



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA



NATIONAL DEVELOPMENT PLAN
Our Future - make it work

NATIONAL WATER AND SANITATION SUMMIT

18 – 19 February 2022, Gallagher Conference Center, Midrand, Gauteng

Commission 1: Water Resource Management



WATER IS LIFE - SANITATION IS DIGNITY

IDENTIFIED SUB-THEMES

- Water Resource Management Introduction
- The Water Supply and Sanitation value chain
- Water balance & development of water resource projects
- Water use v/s GDP Contribution per sector
- Other key issues from experts' presentations

Background & Introduction

- South Africa is a water scarce country under natural conditions.
- The country has a highly variable climate.
- Water resources are threatened under the changing climate and requires dynamic and integrated management decisions.
- Extreme events (floods and drought) threaten the security of water resources
- Resources which are surface water (rivers), groundwater, seawater, rainwater wastewater, should be optimally harnessed to improve resilience.
- Resource management in the context of climate change, should mitigate the risks posed.

Background & Introduction

- South Africa is approaching the full utilisation of its freshwater resources, with most of the remaining potential in the rivers already committed to be developed.
- Increasing demands beyond the potential of the local freshwater resources highlights the importance of water resources management through integrated planning, development, and operation.
- Under national (centralised) and local (decentralised) conditions.
- Resilience can be strengthened through robust strategies to match demand and availability, and by extending the utility of the existing water resources.
- These strategies guide spatial and sectoral development planning to determine the most appropriate parameters and locations for large future developments and further beneficial allocations.
- **SOURCE TO TAP TO SOURCE MANAGEMENT APPROACH**

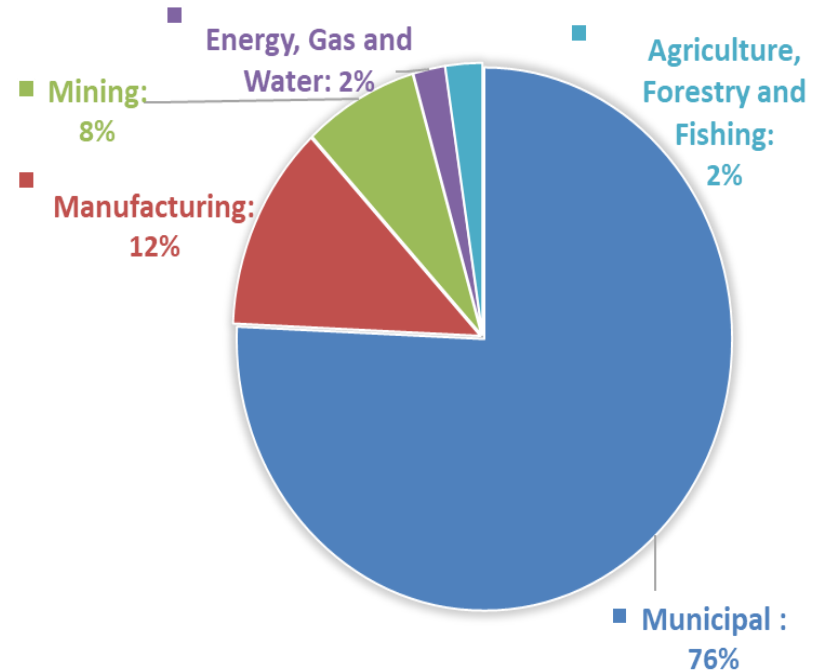
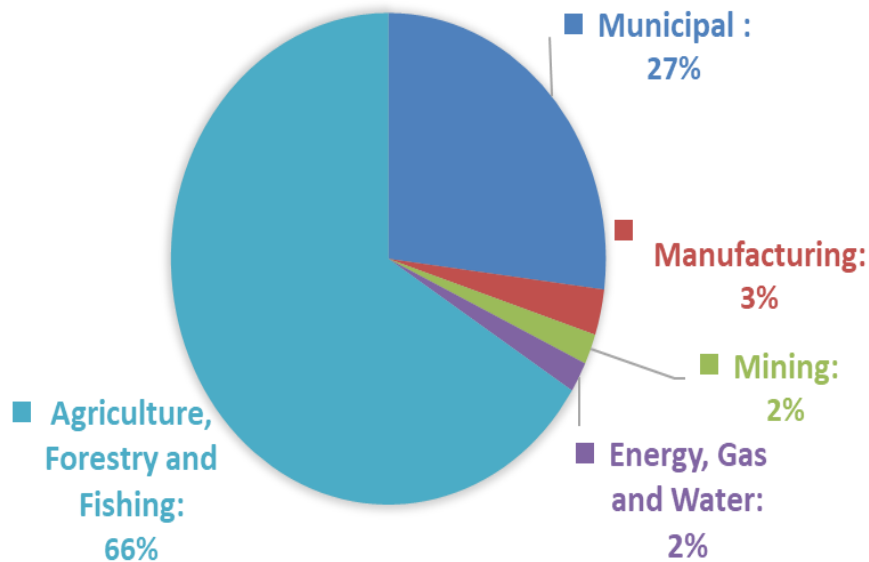
Background & Introduction

