

SPATIAL DECISION SUPPORT TOOL FOR CHOLERA RISK MAPPING IN URBAN AREAS

By

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ABSTRACT

Kawempe division one of the five divisions that make up Kampala district has for long suffered from cholera outbreaks. These outbreaks have been escalated by a combination of factors both environmental and social factors. There has been poor planning in the division as evidenced by the poor settlement patters, drainage systems among others. During the rainy season, there is a lot of runoff water which floods most places, coupled with the poor toilet facilities and congested homesteads, cholera outbreaks has been rampant

There has been little awareness of the benefits and application of geographical information systems (GISs) and Decision support System (DSS) in mapping of cholera risk areas. This created a need to develop a Spatial decision support tool for cholera risk mapping to enable division planners in making informed decisions regarding settlement patterns, garbage disposals , drainage network among others.. This Spatial tool was designed using ArcMap 10 because of its enhanced GIS analysis capabilities. Analysis was done by overlaying of different layers and Euclidean distances were created to show distance covered from area point to another. There was classification of the distances. The weighing of each analyzed layer using weighted overlay created cholera risky areas in Kawempe division.

The results of the interviews carried out indicate that both environmental and social factors are responsible for the cholera outbreak. Factors like poor drainage network, poor settlements, and poor toilet facilities. The tool was able to show the cholera risk areas. These risky areas that were identified will help division planners to plan and monitor proper settlement patterns, ensure proper toilet facilities, sensitize the masses about proper garbage disposal as well as plan for the drainage network distribution while working hand in hand with other stake holders like NEMA.