Rainwater Management in the Blue Nile Basin: Watershed Management Research

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NBDC Stakeholder Forum

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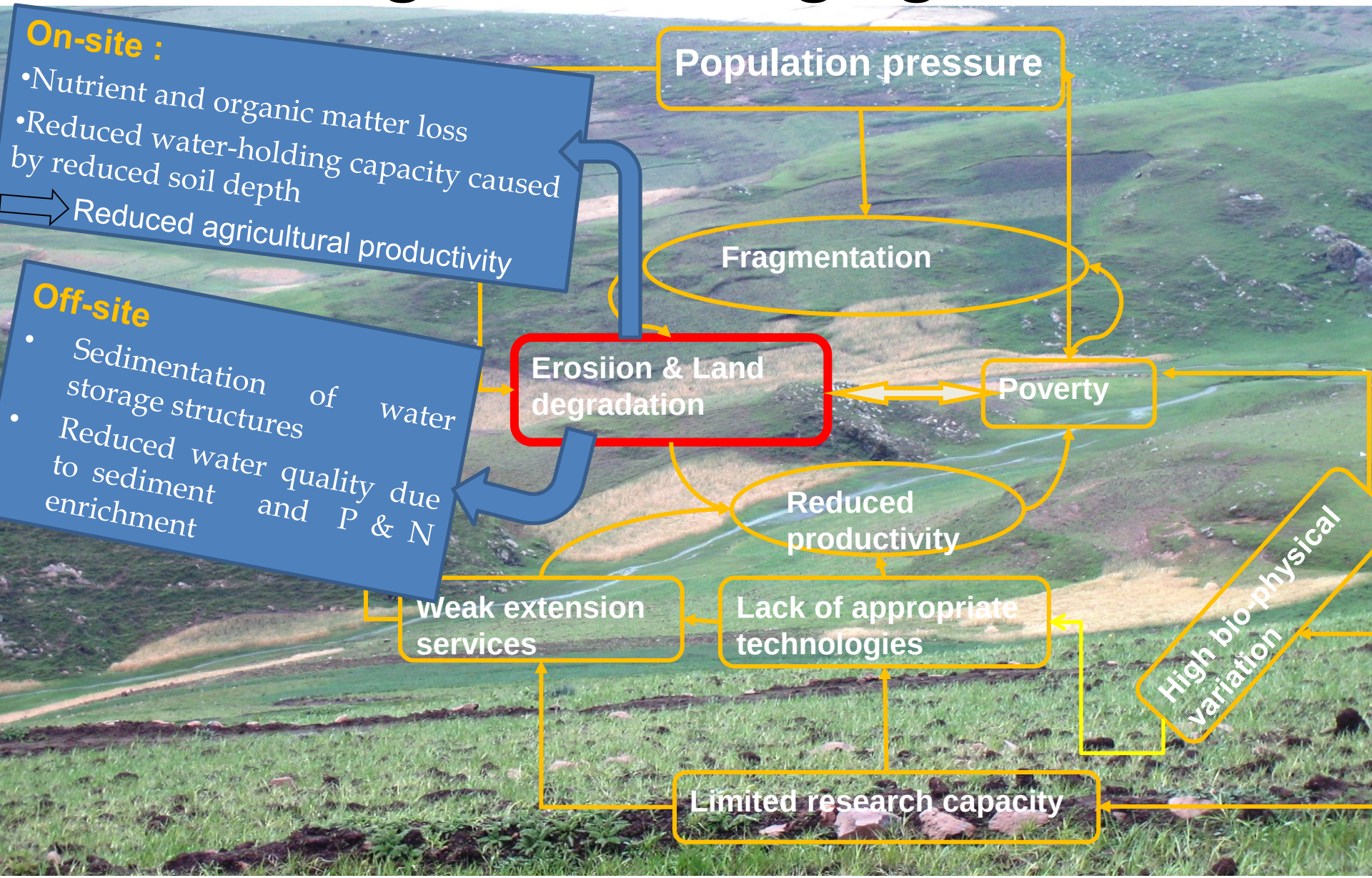
CGIAR Challenge Program on WATER & FOOD

