CHALLENGES OF SURFACE AND GROUNDWATER INFORMATION GAPS IN THE PRACTICE OF INTEGRATED WATER RESOURCES MANAGEMENT IN SOUTH AFRICA

Presented by:
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SDG Target 6.5 Task Team
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16 November 2022

Theme 1: Groundwater as a Catalyst for Attaining SDGs
OUTLINE

1. Global SDGs
2. IWRM concepts, application /implementation in South Africa
3. Why report on IWRM AND TRANSBOUNDARY WATER COOPERATION
4. Summary of elements under SDG target 6.5
5. Target 6.5 2020 survey outcomes
6. What work remains to be done?
7. Challenges and key actions
8. Lessons learnt
9. Progress to date: will the targets be met?
1. SUSTAINABLE DEVELOPMENT GOALS

Each goal is important in itself...

And they are all connected
REPORTING FOR INDICATORS UNDER SDG 6 AND THE UNITED NATIONS CUSTODIAN AGENCIES
IWRM PRINCIPLES

- Recognition of the complete water cycle
- The catchment as the unit of planning
- Capacity building
- Availability of information and the capacity to use it to make policy and predict responses
- Full-cost pricing complemented by targeted subsidies
- Adoption of the best existing technologies and practices
- Reliable and sustained financing
- Equitable allocation of water resources
- The recognition of water as an economic good
- Strengthening the role of women and vulnerable groups in water management
2. HOW HAS IWRM BEEN OPERATIONALISED IN SOUTH AFRICA?

- **Constitution**: The constitution sets out the primary values, rights and mandates which inform water policy and legislation.
- **Policy**: Water policies define government’s approach to overseeing, regulating and managing the sector.
- **Legislation**: Legislation gives expression to government policies, creates institutions, defines rights and obligations, sets standards and Instruments.
- **Institutions**: Institutions undertake water sector activities within the policy and legislative framework.
OPERATIONALISING IWRM IN SA

• **Policies** – various white papers on water policy
• **Legislation** – National Water Act with various provisions covering IWRM
  – **Chapter 2** – Water Management Strategies and Plans (Management Instruments)
  – **Chapter 4** – Water use and approaches to authorization
    • **Section 27 (1)** of the NWA
  – **Chapter 3** – Protection of the Resource
  – **Chapter 5** – Financial provisions
OPERATIONALISING IWRM IN SA

- Institutions created
  - National Department of Water and Sanitation
  - Chapter 7 – Catchment Management Agencies
  - Chapter 8 – Water Users Associations
  - Chapter 9 – Advisory Committees
  - Chapter 10 – International Water Management
  - Chapter 15 – Water Tribunal

- Water Management Instruments (Chapter 11, 12, 14)

- Stakeholder consultation processes enshrined in the various chapters of the NWA and other Environmental Acts

- Involvement of all role players
AUTHORISATION CONSIDERATIONS (SECTION 27 (1))

a) Existing lawful water uses
b) The need to redress the results of past racial and gender discrimination
c) Efficient and beneficial use of water in the public interest
d) The socio-economic impact of the water use or uses if authorised; or the socio-economic impact of the failure to authorise the water use or uses
e) Any catchment management strategy applicable to the relevant water resource
f) The likely effect of the water use to be authorised
   ❑ on the water resource and
   ❑ on other water users
g) The class and the resource quality objectives of the water resource

h) Investments already made and to be made by the water user in respect of the water use in question

i) The strategic importance of the water use to be authorised

j) The quality of water in the water resource which may be required for the Reserve and for meeting international obligations

k) The probable duration of any undertaking for which a water use is to be authorised
REPORTING ON IWRM AND TRANSBOUNDARY WATER COOPERATION

- Allows countries to;
  - identify specific basin needs e.g. improvement of groundwater management in Southern Africa
  - Determine how best to mobilise resources to support implementation activities, such as through capacity building and technical assistance
  - Determine a means by which to assess strategies and approaches to IWRM and trans-boundary water cooperation at the national level
  - Develop a collective understanding of any IWRM and transboundary water challenges and opportunities faced by a country
  - Assess the extent to which their current progress on IWRM and transboundary water cooperation is consistent with the provisions of the Water Convention
SUMMARY OF ELEMENTS UNDER SDG TARGET 6.5

Indicator 6.5.1

Enabling Environment
- Policies
- Legislation
- Plans

Institutions and Participation
- Institutions (National, Province, Local)
- Coordination
- Stakeholders
- Gender
- Capacity

