

WATER SECTOR IN TANZANIA



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TANZANIA

- Area 940,000 sq.km, of which 60,000sq.km (6.4%) is inland water
- Population 35 Mio
- Shares borders with Kenya and Uganda to the north, Rwanda, Burundi and DRC to the West, Mozambique, Malawi and Zambia to the South.



Natural Water Supplies

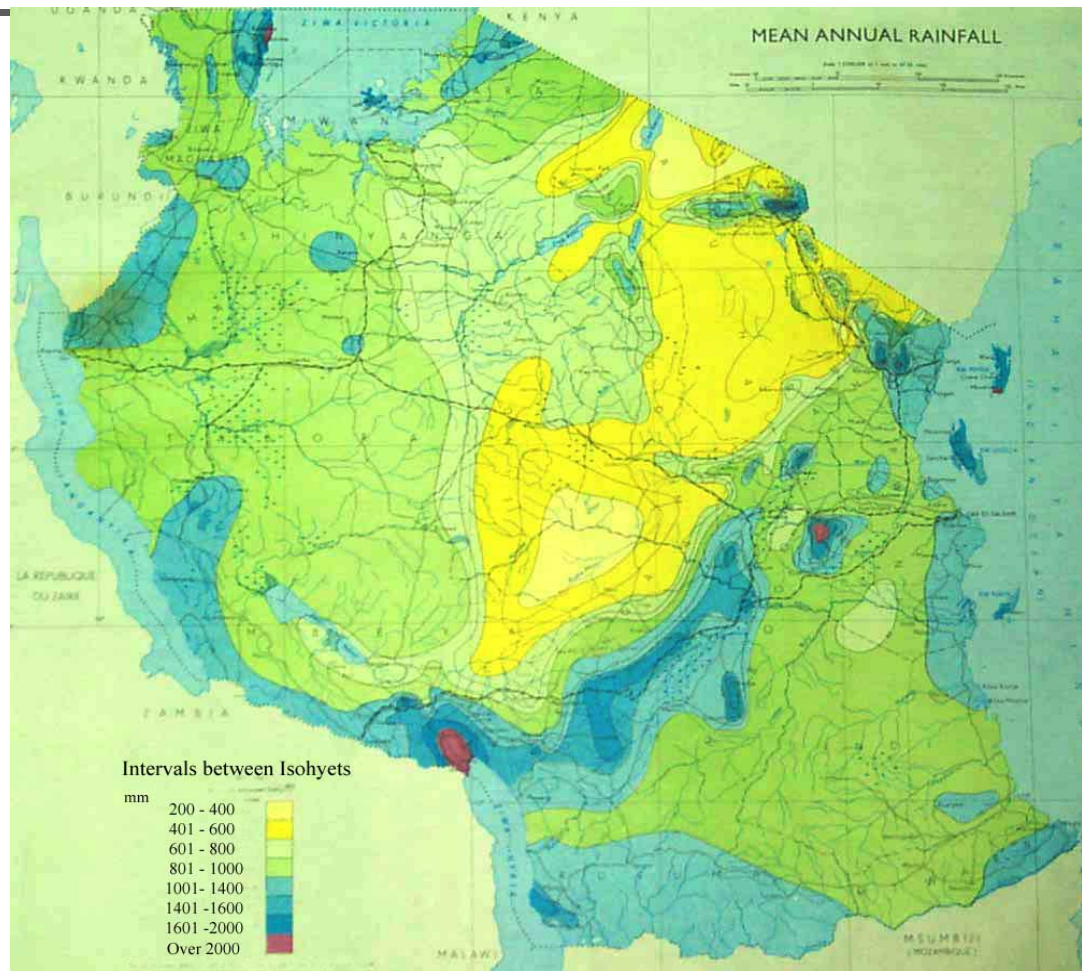
- Tanzania renewable water resources are estimated at 2700 m³/capita in 2000-2001
- It is riparian to the 3 largest freshwater lakes in Africa (Victoria, Tanganyika and Nyasa/Malawi)
- Yet it faces acute water shortages and water use conflicts in some areas of the country.



Water Resources Distribution

- Water availability suffers from high Temporal and Spatial variability
- Central Regions (about 30-35% of the country) <800mm of rain per year on average
- About 30% receive 800-1,000mm
- The highlands receive > 1,000mm
- Six months or more complete dryness in most areas of the country.

