

WATER MANAGEMENT ISSUES IN RUFJI BASIN, TANZANIA



Rufiji Basin

Presented to the CLIVET Project Workshop 30th August 2011

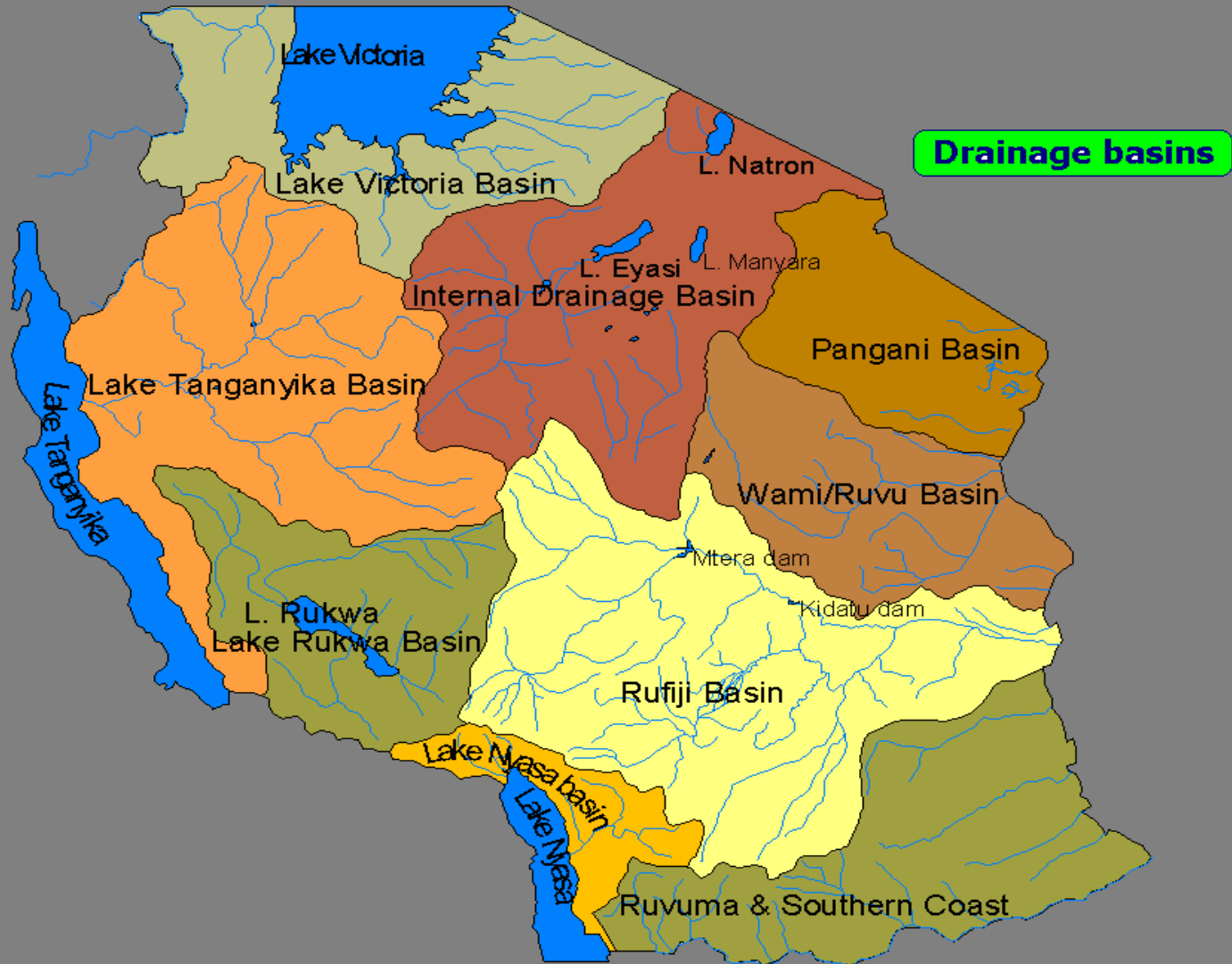
Outline

- Introduction
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- Legal Framework
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- Additional Challenges
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- Monitoring Network

Introduction

- The Rufiji Basin covers an area of 183,791 square kilometres (about 20% of Tanzania).
- The river drains into the Indian Ocean.
- It has four major Rivers
- Great Ruaha 85,554 square kilometres
- Kilombero 40,430 square kilometres
- Luwegu 25,288 square kilometres
- Rufiji 32,619 square kilometres

Introduction



Intro...

