

# Innovations to adapt to seasonal changes in water resources in south-eastern Kenya drylands

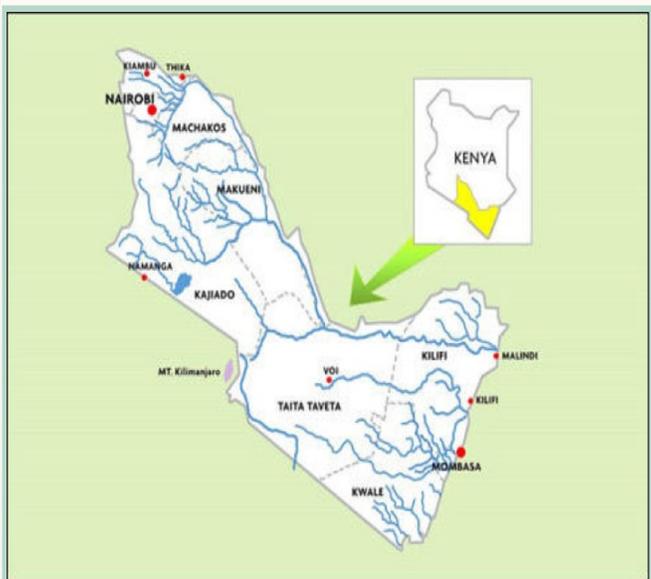
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## Fieldwork Phase1: Scoping surveys and on-site observation

Mapped and profiled surface water resource formations & assessed water availability

- Comprises of spatially dispersed ephemeral & perennial water resources: small earth dams and water pans, ground water wells, open shallow wells and sand dams in seasonal rivers, and springs emerging at the bottom of hills (small mountains)
- Water resources in drylands are highly dynamic due to intra and extra annual variations in precipitation patterns and water availability
- Small earth dams and water pans last 2-3 months after rains, 70% households make changes in water source across seasons
- Multiple users and uses encountered, over 80% domestic and local agro-pastoral activities
- Reservoir water availability/reliability vary depending on consumption by communities, rainfall seasonality evaporation losses and underground seepage.
- Range of innovative structural and institutional adaptation strategies, locally generated as well as introduced by external agencies

## Athi Basin in Kenya



## Water from ephemeral riverbeds

Moving from shallow open wells in dry riverbeds



## Rocky hill water catchment

Embankment with V-notch fitted with pipe



To construction of sand dam across seasonal rivers for more resilient, increased quantities and better-quality water



## Small earth dams and water pans

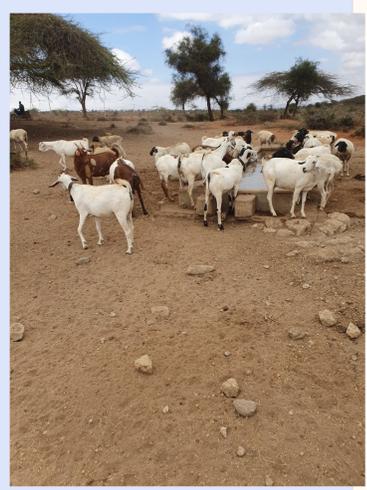


Water directed to a 250 cubic metre tank a short distance from the rocky hill



Water from pan flows to access point for people and a livestock drinking trough

Tank drains – through gravity - to 150 cubic metre tanks from which locals access the water



Supervised by: Prof John Rowan & Dr Irena Connon