Management Instruments
- Hydrological Information System
- Water Ecosystems
- Planning Models
- Water quality monitoring instruments
- Climate Change

Financing
- Budgeting
- Financing
- Revenues

Transboundary water
- Surface Water
- Groundwater
  - 1. Inco-Maputo
  - 2. ORASECOM
  - 3. LIMCOM

Indicator 6.5.2
TRANSBOUNDARY WATER

- 4 rivers shared with 6 neighbouring countries
- Basins cover 60% of SA land area
- Contribute 45% of country's total river flow
- UN Convention on Non-Navigable Rivers
- SADC Protocol on Shared Water Courses
- 3 Basin Commissions established
- Multiple Binational Agreements
## TARGET 6.5 – 2020 SURVEY OUTCOMES

### Indicator 6.5.1 – Degree of integrated water resources management implementation

<table>
<thead>
<tr>
<th>Element</th>
<th>2017</th>
<th>2020</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enabling Environment</td>
<td>80</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
<td>Institutions and Participation</td>
<td>60</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Management Instruments</td>
<td>70</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Financing</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Overall score</td>
<td>65</td>
<td>70</td>
<td>77.5</td>
</tr>
</tbody>
</table>

### Indicator 6.5.2 – Proportion of trans-boundary basin area with an operational arrangement for water cooperation

<table>
<thead>
<tr>
<th>Section</th>
<th>2017</th>
<th>2020</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existence of a joint body</td>
<td>yes</td>
<td>Yes/no</td>
<td>Yes/no</td>
</tr>
<tr>
<td>Regular, formal communication between riparian countries (at least once a year)</td>
<td>yes</td>
<td>Yes/no</td>
<td>Yes/no</td>
</tr>
<tr>
<td>Joint or coordinated management plans or objectives</td>
<td>yes</td>
<td>Yes/no</td>
<td>Yes/no</td>
</tr>
<tr>
<td>Regular exchange of data and information (at least once a year)</td>
<td>yes</td>
<td>Yes/no</td>
<td>Yes/no</td>
</tr>
<tr>
<td>Score</td>
<td>100</td>
<td>95</td>
<td>95</td>
</tr>
</tbody>
</table>

**Yes/No Response**
1. Coastal Sedimentary Basin VI aquifer – no sharing of information or meetings
2. Karoo Sedimentary aquifer – not fully covered by international agreements
INDICATOR 6.5.1 SCORES: DEGREE OF IWRM IMPLEMENTATION

- Country Points
- Global Average of IWRM Implementation
- RSA Level on IWRM Implementation
PERCENTAGE OF COUNTRIES PER IWRM IMPLEMENTATION 2017 AND 2020

South Africa
## ANNUAL PROGRESS TO DATE

<table>
<thead>
<tr>
<th>Activity</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDG sub indicator 6.5.1 report</td>
<td>Yes</td>
<td>yes</td>
<td>-</td>
<td>yes</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SDG sub indicator 6.5.2 report</td>
<td>yes</td>
<td>yes</td>
<td>-</td>
<td>yes</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>country workshop</td>
<td>November</td>
<td>May</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Updated terms of references and action plan</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>Yes</td>
</tr>
<tr>
<td>At least 2 Task Team meetings held</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Provided input into report by STATSSA to the UN</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Decision support matrix for reporting</td>
<td>Nov</td>
<td>Sept</td>
<td>June</td>
<td>May</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>On going preparation of Quarterly workshops with key stakeholders</td>
<td>1</td>
<td>none</td>
<td>Oct</td>
<td>May</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Gap analysis</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
## CHALLENGES AND KEY ACTIONS: SUMMARY TABLE

<table>
<thead>
<tr>
<th>Gap</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Financing of projects, including transboundary institutions</td>
<td>Addressed in the National Water and Sanitation Master Plan as part of Financing of the water sector</td>
</tr>
<tr>
<td>2 Revenue collection</td>
<td>Empowerment of local authorities (capacity building of staff)</td>
</tr>
<tr>
<td>3 Transformation of institutions (i.e. Irrigation Boards to WUA, establishment of CMAs, etc)</td>
<td>More commitment from relevant authorities</td>
</tr>
<tr>
<td>4 Lack of cooperative governance</td>
<td>The National Water and Sanitation Strategy can be a vehicle for sharing information with other state organs.</td>
</tr>
<tr>
<td>5 Knowledge on IWRM</td>
<td>Mainstream IWRM in all institutions</td>
</tr>
</tbody>
</table>
The purpose of the survey instrument for SDG Indicator 6.5.1, is to support national, regional and global monitoring and reporting. 