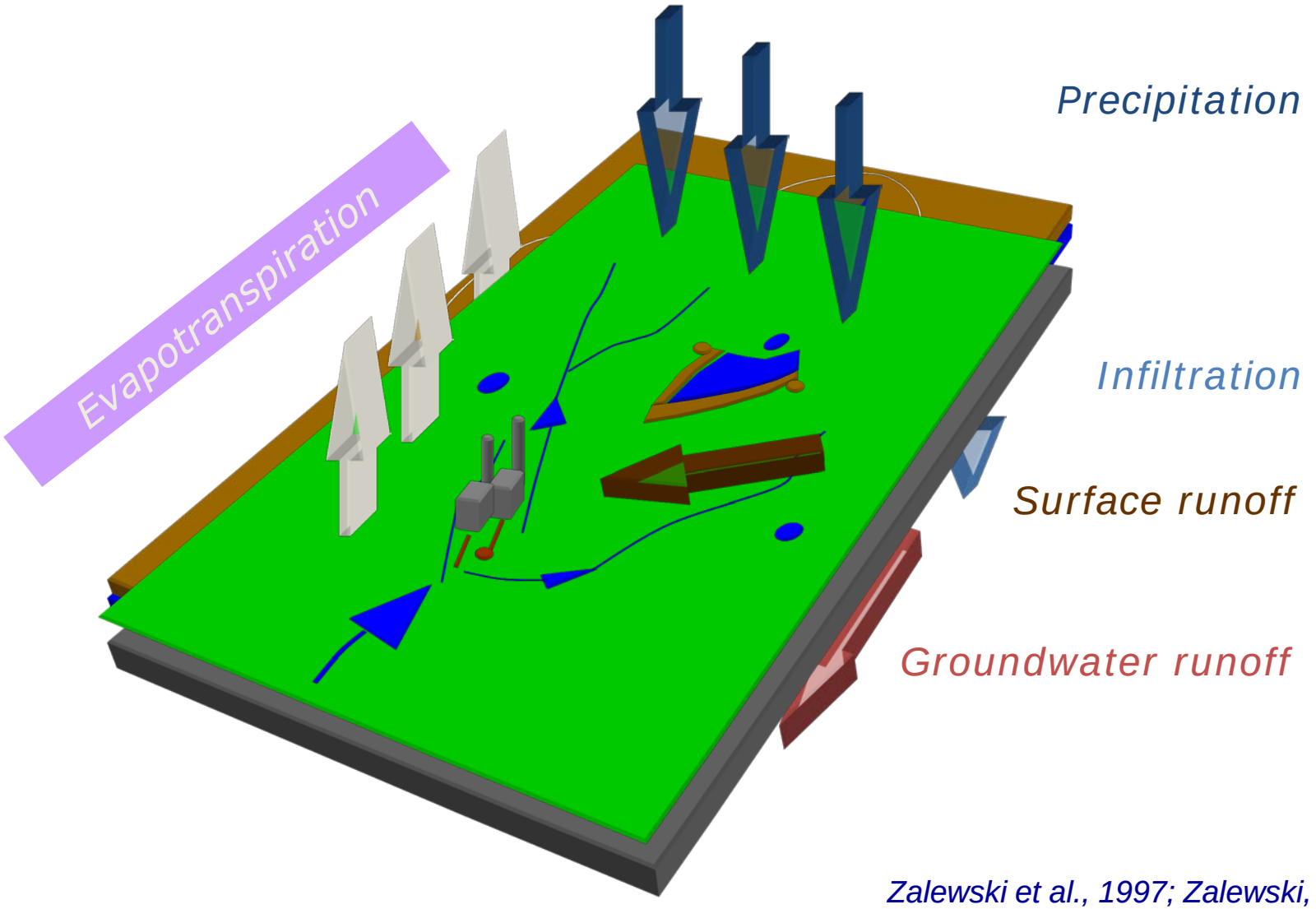
Nile

Challenges in Managing Nile WS



Function

- receives, stores, and releases water in numerous ways
- provides water supply services for economical, ecological and social purposes in required quantity and quality
- Regulates the balance between the **loss** and **storage or useful depletions** of water



