

**APPLICATION OF GEOGRAPHICAL INFORMATION SYSTEMS (GIS) TO ASSESS  
THE ACCESSIBILITY OF SCHOOL INFRASTRUCTURE IN PALLISA DISTRICT**

**By**

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## **ABSTRACT**

Education is a human right as well as a key factor in development. Investments in education directly raise the wellbeing of individuals. Basic education includes primary and lower secondary education and is a powerful driver of human wellbeing (UNESCO, 2010). These enhancements increase productivity and economic growth (UNESCO, 2010).

To increase access to basic education, most African countries abolished tuition fees in schools Jonathan D Moyer (2011). However, as noted by Alain Mingat (2014) the abolition of tuition in schools is not sufficient on its own to increase enrolment and retention, as additional costs are involved in school attendance, including Meals, supplies, uniforms and transportation.

In Uganda, the retention rate in primary school is 64% while enrolment in secondary school is only 27% (MoES, The Education and Sports Sector Annual Performance Report for 2011/12 FY, 2012). Distance to school is one of the factors that contribute to low enrolment as well as low retention especially for adolescent girls (Burde, 2009).

This study was therefore undertaken to assess the level of geographical accessibility of schools in Pallisa district. Because geographical information Systems (GIS) has the power to bring into focus the spatial relationships of facilities on the earth surface (S.P.Haris, 2013), GIS concepts and methods was applied throughout the study. The objective of the study was to determine the location of school infrastructure, establish the distance between the communities and schools infrastructure and lastly to identify areas that are suitable for the location of new school infrastructure taking accessibility into consideration.

The study was conducted in Pallisa district. All government primary and secondary schools in Pallisa district were studied and all the administrative units were considered for analysis.

The results of the study indicated that the average distance to the nearest primary school in Pallisa district is 1.2 kilometers and the distance to the nearest secondary school is 3.3 kilometers. The study also revealed that 91% of the communities are within the UNESCO recommended distance of 2km from the nearest primary school while only 19% of the communities are within the recommended walking distance of 2km. These findings indicate that the majority of children in Pallisa district have low chances of enrolling to and completing secondary school education because of the long distances involved.

In order to achieve the Education for All (EFA) goals, and to ensure that every child in Uganda is given an opportunity to have education, the government should consider constructing new schools in sites that are further than 2km from the existing primary and secondary schools.

This Study has shed light on the accessibility of schools in Pallisa district and it will be of tremendous importance to policy makers both at local and national level when considering where to locate new school infrastructure and when getting explanation for low school enrolment and completion rates in the district.

It is recommended that further research be done throughout the country to assess the level of geographic accessibility in the country.