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

Pastoralist Areas in Horn of Africa
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
For instance - spreading water from culverts – avoids erosion, captures water
• 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