A Snapshot: Issues and Perspectives on Water & Agriculture in South Africa

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Presenter: ASHWIN SEETAL
1. Water Situation & Timeline of Development

2. Legislative & Policy Provisions

3. Current Developments
   i. National Water Resources Strategy
   ii. Water Use Verification
   iii. Licensing / Compulsory Licensing

4. The Issues .....
   i. Land and Water
   ii. Race & Gender Redress
   iii. Sectoral Equity & the Economy

5. Where to from here???
1. WATER SITUATION & TIMELINE OF DEVELOPMENT

A. Human settlement and economic development patterns in the country:
   - agriculture in the early- to mid-1900’s
   - later mining, urban & industrial settlements in locations unable to supply growing water demands;

B. The political legacies of Colonialism and Apartheid

C. Legal systems affecting land settlement, ownership and water use (especially the Roman Dutch influence) that reinforced 1 & 2.
   - Examples from the Water Act 54 of 1956 include:
     - (a) the riparian rights principle; and,
     - (b) the concepts of public and private water, surplus and normal flows, etc.

All further exacerbated by the fact that South Africa is semi-arid and has an uneven water & rainfall distribution and high evaporation rates!!!
National Rainfall and Evaporation

The map illustrates the average rainfall (mm/a) across the region, with color coding ranging from light tan (<100 mm/a) to dark purple (>1500 mm/a). The legend on the left side of the map provides a key for interpreting the rainfall levels. The map also includes isopleths for evaporation, with colors ranging from light green (800-1000 mm/a) to dark purple (>1500 mm/a). The boundaries of neighboring countries such as Namibia, Botswana, and Mozambique are also marked on the map.
Major Existing Dams and Interbasin Transfers
Water Availability: Year 2000
Water Requirements: Year 2000
Water Reconciliation: Year 2000

[Map of South Africa showing water resources and requirements]

- **Available water**
- **Requirements**

Volumes in million m³/a
The Future: Water Reconciliation Scenarios
A. Agriculture dominated in the late 1800’s to early-1900’s and in the absence of dams, direct abstraction was encouraged via the promotion of irrigation development = **Irrigation and Conservation of Waters Act 8 of 1912**

B. Mining, urban settlements & industrialisation in the mid-1900’s in locations unable to supply growing water demands = **Water Act 54 of 1956** (borrowed from British law – where 8x more water than in South Africa). Gave greater state control – “command and control legislation”. Radical amendments in the 1980’s (urban impacts on water resources)

C. Democracy in 1994 = **Water Services Act 108 of 1997** and **National Water Act 36 of 1998** which eliminated many earlier provisions, especially “rights”. Water was under “public trusteeship” on behalf of all South Africans and water use entitlements were time and condition-bound – “framework legislation”
The Act gives highest priority to water for the Reserve, which includes water for basic human needs and for the natural environment. Thereafter international obligations as agreed with neighbouring countries must be respected and honoured.

Beyond this, water should be

allocated to ensure that the greatest overall social and economic benefits are achieved.

Consideration therefore needs to be given to the social and economic benefits as well as the potential disbenefits to society, of water being made available to competing optional uses.

This applies to both long-term allocations for water use as well as to short term curtailments in supply during periods of drought and temporary shortage.

Where surplus or unused water exists, prioritisation need not apply, provided that the water is not wastefully used.
To facilitate the most beneficial use of water, a general guide on priorities for the use of water is given below. Priorities are stated in descending order of importance, although it is acknowledged that these may vary under particular circumstances.

- **Provision for the (1) Reserve.**
- **(2) International Agreements** and obligations.
- **(3) Water for social needs** such as poverty eradication, primary domestic needs, and uses which would contribute to maintaining social stability.
- **Water for (4) key economic sectors and employment creation.** This includes key industries, power generation and commerce.
- **Most water use thereafter (which includes commercial forestry) can be classified as (5) general economic uses, where allocation should best be dictated by the economic efficiency of water use. With trading of water, this will automatically adjust over time according to the value of water in particular uses.**
- **Uses of water not measurable in economic terms, which may include (6) convenience uses and some private water use for recreational purposes, are likely to be of lowest priority.**