- DWS has in place:
 - Water and Sanitation Master Plan
 - Groundwater strategy
 - Climate change and adaptation strategy
 - Water resource monitoring optimization strategy
 - Water quality monitoring optimization strategy
 - Capacity building strategy
- Data and information is required to enable us to model, project and plan

WATER USE vs. GDP CONTRIBUTION PER SECTOR

GDP CONTRIBUTION (Stats SA PO441)

WATER USE (DWS National Water & Sanitation Master Plan)



Key message

Water use in the municipal space contributes relatively more to GDP, even though the amount of water used is lower

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RECOMMENDATIONS AND ACTIONS

Subtheme	Issues raised	Recommended actions	By whom	Target
Strategies, Systems and Technology	<ul style="list-style-type: none"> ● Reprioritize the development of full resource strategy ● Water economical analysis to ensure sustainable management and costing ● Determine use and balance with the economic contribution 	<ul style="list-style-type: none"> ● Development of the National Water Resource Strategy ● Catchment Management Strategies ● Linking different sector strategies and develop implementation plan at localized level 	<ul style="list-style-type: none"> ● DWS ● DALRRD 	<p>2022/23</p> <p>18 to 24 months</p>

RECOMMENDATIONS AND ACTIONS

Subtheme	Issues raised	Recommended actions	By whom	Target
Groundwater	<ul style="list-style-type: none"> Groundwater resource management is failing Missing institutions for implementation CMAs Lack of skills at all levels to manage groundwater Random and unregulated drilling of boreholes 	<ul style="list-style-type: none"> Establish a groundwater unit to implement National Groundwater Strategy (6 months) Develop skills and capacity to manage groundwater at local level (on-going) Regulation for drilling of boreholes (18 months) Upscale groundwater recharge (water banking in wet season to add to water storage) - ongoing 	<ul style="list-style-type: none"> DWS DWS DWS WRC 	2022/23 to 2023/24

Subtheme	Issues raised	Recommended actions	By whom	Target (2022/23)			
				Quarter 1	Quarter 2	Quarter 3	Quarter 4
Climate Change	Extreme rainfall events are projected for the eastern parts of southern Africa	Preparedness, early warning systems (EWS) and tools for management of floods implemented	DWS, SAWS, DFFE & Disaster Management (District Level) COGTA	Developed concept note on EWS and requisite tools	Engage partners (define roles and establish partnerships).	Set up a memorandum of understanding (MoU) among partners	A draft MoU completed
	Southern Africa likely to become warmer and drier (west to east)	Adaptation and mitigation action	DWS SAWS DFFE Research Institutions	Research scenario projections	Developed mitigation options, as adaptation is limited	Engage key role players on appropriate steps	Implement identified measures to mitigate heat waves and drought
		Review of the Climate Change Response Strategy for Water and Sanitation	DWS Water sector	Inception report completed	Literature review completed	Draft& final report	Implementation plan

Subtheme	Issues raised	Recommended actions	By whom	Target
Rainwater Harvesting	<ul style="list-style-type: none"> What is the contribution of RWH in the water mix Is the potential for RWH being utilized efficiently in the water mix 	<ul style="list-style-type: none"> An assessment of the potential of RWH for urban settings and industry. (18 months) By laws at district level for RWH (1 year) Guidelines and standards for the design, operation and maintenance of RWH systems and quality (18 months) Financial incentives for RWH implementation (1 year) Systematic management of Knowledge and information relating to RWH.(on-going) Improve social perceptions, attitudes and practices through Education and awareness .(on-going) Monitoring and evaluation of RWH. .(on-going) 	<ul style="list-style-type: none"> DWS WRC Research at Wits DDM DALRRD 	2022/23 to 2024/25