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WATER SECTOR IN TANZANIA

- **DEF**: Ministries, Municipalities and townships water supply agencies
- Water resources Management Agencies
- Training Institutions which deal with water related themes
 - Environment, forestry, hydropower, irrigation
- Sector responsibility: Ministry of Water

Background



1971 20 Years Rural Water Supply Programme
Water for all in 400 m distance by 1990

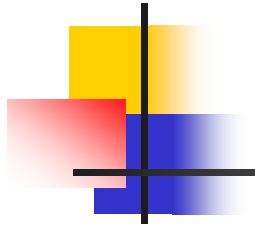
1991 First National Water Policy

1993 The Ministry of Water reviewed water and sanitation sector to support ongoing sector initiatives.

1994: Field testing of new approaches in urban and rural water supply and revision of

7/11/2008 policy

Background



2002 Implementation of new National Water Policy starts

2004 Preparation of the National Water Sector Development Strategy, including definition of a new institutional framework for the entire water sector

2004 Drafting of new legislation for water resources management and water supply & sanitation

2004 Preparation of national sub-sector investment plans



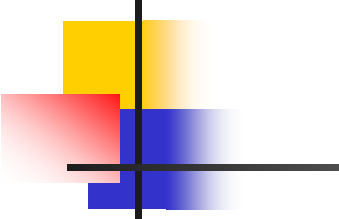
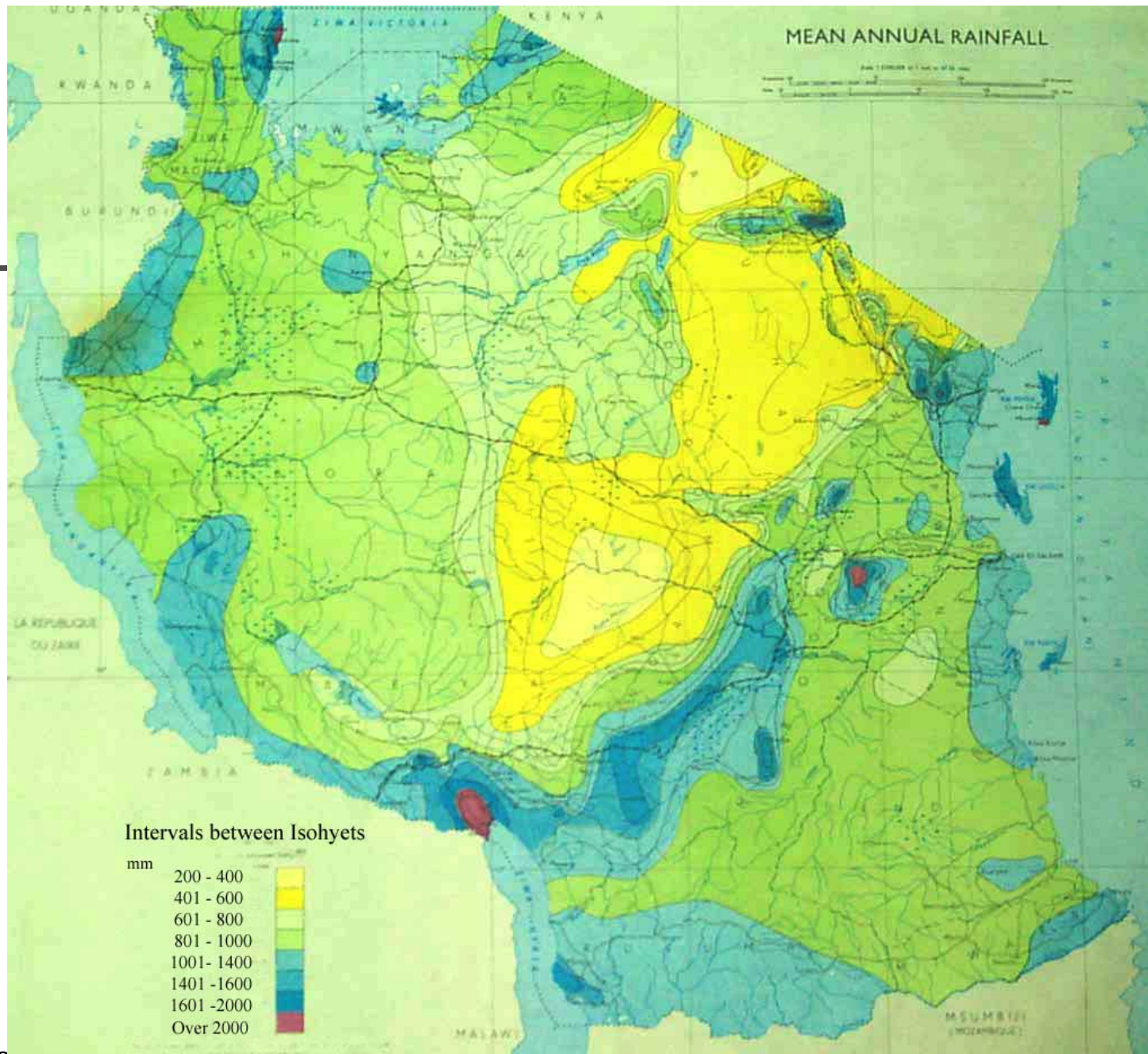
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RURAL WATER SUPPLY SERVICES REFORMS



