WATER RESOURCE DEVELOPMENT PROJECTS

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CESA
INFRASTRUCTURE INDABA 2024

WATER IS LIFE - SANITATION IS DIGNITY

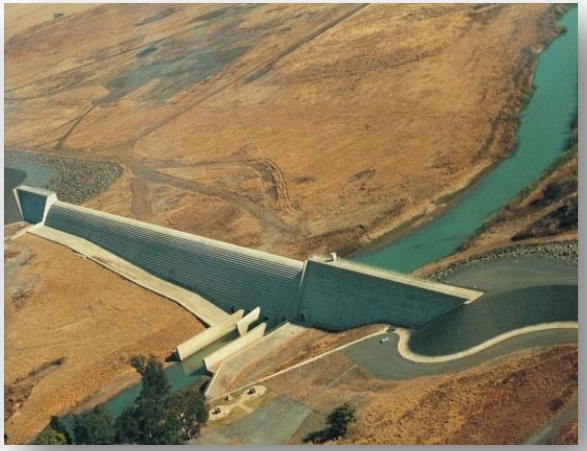
water & sanitation

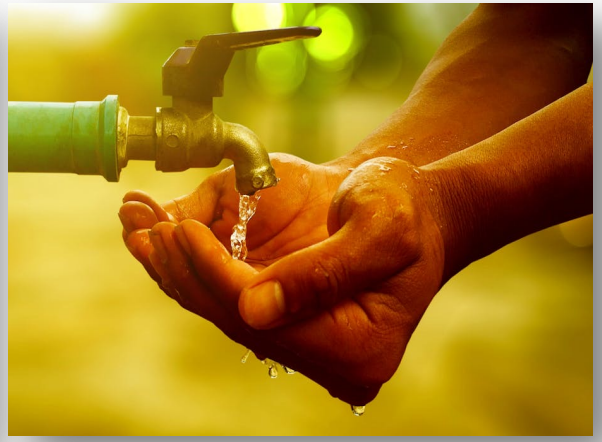
Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

2030 NDP

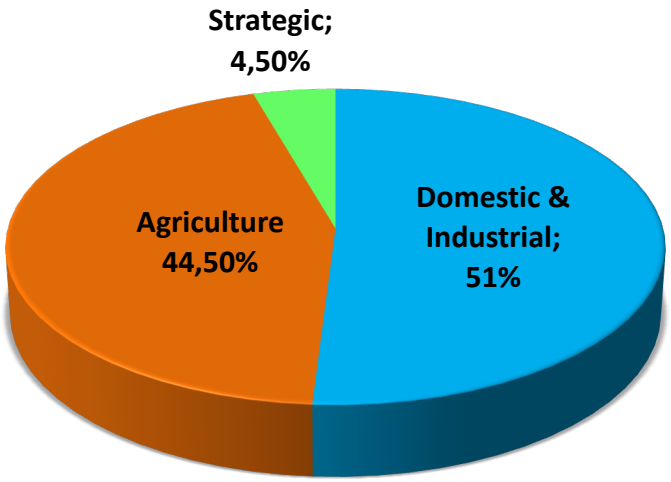
Presentation Outline

- Government Water Scheme Requirements
- Institutional & Funding Arrangements
- Water Partnership Office
- Bulk Water Resource Projects
- Transboundary Projects





Government Water Supply Requirements



Infrastructure Type	Quantity
Large State Dams	**324**
Pump-stations	57 pump-sets
Pipe lines	1070km
Canal Systems	8100km
Tunnel Systems	171km
Measuring Facilities	3011 (weirs)
Raw water Reservoirs	51
Operations Buildings	2575

- DWS ensures that raw water is supplied to water users within GWS to the volume of 7,032 Million m^3 per annum.
- Domestic & Industrial users (incl. Municipalities) are provided with 3,561 Mm^3/a (*51%*) at high assurance level.
- Agriculture receives 3,153 Mm^3/a (*44.5%*) at lower assurance level.
- Strategic Users (ESKOM, SASOL, PetroSA) receives 318 Mm^3/a (*4.5%*)at 99.5% assurance level.

