

Groundwater Management in Africa: The Case of Pangani Basin, Tanzania

By

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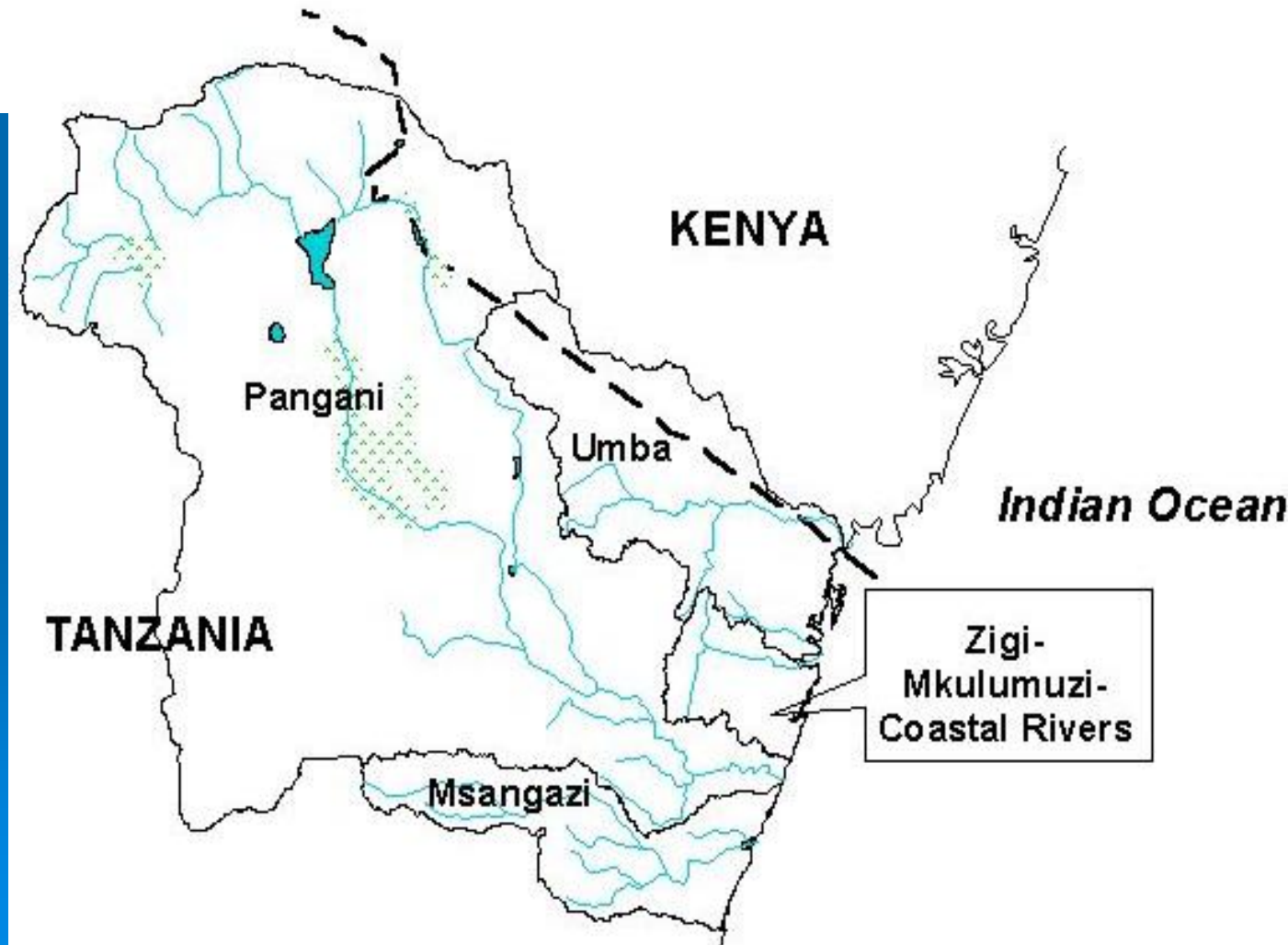
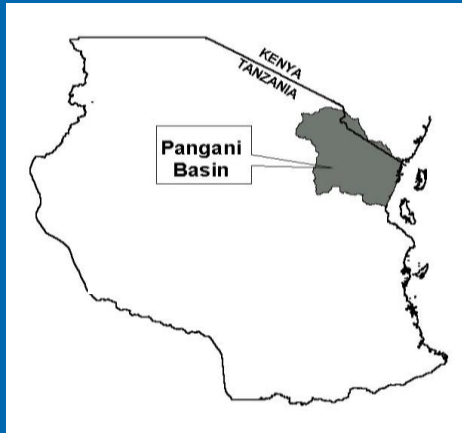
Presentation Outline