Free Water Policy

- After 1961 Independence -Free Water Policy was introduced
- In 1970 Rural Water Supply Programme
- Aimed to supply:
 - Safe and clean water to over 90 percent of the population
 - Within reach of 400m



1991 – Water Policy

- In 1991 National Water Policy
- The policy focuses on participatory planning and cost sharing in the construction, operation and maintenance of community based domestic water supply systems



Water Resources Management



Water Resources Issues (1)

Drivers to Policy Change

- In the 1990s problems in water resources management became very apparent
- Perceived decreasing water for Hydro Plants -Pangani falls HP redevelopment was being designed
- Less water available for large irrigation schemes



Water Resources Issues (2)

- Water scarcity and increasing demands
- Increasing water use conflicts between sectors of the economy and within sectors
- Numerous environmental concerns
- Inadequate information base and knowledge, data gathering networks dilapidated



Examples-Water Use Conflicts

- U/S versus D/S users: some investments are threatened (Examples; Lower Moshi Irrigation farms and Pangani Falls HEP)
- HEP against irrigated agriculture (unique situation in Tanzania, major HEPs are D/S of major irrigation areas)
- Large irrigators against smallholder irrigation farmers
- Pastoralists versus irrigation farmers



Some Environmental Concerns

- Drying up of Rivers and Wetlands
 - Emerging issues the drying of the Great Ruaha River and Kihansi Gorge ecosystem degradation
- Large dams and HEP plants divert all water and cause original sections of river channels dry
- Balancing livelihoods demands with the requirement to conserve the Environment
- Balancing short term economic gain with long term environmental degradation



Water Pollution

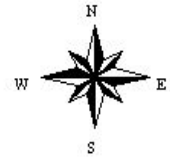
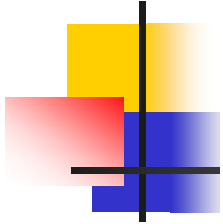
- Village water supply sources degraded from sisal industry
- Riverine ecosystems affected by low DO in the river water
- Non-point source pollution Lake Victoria and some reservoirs suffer from weed and algae blooms
- Municipal discharges affects large and small water sources of domestic water supply



Present Water Resources Management

- The Water Utilisation Act No. 42 of 1974 and its subsequent amendments govern present water resources management.
- Amendment Act No. 10 of 1981 introduced the basin management system and pollution control provisions
- The Act provides for the Central Water Board and Basin Water Boards to facilitate administration of the legislation.
- Water is vested in the United Republic of Tanzania.

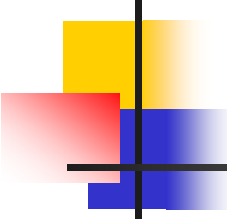
Tanzania River Basins with districts



- District
- Region
- Country Boundary
- Hydrological river
- Lake & Water Body
- Basin Boundary



Water Utilization Act

- 
- The Water Utilization Act (WU-Act) and other sub-sector water related laws are inadequate to meet the growing water resources management challenges
 - Does not address issues in Integrated Planning and Management, Stakeholder involvement.
 - Does not provide mechanisms for monitoring and enforcement



Weaknesses in Water Resources Management

- Uncoordinated regional & sectoral planning & development
- Weak allocation & water rights administration
- Inadequate policy framework
- Poor information base
- Weak institutions



NEW NATIONAL WATER POLICY

- NAWAPO adopted in July 2002
- Highlights major weaknesses in 1991 Policy & Inst Framework
- Engaged multi-sectoral broad dialogue & consultation during the policy formulation process
- Builds upon solid technical/economic/institutional analysis as a foundation



NAWAPO OBJECTIVES

The main objective of this revised policy is to:

- develop a comprehensive framework for sustainable development
- manage the Nation's water resources, in which an effective legal and institutional framework for its implementation is to be put in place.