Additional factors to be considered in assessing priorities for the allocation of water are the level of assurance of supply required, the consumptiveness of use and the quality of return flows.
Integrated Water Resource Planning Framework

**National Strategies and Planning i.t.o. environment, agriculture, land-use, industry, mining, power generation, rural development, urban renewal, etc.**

**OTHER GOVERNMENT**

**OTHER SECTORS**

- **ESKOM**
  - Mining
  - Agriculture
  - Large Industry
  - Households

**NWRS**

**CMS**

**Water Services Development Plan**

**Integrated Development Plan**

**Provincial Development Planning**

**Integrated Water Resource Planning Framework**

**National**

**Provincial**

**Catchment**

**Local**

**Service Providers (E.g. Water Boards)**
3. CURRENT DEVELOPMENTS

1. Revision of the National Water Resources Strategy

2. Water Use Verification

3. Classification of Water Resources and Reconciliation (Planning) of use, supply and demand

4. Compulsory Licensing
NB.

1. Verification only completed in 3 catchments.

2. Validation currently underway elsewhere, or imminent. Many scheduled for completion in 2013.

3. Note that validation outputs are a first and prima confirmation of water use. Verification is the correct and confirmed extent of use.

4. Water registration provides details.

[Map of Southern Africa with various water management areas and labels.]
Compulsory Licensing - Implementation Context

- **Premise** = *licence is the basic unit for all water allocations.* How these are issued has a significant bearing on achieving the objectives mentioned above.

- **Key conflict of interest** = *allocating and managing water resources among existing competing users and potential new users* in redressing past imbalances and ensuring sustainable and productive use of water resources.

- **Challenge** = *create, promote and maintain an enabling environment for all stakeholders to engage in IWRM and the water allocation reform process in a CONSTRUCTIVE manner.*
All water allocation processes are underpinned by public engagement to varying extents.

Many activities either precede or run concurrently with CL. These include *inter alia*:

- Registration of existing water use
- Verification of existing lawful use
- NWRS and CMS’s
- Classification of the water resource
- Setting the Resource Quality Objectives
- Reserve Determination
- International and Strategic obligations
- Resource availability for allocation
### GEOGRAPHIC AREA / CATCHMENT INFORMATION

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>Geographic Area / Catchment</th>
<th>Mhlathuze</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Geography:</td>
<td></td>
<td></td>
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<tr>
<td>(a) Size of Area</td>
<td>(a) 1625 km²</td>
<td>(a) 4209 km²</td>
</tr>
<tr>
<td>(b) Population</td>
<td>(b) Approximately 4 500</td>
<td>(b) Approximately 525 000</td>
</tr>
<tr>
<td>(c) Character of Area</td>
<td>(c) Rural</td>
<td>(c) Widespread rural with urban and industrial nodes</td>
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<tr>
<td>ii. Water Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) MAR / System Yield</td>
<td>(a) MAR = 45,291 million m³/annum</td>
<td>(a) MAR = 938 million m³/annum</td>
</tr>
<tr>
<td>(b) Water Availability</td>
<td>(b) 3,81 million m³/annum</td>
<td>(b) 262 million m³/annum</td>
</tr>
<tr>
<td>(c) Existing Lawful Use</td>
<td>(c) 4,549 million m³/annum</td>
<td>(c) 393.51 million m³/annum</td>
</tr>
<tr>
<td>(d) Reserve Allocation</td>
<td>(d) Variable – 3 different catchment reaches</td>
<td>(d) Varies at different IFR sites in the catchment</td>
</tr>
<tr>
<td>(e) Main Water Uses</td>
<td>(e) Agriculture &amp; Municipal (domestic)</td>
<td>(e) Agriculture &amp; Forestry and Municipal &amp; Industrial</td>
</tr>
<tr>
<td>(f) Total Volume</td>
<td>(f) 14,424 million m³/annum</td>
<td>(f) 401 million m³/annum</td>
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<tr>
<td>Applied for in CL</td>
<td>(g) 9,960 million m³/annum</td>
<td>(g) 288,088 million m³/annum</td>
</tr>
<tr>
<td>(g) Total (Proposed) CL Allocation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii. Specialist Reports / Studies Undertaken</td>
<td><strong>8</strong></td>
<td><strong>7</strong></td>
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## STATUS OF PREPARATORY STEPS

