GIS BASED SUITABILITY ANALYSIS FOR DETERMINATION OF OPTIMUM SITES FOR HEALTH FACILITIES IN SOTIK SUB COUNTY

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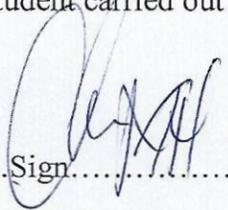
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2016

DECLARATION

I declare that this research project is my original work and has never been presented to this institution or to any other for examination or for any other purpose.

Name Joseph Kipkosgei Rotich ………..sign……………..Date……4/02/2016 .
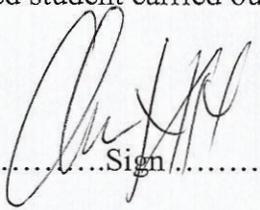
Certification

I certify that the above mentioned student carried out the work detailed in this report under my supervision.

Name Prof. M. K. Gachari…………Sign………………..Date……08/02/16

Certification

I certify that the above mentioned student carried out the work detailed in this report under my supervision.

Name Prof, Charles D. Mundia………..Sign……………..Date………08/02/2016

ABSTRACT

The rapid increase in population and economic growth calls for addition of new health facilities for the people of Sotik Sub County. The main problem in the sub county is the inadequate distribution of the health facilities. In some areas patients have to travel for more than four kilometers to access health services. The County Government needs to identify the best sites for the development of these facilities in order to provide equitable health services. The selection for new sites and development of health facilities is a very arduous and intricate process involving not only technical requirement, but also physical, economic, social, environmental and political factors. The objective of this study was to develop a model for use in the establishment of a new health facility. This was achieved through the application of Remote Sensing and Geographical Information System techniques.

The methodology employed in the processing and analysis for achieving the goal was the Multi Criteria Evaluation (MCE) and Analytic Hierarchy Process (AHP) method. This study used four main criteria factors to compute the weights. These are infrastructure, physical, environmental and economic. The analysis was carried out by application of analysis tools in the ArcGIS. Geodatabases consisting of various layers was used to model the optimal sites for health facilities.

The analysis results reveals that Ndanai and Rongena /Manaret ward are the critical wards in need of new health facilities. Others wards are Kipsonoi and kapletundo. In this study approximately 39.70 ha of land was identified as most suitable site and 29.50 ha as alternative sites. This research has established that GIS and Remote Sensing technologies are more convenient and cost effective tools in modeling optimal sites for establishing new health care facilities. Further it will benefit health planners and decision makers to achieve the set goal of providing equitable and quality health care.

Keywords;   AHP,   GIS,   MCE,   Sotik   Sub-County