To support the monitoring and evaluation of gender aspects, the survey instrument includes a gender-related question; 

- **Question 2.2d** – “Gender included in laws/plans or similar within water resources management”.
CHALLENGES ON GENDER IN SDG INDICATOR 6.5.1

• Water scarcity disproportionately affects poor communities and the most marginalized individuals in society
• Access to water is relevant for women’s empowerment because it affects women’s access to education, health, income levels and safety
• Gender equality and access to water are basic human rights and are thus foundational for achieving the other SDGs
PROGRESS TO DATE

• Gender reporting - SDG Indicator 6.5.1
• Stakeholder outreach
  – The TT continues to contact stakeholders for monitoring and reporting - SOUTH AFRICAN ASSOCIATION FOR WUA.
• The TT held 2 planning meetings;
• A reporting dry run workshop is planned for this financial year during January 2023 as we prepare for reporting.
• Incomati/Maputo Water Basin Commission
  – The team notes that TPTC now a basin commission
  – Establishment launch ceremony scheduled for 18/11/2021 when the water ministers are set sign the agreement.
• Alignment with NW&SMP
KEY ISSUES ON COOPERATION

• Concurrence by member states on:
  – Protection of the environment
  – Minimum cross-border flows
  – Drought/floods management
  – Sustainable utilization of water resources
  – Water requirements of the ecosystems
ENGAGEMENTS

• International
  – 2021 Progress on Integrated Water Resources Management (SDG 6.5.1), by UNEP
  – Launch of the 2\textsuperscript{nd} Progress Report on Transboundary Water Cooperation
  – Advancing towards gender mainstreaming in water resources management
  – Groundwater conference for the SADC countries
  – LIMCOM Gender Equality and Social Inclusion Strategy and Implementation Plan
CURRENT AND REQUIRED GLOBAL IWRM IMPLEMENTATION

- **Global**
- **Business as usual**
- **Required Rate**
- **South Africa**
- **Business as usual**
- **Required Rate**

**SDG 6.5.1 Implementation (%)**

- **2017**: 49%
- **2020**: 54%
- **2023**: 71%
- **2026**: 80%
- **2029**: 90%
This is where we have come from

This is where we are going

PROGRESS IN IMPLEMENTING SDG INDICATOR 6.5.1

ENABLING ENVIRONMENT
MANAGEMENT INSTRUMENTS
National Score
INSTITUTIONS AND PARTICIPATION
FINANCING
1. **Financing.** Optimized financing is essential to get resources behind country plans.

2. **Data and information.** Data and information targets resources and measures progress.

3. **Capacity development.** A better-skilled workforce improves service levels and increases job creation and retention in the water sector.

4. **Innovation.** New, smart practices and technologies will improve water and sanitation resources management and service delivery.

5. **Governance.** Collaboration across boundaries and sectors will make SDG 6 everyone’s business.
Accelerating delivery SDGs and the NW&SMP – a convergence of ideas

UN Agencies – FIVE ACCELERATORS

NW&SMP Enabling Factors

2.1 Creating Effective Institutions
2.2 Managing Data and Information
2.3 Building Capacity for Action
2.4 Ensuring Financial Sustainability
2.5 Amending Legislation
2.6 Enhancing Research, Development and Innovation
LESSONS LEARNT SO FAR

• SDG reporting highlights the challenges of monitoring and evaluation in IWRM – **there was none before at country level**
• There is need to build capacity in IWRM concepts
• By its nature, IWRM still remains complex – more work to build capacity is required
• Reporting tool effectiveness - differences in stage of water resources development affect outcomes on the reporting
WILL THE TARGETS BE MET BY 2030?

• Yes, if required interventions are implemented in a systematic manner.

• **Indicator 6.5.1**
  – Focus on implementing CMAs to realize management at a local level.
  – Strengthen Financing
  – Focus on selected elements

• **Indicator 6.5.2**
  – Focus on groundwater /aquifers on governance, data, communication
  – Note that the SDG target 6.5.2 reports on the proportion of basin with an operational arrangement for international cooperation, which requires data sets before arrangements can be put in place
  – **Prioritise** – mapping of aquifers. Quality of data sets on some parts of groundwater need vast improvement.
Thank you