Reservoirs and Sensitive Ecosystems

- There are three major HEP plants in the Rufiji Basin namely Mtera 80 MW, Kidatu 204 MW, Kihansi 180 MW
- There exists three major sensitive areas namely
 - Utengule Wetland (including Ihefu)
 - Kibasila Wetland
 - Mangroove swamps at the Rufiji Delta)
 - There are over 87 national forest reserves
- Other important systems include the protected areas (Lungwa-Ruaha NP system, Kitulo NP, Udzungwa (and the Eastern Arc Mts, Part of Mikumi NP and Selous GR)

Institutional Framework

The National water Policy (NAWAPO 2002), sets out the institutional setup at the following levels:

- National
- Basin
- Catchment
- Subcatchment
- Water User Association

Institutional Framework...

The Rufiji Basin Water Board

- The RBWB was established under Section 22 of WRMA No. 11 of 2009
- The Board consists of 10 members
- The Board has mandates of :-
 - ❖ allocating water resources,
 - ❖ controlling water pollution,
 - ❖ protecting water sources
 - ❖ Other general Water resources management matters

Other IWRM institution

- WRMA 2009 establishes institutions in addition to BWB.
 - Catchment committees
 - Sub Catchment committees
 - Water User Associations
 - Water User Groups

Institutions ...

- Other Main Actors in IWRM in the Basin Include:
- District Councils and local authorities
- Regional and District Authorities (Central Government)
- Vice Presidents Office (Directorate of Environment)
- National Environment Management Council
- Ministry of Natural Resources and Tourism
 - Wildlife Division
 - Forestry and Beekeeping
- Water use Sectors (Ministries like Industries and Trade, Energy; water utilities)
- Law enforcement authorities
- Some NGOs (WWF, WCS, WCST, IUCN, etc)
- Some CBOs (normally in conservation activities)
- Private Sector (some companies like Uniliver Co. Ltd, TANWAT; Kilombero Valley Teak Co, individuals etc)
- Research Institutions (including Universities)

Key Issues and Challenges in the Rufiji Basin

FLOODS

- In the Basin there are various occurrences of floods in all the four major tributaries of the Rufiji
- In certain areas like the Lower Rufiji the frequency of floods has diminished due to regulation by damming in the Great Ruaha River.
 - This has brought hardships to the socio-economic welfare and livelihoods of the people in the Coast Region

DROUGHTS or WATER SHORTAGE

- Droughts are a common phenomenon in the Rufiji Basin especially in the Great Ruaha Sub-basin. The Northern portion of the sub-basin is dry.
- Due to growth in economic developments in the basin, there instances when water is not enough to every need.
- There is always competition when the demand for water exceeds supply (especially in small streams and in the Great Ruaha Sub-basin)

Key Issues ...

