



Kenya

Ground Water Assessment Results

The experience of Samburu, Kenya

Groundwater resources exist in the two-sub counties as boreholes, shallow wells and springs in the two sub-counties. The larger population depends on the boreholes compared to shallow wells based on the number boreholes. The average borehole yield in Mwingi West and Kitui Rural is 6.5 m³/day and 6.8 m³/day respectively. Some of the high yielding zones in Mwingi West are West of Thitani shopping areas where boreholes yield more than 20 m³/h and northwestern parts of Itiliku shopping with borehole yields ranging from 6 to 11 m³/h. The average human population for the two sub-counties within a radius of 2km² are 568 and 1330 persons for Mwingi West and Kitui Rural Sub-Counties respectively while livestock average are 444 heads in Mwingi West and 1134 heads in Kitui Rural. Poor Groundwater quality is observed from Mamuluni borehole with EC above the WHO standard limit of 2500 μ S/cm. Most of the boreholes and all the shallow data lacked the water quality parameters and therefore little could be done to understand the quality issues.

- Rehabilitation of non-operational boreholes reported in this study to increase the water supply system within the two sub-counties.
- Sinking of new boreholes in the high potential areas West of Thitani shopping areas where boreholes yield more than 20 m³/h and northwestern parts of Itiliku shopping with borehole yields ranging from 6 to 11 m³/h to serve that population. Proper siting of the boreholes for the proposed priority areas is highly recommended during the project implementation.
- The water service providers such as should be supported and the establishment of Rural water governance structure. The Water Resources Users Association (WRUAs) should be strengthened to help in the water management within different parts of the sub-counties.
- Formalization of all forms of water service provision within the county to guarantee the health and safety of end users.
- Shallow well protection: - proper design and installation of an environmental seal.
- Groundwater quality data for the boreholes and wells should be validated to ensure that the water sources are safe for human and livestock consumption.
- Capacity building by training the artisans who can maintain water pumps to avoid the failure of boreholes due to technical breakdowns.
- The borehole projects for the communities should be done in public lands, or the lands should be acquired by the County Government or national government to avoid abandoning of the borehole projects after completion due to land dispute cases.
- More comprehensive data should be acquired on the yield for each borehole and shallow well to enable the proper calculation of the total demand and aquifer parameters.
- Proper management and repair of the already existing water sources to put them in continuous shape of operation so as to realize the primary goal of construction