

**INTEGRATION OF GIS AND MULTICRITERIA EVALUATION FOR
SCHOOL SITE SELECTION**

A Case Study of Belgut constituency

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Degree in**


Geospatial Information Systems and Remote Sensing

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DECLARATION

This research project is my original work and has not been presented for a degree in any other university.


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Signature..........Date. 3.3.2015

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

Signature..........Date. 9.3.2015

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ABSTRACT

Site selection is a complex problem that involve, technical, political social, environmental and economic demands that are difficult to satisfy via one method which may be in conflict with others. Schools need be located on safe places; these safe locations should also be optimal and economical to the public in terms of accountability. Location of these schools has always been done without use of any scientific methods. This has led to sprouting of schools located in unsuitable locations. The study area, Belgut Constituency in Kericho County, has schools with less than minimum land size, over enrolment and close to flood prone areas. This was due to lack of regulations on establishment of new emerging school. Hence there is need to use combination of Geographical Information Systems (GIS) technology and Multi Criteria Evaluation (MCE) methods in locating them in the most suitable location. This way, incidences of congested, dangerous locations, underutilized schools and human bias will be eliminated.

The research study objective was to locate the physical site for any school using GIS technology integrated with Analytical Hierarchy Process (AHP), a tool in (MCE) for finding a suitable location of any new school. Integration of MCE and GIS enables flexibility and accuracy in decision making especially in evaluating the effective factors in locating the schools. Also a weighted overlay method, a tool in ArcGIS, was used to combine all the identified criteria.

The results indicated that there are areas that are suitable and economically viable to add new schools to the eastern part of Belgut which totals to 32 Ha with a small part falling in the central and south western part. From the results it was recommended that in locating new schools the management should embrace use of GIS technology and MCE methods in locating their new schools effectively economically and socially the authority concerned with school location. Also preferred criteria need be made and published for use in Kenya.