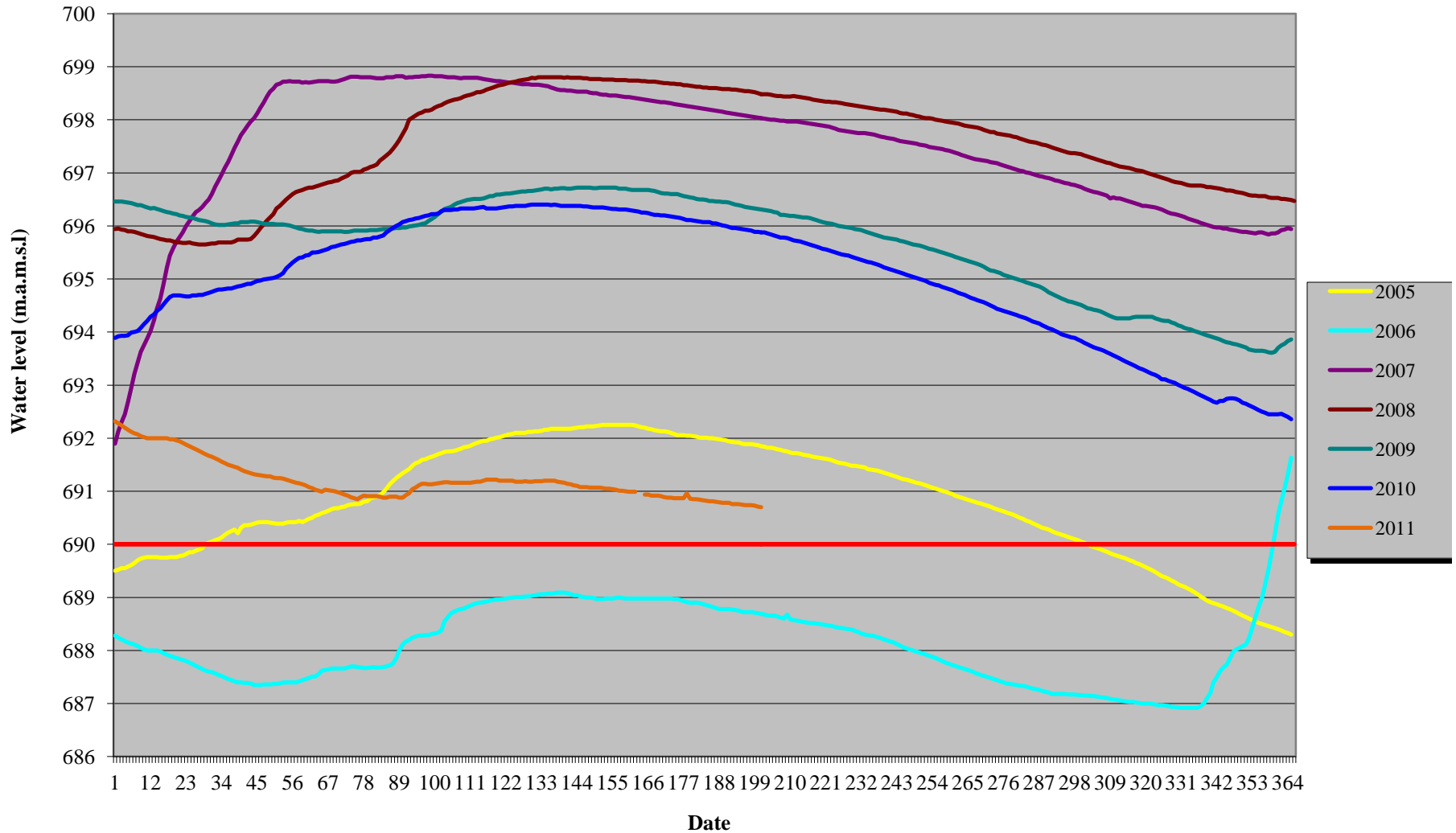
- Excessive Water Use
- There are number of conflicts over water use especially in the Great Ruaha (We have recorded over 15 Conflicts since July 2007).
- There are many unauthorised water uses.
- Payment for water use is still an illusion to some users.
- Vandalism of monitoring instruments and equipment
- Excessive use of agro chemicals (in farms and gardens) and unregulated disposal of industrial wastes and human waste (in urban centres).
- Changing of the River courses

Key Issues ...

ENVIRONMENTAL DEGRADATION

- This is one of the major problems facing the basin and is mainly caused by land use practices, cutting down of trees (Kilombero, Lower Rufiji and Some parts of Great Ruaha) and uncontrolled fire common in Iringa region districts and nomadic lives common in Dodoma, Mbeya and Iringa districts. Water sources cultivation common in Iringa districts.
- Un usual events of rainfall e.g. the 2010/11 season resulted in long period of low flow

Water situation at Mtera dam 2005-2011



Water Resources Management Interventions

WSDP with the following

- Strengthening basin level water resources management
- IWRMD Plans
- RBWB is planning to implement some priority investment projects under WSDP (preparations are on going).
 - Construction of the Lugoda dam on the Ndembera River in Mufindi District
 - Training of the Great Ruaha river in Mbarali District
 - Borehole drilling for irrigation purposes in Mbarali district
 - Restoration of water course for Lukosi River and provision of W/S scheme for a village in Kilolo District (completed except for village w/s).
- Construction and Rehabilitation of Control gates and Traditional furrows in the basin.

Interventions....

