Zambezi River Basin Challenges and Issues


Zvikomborero MANYANGADZE
CONTENTS

• Background and Overview
• SADC Regional Water Strategy
• Existing Institutional Framework
• Challenges and Issues
• Recommended Strategies
• Key Messages
The Zambezi Basin
### Zambezi Basin Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basin Area (sq. km.)</td>
<td>1,390 000</td>
</tr>
<tr>
<td>Population (est. in millions)</td>
<td>30</td>
</tr>
<tr>
<td>Average Population Density (People/sq.km)</td>
<td>18</td>
</tr>
<tr>
<td>Water Supply per Person (1995) (m3/person/year):</td>
<td>&gt;10,000</td>
</tr>
<tr>
<td>Number of Large cities (&gt;100 000 people)</td>
<td>6</td>
</tr>
<tr>
<td>Number of countries in the basin</td>
<td>8</td>
</tr>
</tbody>
</table>
Water Use

Major water users:
• Rural domestic consumption
• Urban domestic consumption
• Industrial consumption
• Mining
• Irrigation
• Environmental/flood releases
• Hydropower
Water Use (cont.)

- Hydropower

A total capacity of 4,684 MW (about 10% of the total potential) has been developed. Associated evaporation from the hydropower reservoirs has been estimated to be approximately 17 cubic km and is by far the largest water use in the basin.
Existing and Planned Hydro Power Projects on the Common Zambezi River (Source: Zambezi River Authority: http://www.zaraho.org.zm)
SADC Regional Water Strategy (SADC Water Division, 2005)

Integrated Water Resources Management

- Development without compromising the Environment
- Industrial Development
- Food Security
- Access to Water & Sanitation
- Water for Peace
- Energy Security
- Safety from Disasters

WATER POLICY

CONCEPTUAL FRAMEWORK

SADC Regional Integration and Poverty Eradication

- Conflict Resolution
- Environmental Management
- Stakeholder Participation
- Capacity Building
- IWRM Plans

GOAL

OBJECTIVES

APPROACH

TOOLS
Existing Institutional Framework

- June 1999, ZAMCOM Agreement negotiations began
- July 2004, ZAMCOM Agreement signed by majority of riparian states
- March 2008, decision reached for the continuation of the ZAMCOM process beyond the life of ZACPRO 6.2 Project
- Nov 2008 Botswana selected host – Interim ZAMCOM Secretariat
- July 2009, transitional ZAMCOM Governance structure approved:
  - Riparian Water Ministers (Strategic guidance and oversight)
  - Transitional Advisory Group – TAG (Regulate Interim Operations)
  - Transitional Technical Committee – TTEC (Technical Clearing House)
  - Interim ZAMCOM Secretariat – IZS (Overall Management)
  - SADC Secretariat (IZS – Technical Support)
  - Host (IZS – administrative support)
- May 2010, IZS MOU – SADC & Botswana
- Dec 2010, IZS – host Agreement – legal provision for IZS
- Dec 2010, IZS Finance Agreement – Norway & Botswana
- June 2011, 6 Riparian states ratified Agreement (attainment of 2/3 majority) ZAMCOM into force.
Transitional ZAMCOM Governance Structure

- Riparian Ministers
  - Responsible for Water
  - (Guidance & Oversight)

- Transitional Advisory Group (TAG)
  - (Regulate IZS Operations)

- Transitional Technical Committee (TTEC)
  - (Technical Clearing House)

- IZS-Host Member State
  - Water Ministry
  - (Administrative Support)

- SADC Secretariat
  - (Technical Support)

- Interim Executive Secretary
  - (Overall Management)

Legend:
- Main Reporting
- Collaboration
- Administrative Staff
- Technical liaison

- Administrative Support Staff
- Information & Communication Specialist
- Specific Task-Hired Consultants
Zambezi Watercourse Commission Structure

- Council of Ministers
  - Decision-making

- Technical Committee-ZAMTEC
  - Technical Advisory

- Secretariat - ZAMSEC
  - Overall management

- Project Implementation Units
  - Project Specific Management

- Working Groups
  - Secondment to work on specific issues
Challenges and Issues

• Integrated and Coordinated Water Resources Development and Management.
• Environmental Management and Sustainable Development
• Adaptation to Climate Variability and Climate Change
• Basin-wide cooperation and integration
Integrated and Coordinated Water Resources Development

- Inadequate water infrastructure for achieving regional energy security.
- Insufficient water infrastructure for agricultural development to achieve regional food security.
- Major dams in the basin were constructed for a single purpose and their operation is not optimised for multiple uses.
- Inadequate financing of water resources development and management.
- Low access to water supply and sanitation
Environmental Management and Sustainable Development

• Inadequate protection and sustainable development and use of wetlands
• Deterioration of water quality due to point source pollution from mining, industrial and urban centres
• Proliferation of invasive aquatic weeds
• Unsustainable and low productivity fisheries management
• Tourism development is threatened by degradation of the aquatic environment
• High level and unique ecosystems and related ecological and economic functions in the basin may be threatened and fragmented by accelerated development.
Adaptation to Climate Variability and Climate Change

- Extreme variability and uneven distribution of rainfall is likely to be amplified by climate change
- Lack of integrated flood management in development planning
- Poor drought management and integration in development planning
- Inadequate coping mechanisms for climate change
Basin wide Cooperation and Integration

• Weak capacity of national water management institutions to perform river basin management tasks
• Inadequate water resources knowledge base for basin wide planning, development and management
• Inadequate effective stakeholder participation in water resources development and management.
Recommended Strategies and Actions.
Integrated and Coordinated Water Resources Development

• Address the high demand for new water infrastructure to meet regional energy security
• Address the demand for water in agricultural development and regional food security
• Improve operation of existing and new major dams in the basin to take into account and optimise multiple functions for water
• Increase funding for water resources development and management
• Improve access to sustainable water supply and sanitation
Environmental Management and Sustainable Development

• Adequately manage the ecological and economic functions of wetlands and sustain their viability
• Control water pollution from point sources
• Control invasive aquatic weeds and prevent new outbreaks
• Promote sustainable fishery management as a contribution to regional food security
• Ensure water resources development and management does not harm tourism potential
• Prepare and implement strategic environmental plans and procedures including the development of protected area networks and valuable ecosystems.
Adaptation to Climate Variability and Climate Change

- Improve knowledge base
- Improve flood management
- Improve regional and national drought management
- Exploit opportunities under climate change protocols
Basin Wide Cooperation and Integration

- Operationalisation of ZAMCOM
- Strengthen Institutional Capacity in Riparian Countries
- Improve basin wide data collection and information exchange
- Promote broad based stakeholder participation
Key Messages

• **Consultations**: Broad stakeholders consultations regardless of class is fundamental to mitigating potential conflicts over shared river basin waters

• **Cooperation**: Regional cooperation is not an optional extra; it is a matter of survival
THANK YOU