- ❑ Introduction
- ❑ Groundwater Availability
- ❑ Groundwater Management Challenges
- ❑ Water Sector Reforms
- ❑ The Way Forward



Introduction

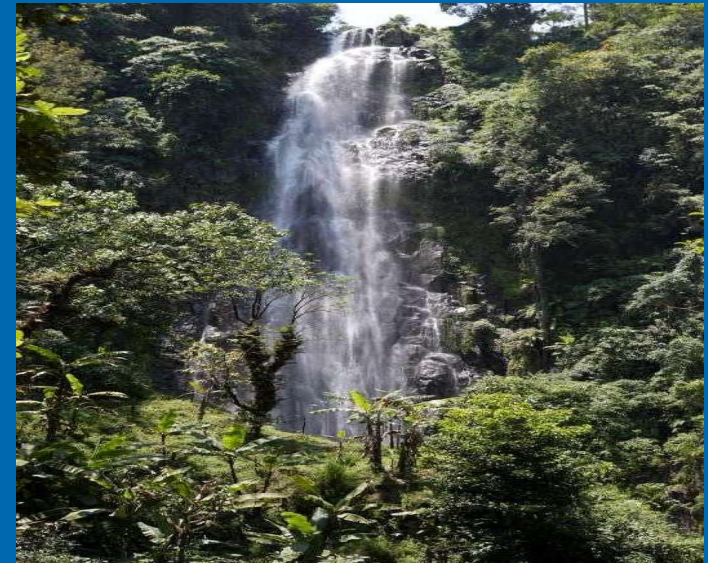
Pangani Basin



Introduction

Pangani Basin

- Area: 56,300 sq km (5% in Kenya).
- Population: 3.7 m in Tanzania & 0.041 in Kenya.
- Rainfall:
 - 600 – 2,000 mm/yr
 - erratic in low lying areas (50% of the basin area).
- Uses: Domestic, irrigation, hydro-electricity, livestock and industries



Introduction

Pangani Basin Water Board



Members of Pangani Basin Water Board

- Established in 1991
- Roles and Responsibilities:
 - Water Allocation
 - Water Resources monitoring and assessment
 - Coordinate water resources planning
 - Pollution control
 - Water use conflict management

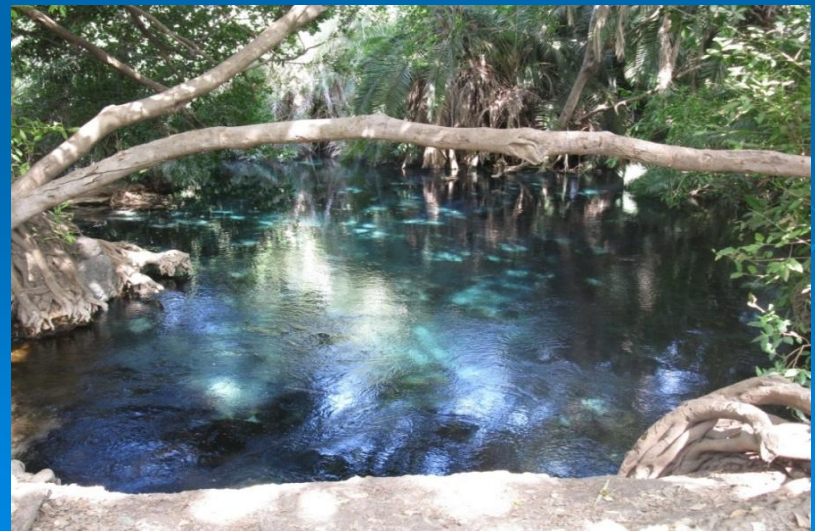
Groundwater Availability

- **Recharge:** Rainfall and glacial melt from Mt. Kilimanjaro
- **Major aquifers:** indiscrete: (alluvial sediments -10%, sedimentary – 4%, volcanic – 1% and metamorphic – 85% rocks)
- **Yield** of Boreholes range 10 – 800 m³/hr
- Depth of boreholes: 20 – 200m.
- **Springs:** Numerous around Mt. Kilimanjaro, Mt. Meru and Pare and Usambara Mts.
- **Water quality:** Generally good, with exception in some volcanic rock areas where **fluoride** contents exceed 8mg/l.