- The World Wildlife Fund For Nature (WWF) is currently implementing The Ruaha Water Program (RWP) in collaboration with RBWO, LGAs and other stakeholders. The main objective of the program is to insure that the Great Ruaha River is Flowing throughout the year.
- Introduction of alternative activities to the community like CBOs, Bee keeping, making of batics and soap.
- Conduct EFA's
- Rain water harvesting
- Establishment and strengthening of water use Associations
- Capacity building to the local communities on IWRM and CC

Interventions ...

- Addressing water use conflicts through Water Users Associations (Dialogue)
- Monitor and facilitate environment management especially for water source protection
- Control and regulation exercises
- Awareness creation to the water users on IWRM and CC.
- Stakeholders involvement
- Planting of hydrophilic plants and uprooting hydrophobic plants from the water sources

Trained over 300 small scale farmers in efficient use of water in rice/paddy production using Farmer Field School Approach (FFS)





Strengthening WUA



Meeting with stakeholders



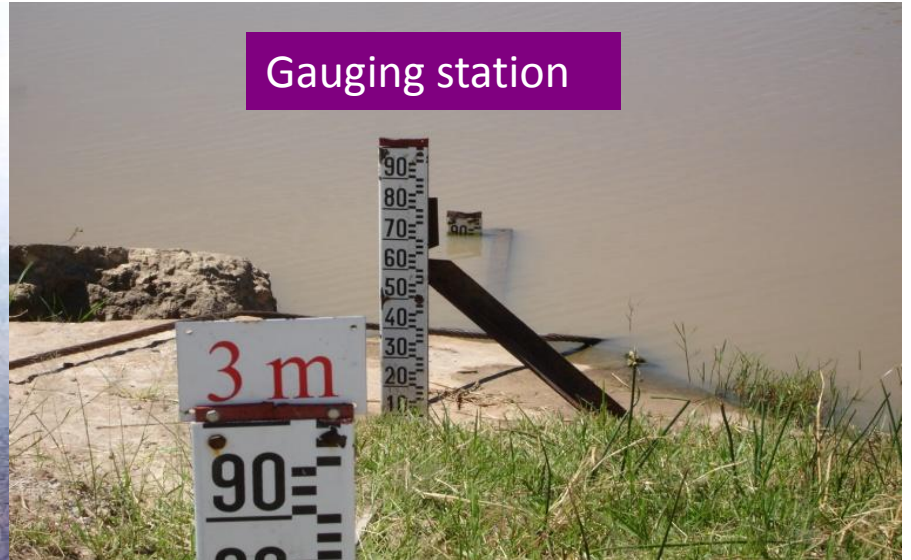
Water monitoring



Celebrating after completing construction of their irrigation Scheme



Control and Regulation of water use



Gauging station



Control and Regulation of water use



Meeting with stakeholders



Technical and financial capacity of the Basin Water Board

- The office is equipped with instruments, tools and equipment for performing her obligations
 - Computers, monitoring instruments for hydrological parameters (weather, surface water flows, groundwater, water quality, sediment transport).
 - Transport facilities
- The Government has employed workers for the Board
 - 2-Hydrologists, 2-hydrogeologists, 1-environmental engineers, 2- accountants, 3-community development experts, Technicians, clerical staff, observers
- Financing the Basin Programs is through, the Central Government Budgets, Water User fees (including water pollution fees).

Technical ...

- Other financing options will be revealed from a study which is to be undertaken by MoWI in the near future.
- There is a GIS facility at the Board's office.
- There are office facilities in Iringa, Rujewa, Utete. New ones will be constructed in Dodoma and Ifakara.
- Sub/Catchment Committees and councils will be established to take part in the IWRM activities.

Monitoring Network

- We maintain a network of 64 hydrometric Stations.
 - 20 stations are fully operational,
 - 34 are partially operated and 10 are non operational.
 - 8 new stations are required.
- There are also 15 weather stations of which 11 have automatic instruments.
 - 5 out of 11 automatic stations are partially working and the rest are not operational.
 - 1 new station will be constructed to make a total of 16 stations.
- There are 11 manual rainfall stations
 - 16 new stations are planned to be installed.
 - There are several other stations operated by individuals or institutions (data can be obtained at TMA).

Monitoring Network...

- 11 groundwater monitoring stations
- Out of 11 monitoring stations 9 are operational and 2 have been vandalized
- 29 water quality monitoring stations
- 9 pollution monitoring stations

Thank you for listening

