

Use of Geographic Information Systems (GIS) to Assess Literacy in Rural Communities in Kenya

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SUMMARY

Literacy is the fundamental of education. All conversations in the field of education are geared towards access to quality education, a global goal towards the achievement of zero poverty by the year 2030. Despite all these conversations, little is being discussed about literacy. Various reports on literacy, indicate literacy rates based on general population figures collected through general literacy assessments and surveys. This overlooks the disparities experienced from a grassroots level. This paper aims at assessing literacy from a scientific method, using Geographic Information Systems. Literacy is a human-social phenomenon, research and innovations geared towards it are mostly tackled from a social angle. With all the dynamics and constraints involved in achievement of literacy assessment, there is need to use scientific and technological approaches in order to efficiently get the true picture of literacy as is on grassroots levels in communities. The case study of this paper is Taita Taveta County a rural community in Kenya. Taita Taveta County suffers from low literacy levels due to lack of proper infrastructure in the available schools, poor education perspective by the community members, poverty, lack of political and willpower and goodwill. The objective of this study is to map the location of schools, literacy, terrain and population settlement in the country.

The methodology involved generating Triangular Irregular Networks and contours to depict the terrain and elevation, a hill shade map to show the slope and a series of maps showing literacy levels in all the education institutions: early education centers, primary schools, secondary schools, youth polytechnics and universities in relation to location of the schools. It was also necessary to show the population distribution of households in relation to the terrain and location of schools. All results obtained were presented in maps and indicate distinct reduction in literacy rates percentages from one education rank to the next, a trend that is very worrying. Despite achievement of the project objectives, the disparities in literacy assessment and practices in Kenya are very apparent,

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the biggest challenge being the inaccessibility to credible and specific data that depicts the state of literacy in rural communities. This paper aims at coming up with more practical literacy assessment tools and simple yet practical solutions for rural communities in Kenya.

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