Spatial modelling of arsenic distribution and human health effects in Lake Victoria basin, Tanzania

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Increasing incidences of naturally occurring geogenic pollutants in drinking water sources and associated human health risks are the two major challenges requiring detailed knowledge to support decision making process at various levels. The presence, location and extent of environmental contamination is needed towards developing mitigation measures to achieve required standards. In this study we are developing a GIS-based model to detect and predict drinking water pollutants at the identified hotspots and monitor its variation in space. In addition, the mobility of pollutants within the affected region needs to be evaluated using topographic and hydrogeological data. Based on these geospatial data on contaminant distribution, spatial relationship of As and F contamination and reported human health effects such as dental caries, dental fluorosis, skeletal fluorosis and bone crippling, skin and other cancers etc. can be modeled for potential interventions for safe drinking water supplies.