Note: So far not much exploited; about 500 boreholes



Water sold from private wells



Rundugai Springs, Kilimanjaro

Groundwater Management Challenges

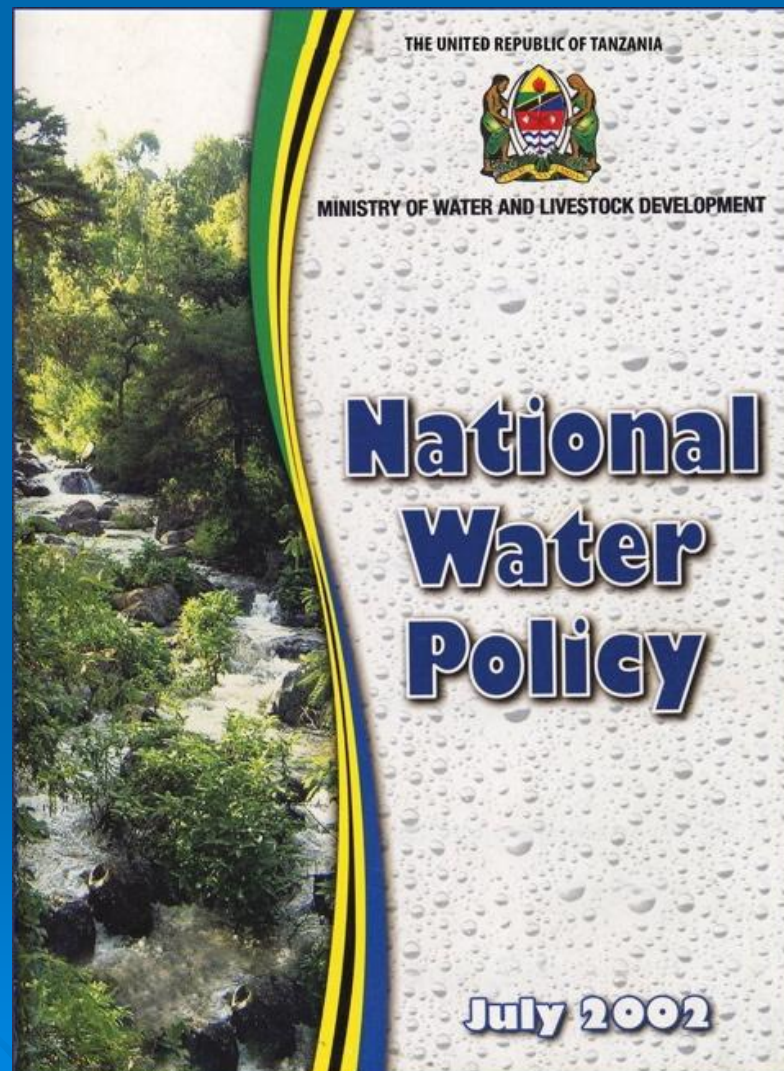


Artesian well at Kahe village

- Potential not assessed
- Uncontrolled groundwater explorations and development
- Fragmented data and information
- Land degradation
- Some aquifers are transboundary
- Weak legal framework
- Capacity to management

Water Sector Reforms

- National Water Policy:
 - reviewed in 2002
- National Water Sector Development Strategy
 - had been prepared
- Water Law:
 - under review
- Water Sector Development Programme:
 - started implementing in 2006



The Way Forward

- New Water law to address policy requirements to be tabled in the parliament soon;
- Regulations to be prepared
- Groundwater assessment task to start
- IWRM plan
- Groundwater monitoring in potential identified areas
- To pilot use of groundwater for irrigation



Thank you for listening

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