



# Flood Based Farming Systems: and Improving Resilience for the Most Vulnerable Areas

Pastoralist Areas in Horn of  
Africa



*META*  
**META**



Flood-Based Livelihoods  
Network Foundation





Working in the lowlands: short term floods are main source of usable water

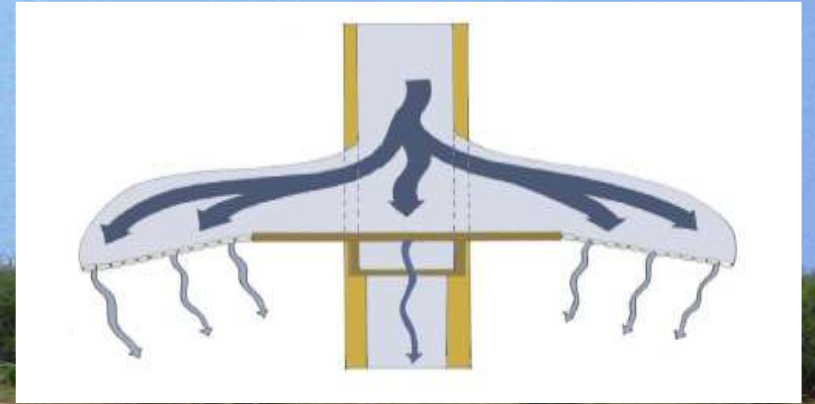


# Harnessing floods in arid lowlands

- Flood water spreading
- Spate irrigation for fodder
- Road water harvesting
- Managed revegetation
- Holistic grazing



# Flood water spreading















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For instance - spreading water from culverts – avoids erosion, captures water







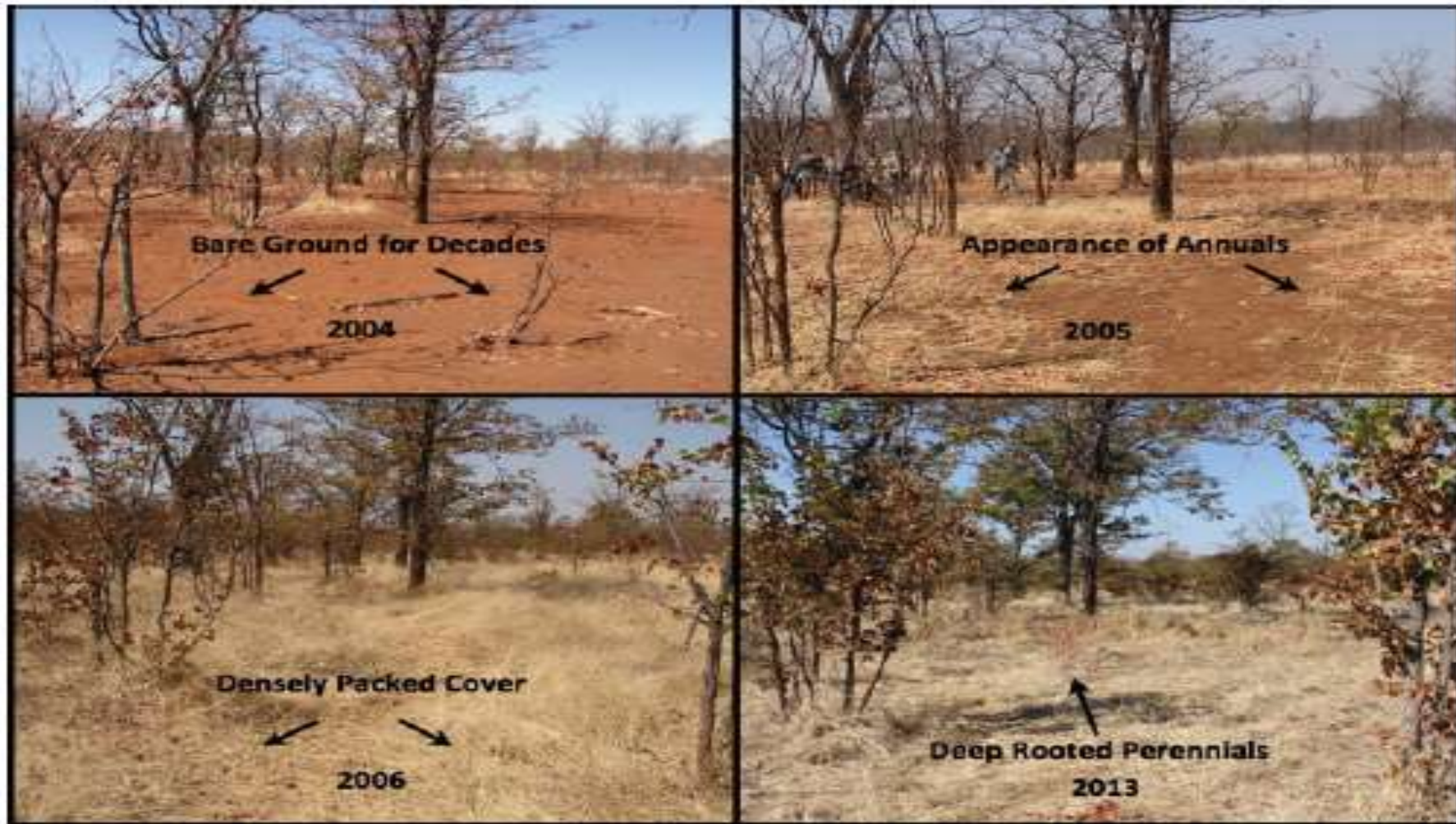








Map











- Shallow groundwater (<15 meter):
  - Often forgotten
  - Easily recharged (many techniques)
  - Feeds soil moisture, seasonal capillary rise, micro-climate
  - Can become new resource
  - Easily accessed (user investment)
  - High potential areas:
    - Flood plains
    - Flash flood diversions
    - Dry river beds (with subsurface dams)
  - Need to assess how secure it is (pollution, short term storage) – but more secure than direct storage or enhancing soil moisture





# Interaction with pastoralist livelihood systems: resource availability

- Pastoralism: water
  - Surface storage (ponds, borrow pits, hafirs, berkats) for stock water/ drinking water complemented with secure wells
  - Wells (singing wells) for stock water/ drinking water
- Pastoralism: grazing area and water resources development (combine rangeland improvement with recharge)
  - Holistic grazing
  - Flood water spreading
  - Spate irrigation and road water use for fodder grasses and recharge



# Interaction with pastoralist livelihood system: challenges

- How secure are resources and how secure are strategies to recharge
  - Avoid drought trap – moving to vanishing resources
  - Fear of competition/ encroachment/ conflicts of too much water and not enough grazing ground
  - Management and access to water and pasture regulated or not (in normal and crisis times)?
  - Emergency and relief (part of livelihood)

# Interaction with agricultural livelihood systems: resource use

- Rainfed and flood based farming
  - More secure soil moisture (capillary rise)
  - Supplementary irrigation?
- Groundwater irrigation
  - Efficient water use, crop diversity (avoid maize trap), value chains, transport
  - Prevent overuse