INSTRUMENTS

The 2002 policy identifies six types of instruments to be applied in achieving the above objectives:

1. Technical instruments
2. Economic instruments
3. Administrative instruments
4. Legal instruments
5. Regulatory instruments
6. Participatory instruments



NATIONAL WATER POLICY

Cont'd

- Integrates key globally accepted principles of WRM
- It represents a national consensus on the need to manage water resources
- The challenge will be implementation



NAWAPO and the ENVIRONMENT

- Water related activities should aim to enhance or to cause least detrimental effect on the natural environment,
- The allocation and consumption of water for environmental purposes shall be recognized and given appropriate considerations,
- Water for Environment determined on the best **scientific information available considering both the temporal and spatial water requirements to maintain the health and viability of riverine and estuary ecosystems.**



Process Leading to Policy Review(1)

- Early 1990s Water Problems discussed at high level
- 1991 Pangani Basin water office established with tasks to carry-out detailed survey to identify actual water use and institute measures to manage abstractions
- 1993 Rufiji Basin Water Office established
- 1993 – GOT conduct the water and sanitation study



Process Leading to Policy Review(2)

- 1994 – Rapid Water Resources Assessment to quantify challenges and problems
- Workshops conducted and attended by stakeholders
- Assessment show
 - The WUA of 1974 and the 1991 Water policy were seen to be inadequate to deal with the emerging Water Resources Management Issues.
 - Economic drivers were high on the agenda in the early 1990s – HEP and Irrigation development on the same water source.



Policy Review Items

- Water allocation,
- Protection of water against pollution,
- Strengthening and broadening stakeholder participation,
- Priorities and criteria for water allocation,
- Coordination mechanisms among various sectors and segments of society,
- Information management
- Planning, and criteria for applications
- Financing and capacity building



Policy Implementation

Strategy formulation
Legislation Review



DEFINITION: Policy & Strategy

- “Policy” is a statement of the direction in which the Government wishes/intends to go to address existing problems or challenges.
 - Water Resources policy addresses challenges in water resources management

- “Strategy” is a description of the specific actions to be undertaken to implement the policy or HOW the Government will implement the policy directives



Strategy Formulation (1)

Detailed water resources strategy review whose objectives and principles are drawn from the Policy are:-

- Resource assessment
- Alternative resource development
- Water quality and pollution control
- Demand management and conservation
- Research, technology and international waters



Strategy Formulation (2)

- Water Utilization and Allocation (domestic, environment, industrial, irrigation, energy)
- Legal and Institutional Framework
- Financing mechanisms
- Capacity building
- Communication and implementation



Water Legislation Review

- Comprehensive review of legislation to implement new Water Policy is underway it will provide for:-
 - Funding for raw water user charges
 - Broad based board representation



Water Legislation Review *Cont'd*

- Rationalizes WRM functions & operations
 - At national level, a multi-sectoral body (Central Water Board) is being considered
 - Within MoW, functions are being streamlined
 - At basin level, users want representation
 - At the catchment Level, WUAs are in early stages of formation.



WRM Challenges Ahead

- Establishing autonomous & sustainable Basin Management
- Functioning Water User Associations & Catchment urbanizations
- Operationalizing Environmental Flow Requirements (water rights conflicts at Kihansi & Usangu and Lower Moshi)



WRM Challenges Ahead Cont'd

- Addressing self interests & conflicts of interests
- Achieving coordinated reservoir operations
- Preparing Basin Management Plans
- Capacity still needs to be strengthened



WRM Challenges Ahead Cont'd

- Capacity still needs to be strengthened
- Working with Development Partners in a coordinated manner
- Water was a free good, but this has changed- various charges were low, recovery of O&M, full cost recovery, pollution penalties & water user charges for raw water are being reviewed from time to time

Lessons Learned



- WRM reforms are long, difficult, complex & political [POLITICKING!]
- Social customs & norms are central to understanding important values
- Putting policy into practical & operational context is a work in progress, but remains an incomplete task
- Important model for GOT, lessons are being emulated in other priority basins



Lessoned Learned Cont'd

- Important model for collaboration between MoW & MAFS
- Progress has been made, but serious work remains
- Water sector as a whole needs to be approached systematically
- Cross sectoral coordination remains a key challenge within
- One central level Ministry (MOW in the case of Tanzania) will need to assert leadership & take risks if reforms are to work

BURUNDI NPC/ATP REPORT

I. COUNTRY PRESENTATION

II. BURUNDI AND ATP

I COUNTRY PRESENTATION

Burundi is one of the Nile Basin countries. The country displays an extreme situation.