Zalewski et al., 1997; Zalewski, 2009

WSM Research in NB

- A number of studies have been conducted by several stakeholders
- IWMI and its partners focused on modeling sedimentation rate
- Effect of soil loss on productivity was not given sufficient attention
- Currently
  - attempting to relate sediment loss to crop and land management practices
  - link sediment loss to crop-livestock SWP

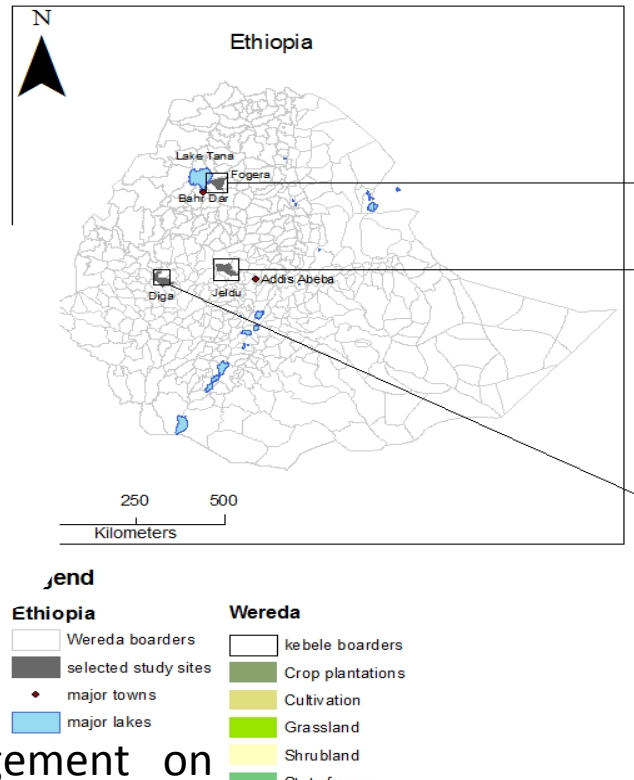
Approaches

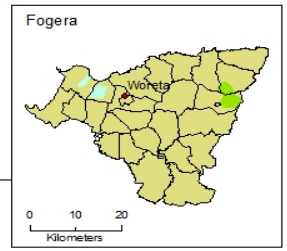
Understand the systems (micro watershed and landscape)

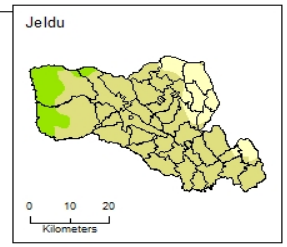
Three watersheds selected

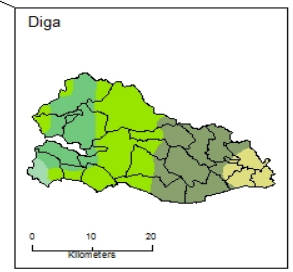
Collecting Data on

- Climate
- Crop and land management
- Runoff
- Sediment load
- Nutrient conc. of sediments









Will Analyze

- Impact of crop & land management on productivity and production
  - Water Productivity Modeling
  - Nutrient loss Vs Crop yield (Nutrient Response curve for different crops)
- Options to change scenario
  - Evaluate Menu of Interventions (WS level)
  - Anticipate Impact at Basin scale

Key Data Gap

- Crop performance at different locations under defined management practices (key crops: maize, rice, wheat, tef, potato, millet, sorghum, barley)
- Response of these crops to different fertilizer rates