Webinar: Using rainwater harvesting to augment groundwater reserves

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GROUND WATER POTENTIAL

- The total potential groundwater resource (storage) in Kenya is estimated to be 619 million m³.

- The total abstraction rate in 2012 was estimated at 7.21 million m³/year, and the total safe abstraction rate (annually recharged) in Kenya is estimated to be 193 million m³/year.
GROUND WATER USE

- Many parts of Kenya rely on groundwater, either directly from privately owned or communal boreholes, or via piped supplies from groundwater wellfields. Groundwater from communal boreholes or hand-dug wells supplies most of the rural population.

- Other aspects that use ground water include: mining, irrigation, among other commercial and industrial uses.
CHALLENGES WITH GROUNDWATER

- Poor water quality, overexploitation, saline intrusion along the coastal areas, and inadequate knowledge of the occurrence of the resource.

- Some aquifers, mostly with recharge from fresh water rivers, are excellent groundwater sources e.g. the Lodwar aquifer.

- Many aquifers have groundwater quality issues. For example, the Nairobi aquifer has high fluoride concentrations, which mostly exceed WHO standards,

- Some are very saline with conductivity exceeding 8000 µS/cm, eg Lotikipi aquifer

- The Mombasa Island Pleistocene sands and limestones and related aquifers are impacted by pollution and saline intrusion.
CHALLENGES WITH GROUNDWATER

- Enabling Environment to support ground water is limited

- Two bodies in Kenya that are expected bear the most responsibility in regulating AGR are the National Environment Management Authority (NEMA) and the Water Resources Authority (WRA).

- The water Act 2016 does not exclusive speak to artificial ground water recharge
GROUNDWATER RECHARGE

- Limited options
  - Rivers
  - Rainfall

- Very limited infrastructure exist to aid harvesting of rainwater for groundwater recharge.

- Data on AGR in Kenya is limited
THANK YOU