer template, Short Message Service.