<table>
<thead>
<tr>
<th>SUB-PHASE (and NWA reference)</th>
<th>Geographic Area / Catchment</th>
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<tbody>
<tr>
<td></td>
<td>Tosca Molopo</td>
</tr>
<tr>
<td>i. Determination of Allocable Water (s23)</td>
<td>Completed</td>
</tr>
<tr>
<td>ii. Reserve (Ch 3)</td>
<td>Groundwater Reserve Completed</td>
</tr>
<tr>
<td>iii. International Obligations &amp; Strategic Uses (s23)</td>
<td>International obligations not established and formalised</td>
</tr>
<tr>
<td>iv. Existing Lawful Water Use Verified (s32-35)</td>
<td>Completed</td>
</tr>
<tr>
<td>v. Catchment Management Strategy (s9)</td>
<td>None. Specialist Reports.</td>
</tr>
<tr>
<td>vi. Catchment Assessment Report</td>
<td>Completed</td>
</tr>
<tr>
<td>vii. Draft Water Allocation Plan (s9, s27)</td>
<td>Completed</td>
</tr>
</tbody>
</table>
# IMPLEMENTATION TIMELINE & STATUS

<table>
<thead>
<tr>
<th>PHASE</th>
<th>Tosca Molopo</th>
<th>Jan Dissels</th>
<th>Mhlathuze</th>
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<tbody>
<tr>
<td></td>
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</tr>
<tr>
<td>1.</td>
<td><strong>Announce CL</strong></td>
<td></td>
<td></td>
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<tr>
<td>i.</td>
<td>Government Gazette</td>
<td>12 August 2010</td>
<td>20 August 2010</td>
</tr>
<tr>
<td></td>
<td>(60d notice)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>Number of Licence</td>
<td>60</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>Applications</td>
<td></td>
<td></td>
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<tr>
<td>2.</td>
<td><strong>Proposed Allocation Schedule</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(60d notice)</td>
<td></td>
<td></td>
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<tr>
<td>ii.</td>
<td>Number of Objections</td>
<td>10</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(22 October 2012)</td>
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<tr>
<td>3.</td>
<td><strong>Preliminary Allocation Schedule</strong></td>
<td></td>
<td></td>
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<tr>
<td>i.</td>
<td>Government Gazette</td>
<td>20 May 2011</td>
<td>n/a</td>
</tr>
<tr>
<td>ii.</td>
<td>Number of Appeals</td>
<td>None</td>
<td>n/a</td>
</tr>
<tr>
<td>4.</td>
<td><strong>Final Allocation Schedule</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Government Gazette</td>
<td>22 July 2011</td>
<td>n/a</td>
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<tr>
<td>ii.</td>
<td>Number of Allocations</td>
<td>50</td>
<td>n/a</td>
</tr>
<tr>
<td>5.</td>
<td><strong>Issue Licences</strong></td>
<td>Completed. November 2012.</td>
<td>n/a</td>
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4. THE ISSUES ..... 

1. Land and Water - Race & Gender Redress

2. Greater Inter-Sectoral competition and impacts (especially mining and urban use) – sectoral equity & the economy

3. A Strategic Use ..... ??? Food security ???

4. Rural stability and Contribution to the Economy – jobs, GGP, GDP

5. Water Use Efficiency in relation to quantum / traditional market share (62% water used by agriculture)
5. WHERE TO FROM HERE???

- **TRANSFORMATION AND REDRESS** to be fast-tracked

- Parts of South Africa (rural) heavily dependent on an agricultural economy = entrench **RURAL SOCIAL STABILITY** (recent WC strikes)

- Diversification (higher value crops) and longer value chains beyond the focus on primary agriculture = **ECONOMIC COMPETITIVENESS** (provincial Growth & Development Plans to shift the focus more aggressively)

- “Jostling” with other water competing sectors and water resource impactors = **HIGH VALUE / LOW IMPACTOR** (water use efficiency programs must be intensified)
Thank You