

Modelling of mobile access point (map) for information and communication technology (ICT) connectivity in the rural areas of Tanzania

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The impact of Information and Communication Technologies (ICT) in rural areas of Tanzania is very limited despite its penetration into every corner modern life. The rural areas of Tanzania are characterized by the low income per household, difficult geographical conditions, lack of ICT infrastructure, and low population density. For these reasons ICT services are often out of reach of the rural inhabitants. This thesis expresses how ICT can be made available in order to alleviate poverty and enhance other social activities. It presents a model suitable for ICT provision in the rural areas of Tanzania. This model is based on footstep technology; asynchronous link for ICT penetration in the rural areas. Mwanga district in Kilimanjaro region is taken as a pilot area due to its common environment that describes the rural area of Tanzania. The framework model using mobile access point (MAP) is presented to implement sustainable broadband Internet Protocol (IP) services to complement voice services in Mwanga district. Clinics, dispensaries, schools and other centers are considered. This research shows that, when the proposed MAP model is used to provide basic ICT services in the rural areas of Tanzania. The service charge will be affordable in the common life of rural inhabitants. In Mwanga district for instance, if all 29 schools and 24 dispensaries will be provided with ICT services, in order to break- even in two years, students in the rural schools will have to pay only USD. 24 per year and dispensaries will be charged only USD 10 per month.