

Responses to Drought and Climate Change

Issue: As climate change continues to make dry areas dryer and wet areas wetter, how water is managed will be critical to the health of many people. Currently there is a need for rainwater harvesting to optimize the supply of fresh water when it is needed by way of storing water. There are situations that do not make the best use of storage tanks, such as in Tot, Kenya where a borehole was drilled and groundwater was initially pumped into a storage tank for future use by a nearby hospital. However, due to the borehole not being drilled deep enough, there was an insufficient supply of groundwater to meet the needs at the hospital. To alleviate this situation, it was decided that surface water (contaminated with fecal bacteria) should be also pumped into the storage tank. In doing so, the entire water supply is contaminated and all water needs to be sterilized prior to use in the hospital.

Solutions: A graduate from the MSc program would know that mixing these two water supplies would create a larger problem for the hospital, either because all water would need to be boiled, or alternatively, the contaminated water would be used in the hospital at great risk to the patients. By learning alternative solutions to this situations, such as providing a separate storage tank for each source of water, would allow the contaminated surface water to be used for non-sterile uses such as washing floors and flushing toilets thereby saving the higher quality groundwater for sterile purposes. In doing so the effort needed to boil all the water is reduced, as is the time, energy and fuel needed to collect and burn firewood to boil the water.

