

## **Abstract**

Water is a scarce commodity in the Arid and Semi-arid Land (ASAL) of Eastern Kenya. In this study, an assessment of household water and soil management technologies in Kitui Central, Mulala and Wote Locations is presented. A purposive sampling procedure was used in selecting the locations based on agro-ecological setting. For each location, random sampling procedure was employed in selecting and interviewing households. The findings showed that in Kitui Central, Wote and Mulala locations, loam soils represent 60%, 47% and 43% by composition, respectively. Fertility of the soil is mainly maintained by use of organic manures and inorganic fertilizers. Organic manure was more dominant in Kitui central and Wote locations each with 52% compared to Mulala with 48.5% of the total households in each. On average, water consumption was found to be 21 litres/capita day for people and 80 litres/animal.day for the livestock. Water harvesting technologies adopted by households were roof catchments, earth dams, sand dams and micro/macro-catchments at 38.4%, 22.3%, 14.2% and 11.5%, respectively within entire study area. Soil conservation in these areas mainly use terracing (53.3%) and planting trees (28%). Public tap dominate the water supply sources with Kitui Central division taking approximately 56% and Wote 22.5%. Protected well and rainwater harvesting sources supply 2.2% of the households in the Wote division insignificant values for Kitui Central and Wote divisions. The findings showed the need to mobilize funds for development of water resources and soil conservation to accelerate socio-economic development and increase food security in the study areas. There is need to train households for proper design, layout and sustainable soil and water conservation technologies.