Improving groundwater development for rural and urban water supply in Uganda- the role of groundwater mapping
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Groundwater plays a significant role in both urban and rural water supply in Uganda but its development has previously been made with very little information on the hydrogeological conditions and groundwater potential of various areas. Groundwater development started in 1930s and has been done mainly through construction of deep boreholes and protection of springs. The Government of Uganda has a target of providing safe water and sanitation for all by the year 2025 although safe water supply coverage currently stands at 65%. There is however concern that water supply coverage has not increased substantially over the last few years despite increased funding to the sector. This has been attributed partly to water sources being constructed in areas with very low groundwater potential resulting in low drilling success rates and also water sources yielding inadequate quantities of water, water sources being constructed in areas with poor water quality leading to either abandonment or limited use or due to resources being spent on very expensive water supply options when cheaper options are available. These challenges have been caused by lack of tools in form of maps for use in planning water development programmes by decision makers at both national and district levels. Groundwater mapping outputs are facilitating faster achievement of the national water supply targets and the Sustainable Development Goals. Groundwater mapping involves preparation of maps representing groundwater resources in terms of their quantity and quality and summarizing this information spatially. Six different types of maps are prepared and include- water supply coverage map, hydrochemical characteristics map, water quality map, hydrogeological characteristics map, water supply technology options map and groundwater potential map. Experiences so far shows that groundwater development for rural and urban water supply in Uganda can be greatly improved as result of the guidance from groundwater maps.