The economy of Burundi lies essentially on agriculture sector. Agriculture accounts for:

- 90% of the employment,
- more than 90% of the foreign exchange,
- about 50 % of the GDP.

Since the end of 1980 years, agricultural development is characterised by a downward trend.

Between 1990 and 2006 the index of:

- agricultural production per capita fell from **130 to 84**
- food production per capita sloped down from **128 to 83¹**.

Reason of this decline

No doubt that the political crisis that undermined the country during the period of 1993-2003 has contributed.

¹ FAOSTAT

But analyses stressed that a combination of two other major causes has played and is still playing the major role:

- the climate factors and
- the demographic factors.

Climate parameters movements:
display a high degree of instability.

Between 1990 and 2006:

- 3 years of severe drought,
- 2 years of excess rain,
- a steady lengthening of the dry season,
- temperature increase,
- lowering of the level of the lakes and the rivers

Many consequences attributed to this climate change:
famine, death, diseases, desertification, land degradation, increase shortage in clean water and electricity.

demographic challenges facing the country

- Burundian population growth, one of the highest of the globe, nears 3% per year.
- More than seven million people live in Burundi on 25 950 km² of dry land².

² CLSP : Rapport complet

- More than 45% of Burundian population is less than 15 years old.
- In 2004, the density of the population was estimated at 287 people per km² and reached 400-500 people per km² in some areas.

The demographic pressure has reduced the cultivated area and cause land degradation.

- The actual average family farm size is estimated at 0.7 hectare and fall to 0.4 hectare in high density locations³. Fallow land is drastically reduced,
- Soil erosion has dramatically increased.

To cope with climate instability and get round demographic constraints, a sound management water resource strategy is needed, essentially regarding agriculture sector.

In fact, since water is the major input of agriculture, in Burundi, the sector use the most of available water (65%)

But in Burundi,

No Water policy

A water policy has been formulated but it is not implemented yet

³ www.fao.org

Weakness of training and research institutions

1. University of Burundi has no faculty specialised in water.

–Faculty of Applied Sciences: 300 hours of Hydraulics courses

–Faculty of Agricultural Sciences: 150 hours of Hydraulics, Hydrometeorology and land management

–Centre de Compétence en Eau Souterraines à l'Université du Burundi (CESOUB): Strategic Research in water resources – ground water

2. Institut des sciences agronomiques du Burundi (ISABU) :

Irrigation and Watershed management

3. Geographic Institute of Burundi (IGEBU)

Hydrometeorology and agro meteorology data collection

II. BURUNDI AND ATP

Project expected results

The project expects two main results defined at medium term:

1. Result 1: Increased capacity to plan, manage and develop water and water related resources, with following expected outcomes:
 - 1.1. Increased awareness among policy and decision makers in IWRM,
 - 1.2. Strengthened knowledge and skills attitude related to priority water planning and management

2. Result 2: Strengthened implementation capacity of (NBI) institutions, with following expected outcomes:
 - 2.1. Strengthened capacity of Tertiary Institutions to develop and deliver IWRM programs,
 - 2.2. Increased collaboration and networking among water professionals and institutions,
 - 2.3. Increased opportunities for exchange of information, data and basin experiences

1. Achievements for Burundi

Les réalisations du projet Formation Appliquée au Burundi

Targeted : le ministère de l'environnement,
le ministère de l'Energie et des Mines,
le ministère de l'Agriculture et de l'Elevage,
le ministère de l'Education (Universités), la société civile.

Result 1: Increased capacity to plan, manage and develop water and water related resources.

- 1) 9 burundais (dont 4 membres du parlement) ont participé à un séminaire d'information sur la GIRE.
- 2) 77 burundais ont suivi 18 stages ou cours de courte durée.
- 3) 10 burundais sont en train de suivre une formation de spécialisation en irrigation et drainage au Rwanda pour une période de 10 mois.
- 4) 11 burundais ont bénéficié de bourses de maîtrise. 2 ont déjà eu leurs diplômes.
- 5) 1 burundais a bénéficié d'une bourse de doctorat

Result 2: Strengthened implementation capacity of (NBI) institutions, with following expected

- 1° Appui à l'université du Burundi par du matériel informatique (10 ordinateurs et 1 imprimante),
- 2° Appui à la coordination nationale NBI par du matériel informatique et de bureau.
- 3° Le projet a développé un programme de maîtrise. Ce programme a été mis à la disposition des institutions universitaires burundaises.

