

Effect of climate change and variability on fresh water availability in Mkuranga district

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This study assessed the effect of climate change and variability on fresh water availability in Mkuranga District. Both primary and secondary data were used. Secondary data were collected from existing literature and documents. Primary data were collected through interviews with key informants comprising district officials and selected households in Mkuranga. A household questionnaire was administered and field observations made. Data was analyzed using Statistical Package for Social Sciences (SPSS) software version 20 and MS Excel. Rainfall and temperature data for over 30 years were analyzed using Microsoft excel. The results indicate that availability of water in Mkuranga District had decreased from the year 2011 up to 2013. This decrease was associated with various factors. One of the factors was climate variability. Also, it was revealed that rainfall variability led to reduced water and hence drought. The study found a strong association between water availability and temperature. For instance, there has been shortage of freshwater for domestic, livestock and irrigation purposes to about 43% between 2011-2013. During the same period, average monthly temperature increased by 1.6°C. Similar increases were also observed as early as between 1962 and 1982. Active programs of replanting trees needs to be developed and existing laws preventing the cutting of trees should be actively enforced. This will help protect water sources. The study further recommends that more fresh water reservoirs should be constructed in the villages in order to reduce the problem of water unavailability in Mkuranga District.