

Capture and Storage of Water

- Capturing and storing water secures a basic resource enabling development.
- Technologies facilitates water capture and storage are an asset to dryland communities.
- One appropriate technology employs dams constructed in sandy drainage channels to store water facilitating infiltration and recharge into ground water storages.

ASAL's

- Defined by low water availability
- Characterized by
 - Low rainfall
 - High loss through runoff and evaporation.
 - Seasonal rivers
 - High temperature.

Mitigation

- Water resource Management
 - Run off control
 - Water harvesting and conservation
- Enhancement of ground water recharge
- Environmental Conservation
 - Re-vegetation

A Dry River Bed before Sand dam Establishment



Sand Dams

- Definition:
- Impervious barriers storing water and sand in the reservoir in seasonal river
- Function:
- Retention of water in a reservoir
- Raising water rest levels in the sand
- Distribution of water points.

Preparation for Construction

- Trench excavated to get impermeable substratum to avoid piping



Construction below ground

- Filling the trench with masonry to the ground surface.



Construction of dam wall facing

- Building the dam walls facing.



Dam structure above the ground

Raises the level of the river bed.



A New dam

- Newly completed dam filled with surface water

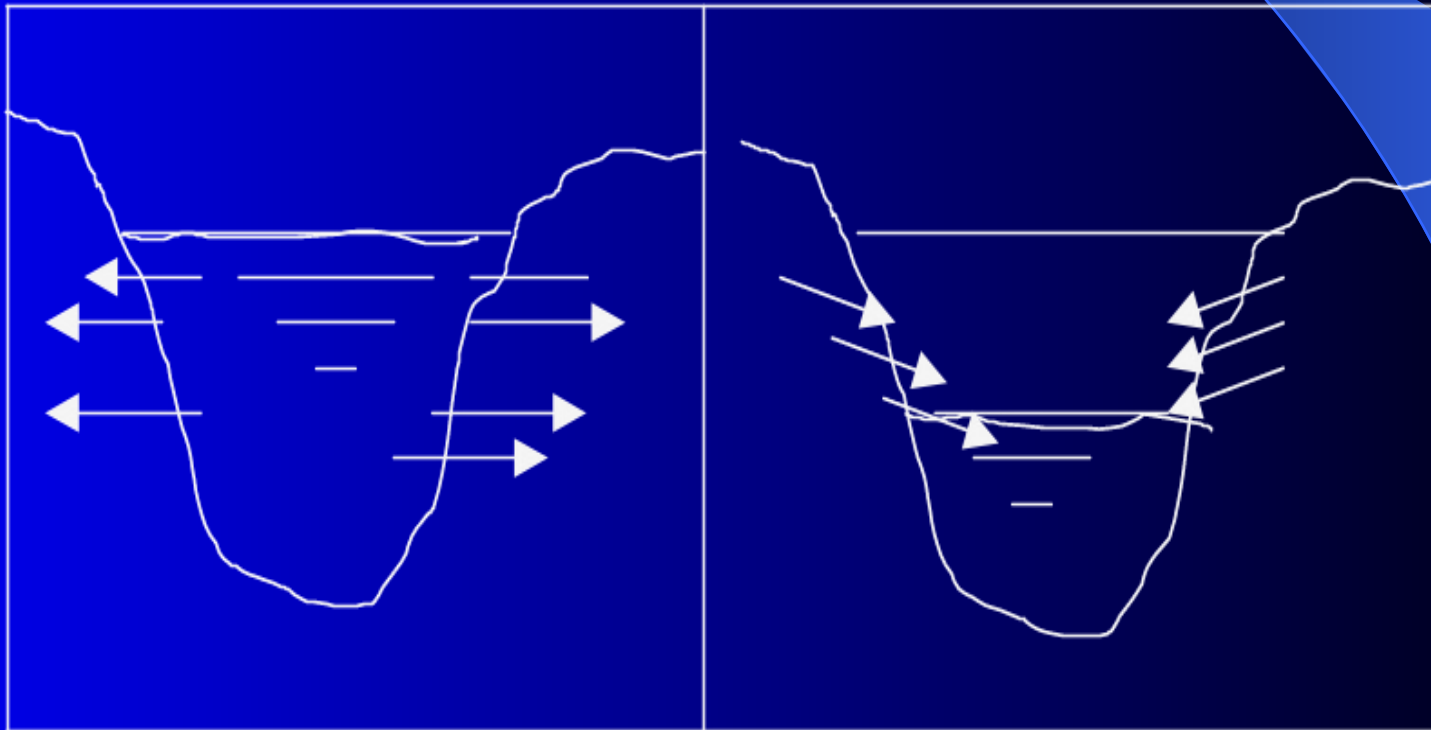


Mature Dam Filled with Sand

Dam Filled with water and sand

Sand Dam Buffering Effects

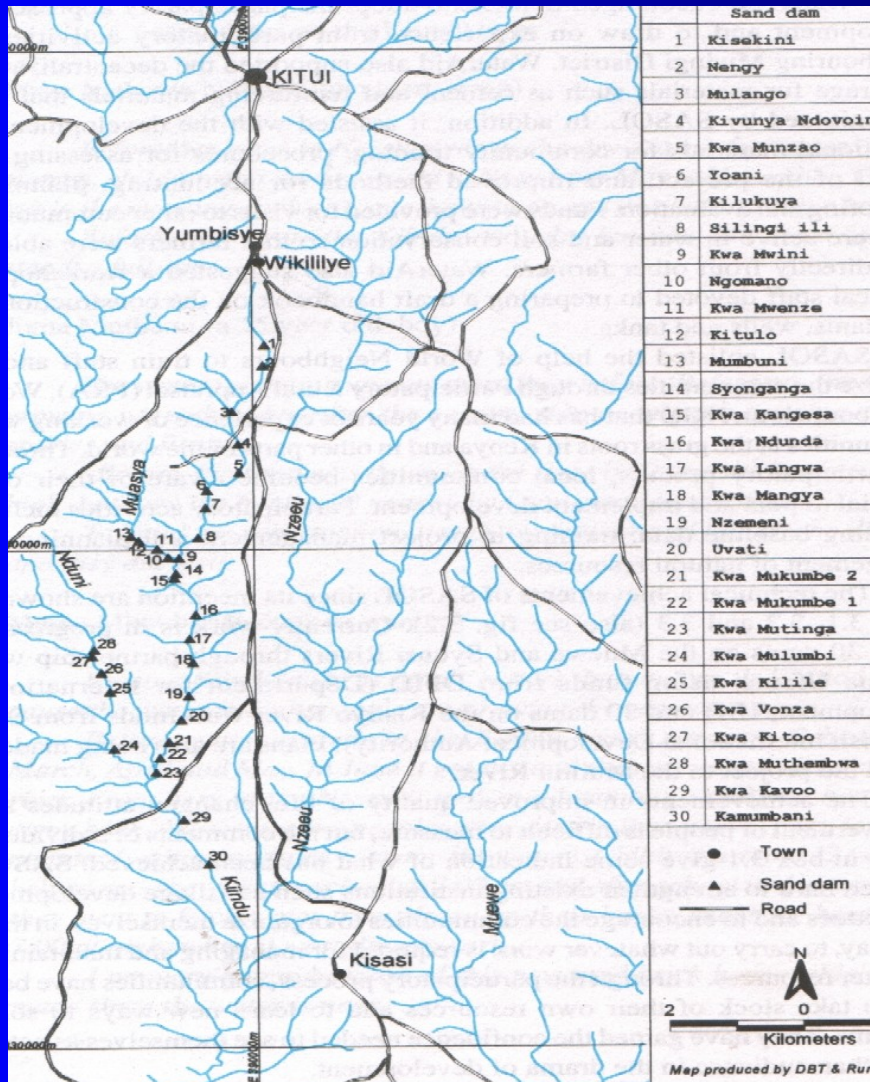
- Wet season the river recharges the banks
- Dry season the banks recharge the river.



Wet Season

Dry Season

Cascade



- Dams build in Cascade along a river channel in a catchment.

Sand Dam Impacts

- Distribution of water points
- Increased availability of water over time
- Extended area of ground water recharge
- Increased area of available moisture for plant growth and re-vegetation.

Sand dams in integrated water management scheme

- Form the last barrier before discharge from a catchment.
- Supply available water facility revegetation
- Raise the water table slowing down water flow from the surrounding lands, making other retention structures more effective.

Little drops of water make a mighty ocean

