

A FRAMEWORK FOR ASSESSING COMMUNITY UTILIZATION OF  
HEALTH SERVICES IN HEALTH FACILITIES USING GEOGRAPHICAL  
INFORMATION SYSTEM:

A Case of Kibaha District, Coast Region Tanzania.

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## ABSTRACT

Access to health services by patients in most parts of Tanzania is a challenge due to the fact that some of the villages have no health facilities. Availability of health facilities near people's residents contributes significantly to healthier community. In this study GIS techniques namely Analytical Hierarchy Process (AHP) and Weighted Linear Combination (WLC) methods were used to determine geographical and demographical factors affecting accessibility and utilization of health facilities.

To achieve the study objectives, data from 56 operating health facilities in Kibaha district was collected from February 2018 to July 2018. Handheld Geographical Positioning System (GPS) through field survey was used to collect and geo-reference water point, village center and health facility coordinates points in Kibaha district. Questionnaire with closed and open questions was used to collect health services information from health facility staff members. Documentary review was used in collecting secondary data in Kibaha district, shapefile of Kibaha District, Open Street Map (OSM) for road networks, population and number of patients attending health facilities were the secondary data collected.

A framework for optimal location of new health facilities and urgent rehabilitation for improving health facilities was developed to ensure community utilizations of health services. A framework developed was for suitability analysis for the given alternatives.

The result indicates that, population has strongest influence in health care facility utilization with a magnitude weight of 65%, Distance from road to health care facility has a magnitude weight of 17% on health care facility utilization, distance from residents to health care facilities has a magnitude weight of 11% and water source availability has 7% magnitude of weight. That means population has greater influence on health facility utilization among the assessed factors. Also, the results indicates that uneven distribution population was the reason of uneven distribution of health facilities in Kibaha district. The study therefore recommends, the use of household as residents reference point in articulating distance from residents to health facilities rather than using village center. Also, the use of GIS as a decision support system in other health field like damp siting to improve the life of the people.