Subtheme	Issues raised	Recommended actions	By whom	Target
	<ul style="list-style-type: none"> Get balance between resources and requirements to address deficit 	<ul style="list-style-type: none"> Legislate final limited V&V registration period policy (1 year) Implement compulsory licensing (3 -5 years) 	<ul style="list-style-type: none"> DWS DWS 	<p>2022/23</p> <p>2023/24</p>
Water Mix and Resource Planning	<ul style="list-style-type: none"> Most schemes are in deficit and need augmentation Current Socio-Economic risk R126 billion required to fund schemes (dams / transfer schemes etc.) Delayed schemes (at least 10) putting water security at risk Continuous planning process 	<ul style="list-style-type: none"> Fast track the delayed schemes (Immediately) Source the required funding (Immediate) Pricing Strategy finalization (Immediate) Collaborate more between government and private partnerships (PPP) (Immediate) 	<ul style="list-style-type: none"> DWS DBSA NT 	<p>2022 to 2032</p>

<p>Integrated Agriculture support programme & Transformation</p>	<ul style="list-style-type: none"> • There are national strategies and plans in place in DWS and DALRRD • Slow pace of implementation • Economic analysis and input 	<p>Agro-meteorological advisory to be shared beyond DALRRD stakeholders</p> <p>Shared irrigation maps with the sectors (WRC report)</p> <p>Revise water allocation (from Ha to Volumetric) to demand managed (Cautious approach)</p> <p>Comprehensive DALRRD Developmental Programmes</p>	<ul style="list-style-type: none"> • DWS • DALRRD • DFFE 	<p>2022/23 (on-going)</p>
	<ul style="list-style-type: none"> • Slow pace of Transformation to access the allocated water • Plans in place 	<ul style="list-style-type: none"> • Integrated Plans for transformation • HDI farmer support at Provincial and District Level (integrated land, water, funding, skills package) 	<ul style="list-style-type: none"> • DWS • DALRRD • DM 	<p>2022/23</p>

DWS & DALRRD Actions

Agro-meteorological advisory

Pricing Strategy (partnership between DWS and DAFF)

DALRRD Maps available and to be used in DWS

Cautious approach to water allocation from Ha to Volume

Comprehensive DALRRD Developmental Programme (Land, Water, Skills and Funding)

Promote Water Use Efficiency (WC/ WDM)

Collaborate on Public Private Partnerships (PPP)

Groundwater Actions

Training on groundwater schemes

Implementation plan of the NGS, identify gaps (build capacity at local level)

Development of Groundwater to implement the National Groundwater Strategy

Partnerships with all sectors regarding groundwater

Data and information, policy reform regulate drilling activities. Issue of randomly drilling boreholes. Drilling regulations.

University students to invite for recon SSC meetings

GW infrastructure during drought not used as an asset by the municipalities

Enhanced recharge (localized – guidelines) – climate change adaptation

Climate Change Actions

Update the water and sanitation climate change strategy (linked to DFFE)

Integrate climate change into Reconciliation and planning studies

Flash flood guidance tool: Early warning systems

Review and update design standards to account for climate change risk (operating rules)

Future groundwater recharge and banking for adaptation strategy

Prioritise vulnerable communities (risk and vulnerability)

Invest in ecological infrastructure (catchments strategies): alien veg, wetland etc.

Rainwater Harvesting Actions

An assessment of the potential of RWH for urban settings and industry.

Develop RWH by-laws and financial incentives

Systematic management of Knowledge and information relating to RWH

Creation of guidelines and standards for the design, operation and maintenance of RWH systems

Setting of water quality guidelines for RWH for various uses

Change social perceptions, attitudes and practices of potential/prospective users of RWH through education and awareness campaigns

Monitoring and evaluation of RWH

Planning Actions

Develop and implement a Policy for a final 1-year V&V registration (12 months)

Water Allocation Plans & Compulsory licensing (3 to 5 years)

Integrated Plans for transformation and HDI farmers (DWS, DALRRD, DFFE, National Treasury, DM) - Link properties change database to WARMS

Source R126 billion to fund planned and new water resource development systems over 10 years

Finalise pricing strategy to improve cost recovery

Water Conservation/Water Demand Management

Reduce leaks and losses

NGIYATHOKOZA

DANKIE KE A LEBOGA

NGIYABONGA

NDIYABULELA

INKOMU NDI KHOU
LIVHUHA

Thank you

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- Agricultural contribution to GDP is more
- DAFF- DALRD
- More interaction of using the existing maps
- Integrated plan exist, at national level. Inputs are to be made. But require implementation at local level.

AFASA

- Responsible implementors should have partnerships with the farmers association such as AFASA
- Concentrate on the action, accountability, monitoring of action
- How will the money be raised and accounted for??