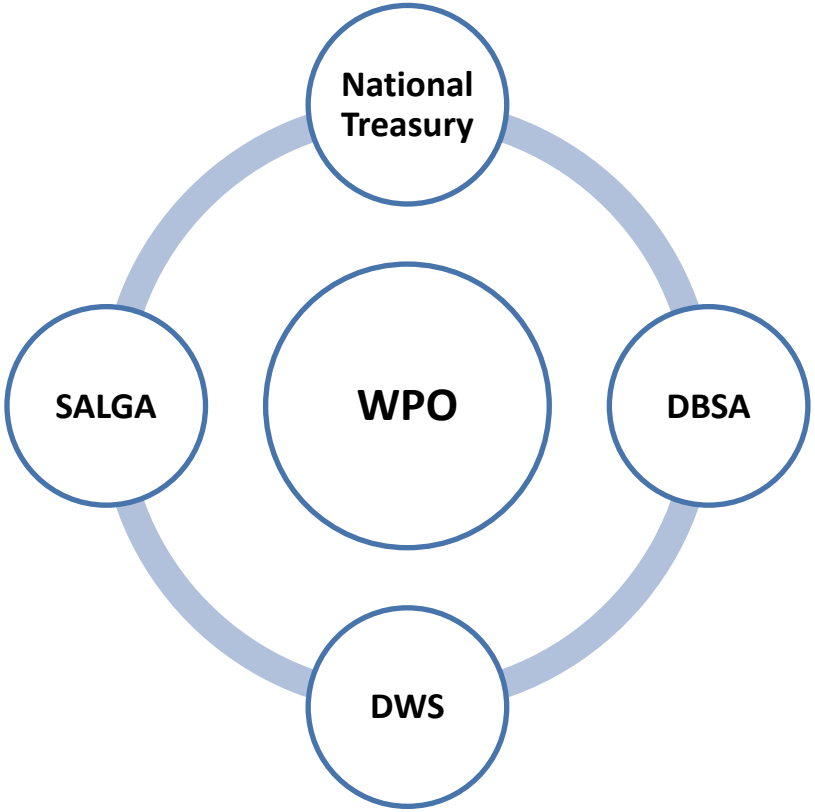
Institutional and Funding Arrangements

- **In response to the leadership of the Minister of Water and Sanitation, there is a much closer relationship between Business and Government in the Water Sector.**

- **To date 2 major capital projects agreements were signed between the Department and the Private Sector:**
  - **In Limpopo Province, the Olifants Water Resource Development projects to the value of R24 billion was signed for 50:50 funding and implementation agreements.**
  - **In Northern Cape Province, the Vaal Gamagara Water Services Project is being implemented to the value of R10 billion on a 44:56 agreement with the private sector.**

Water Partnership Office (WPO)

The WPO is a programme of the Department of Water and Sanitation, a ringfenced national water and sanitation implementing office. It is established by DWS to deliver the National Water Programme (NWP) which seeks to accelerate water and sanitation infrastructure delivery across South Africa with the DBSA as the mandated implementing partner.



Water Partnership Office

- DWS has established a National Water Partnerships Programme and Water Partnerships Office (WPO) in the DBSA – in the spirit of Section 154 of the Constitution
- WPO is a ring-fenced entity housed in DBSA
- Steering committee chaired by DG: DWS oversees work of WPO
- Roles of WPO are:
  - To develop standardized national programmes for private sector participation in municipal water and sanitation services, to make it easier, quicker and cheaper for municipalities to enter into partnerships, without having to 'reinvent the wheel' for each partnership
  - To support municipalities to participate in the programmes – where municipalities are lacking in the required expertise to undertake feasibility studies and financial structuring
  - Where appropriate, facilitate blended financing, including participation by DFIs
- DBSA has received initial funding from NT to establish WPO, DWS has also requested a budget for the WPO
- WPO structure includes a head of office and a programme head for each of the standard programmes and experts in feasibility studies and financial structuring

WPO - Standardised Programmes for Partnerships

No	Programme	Description
1	Non-revenue water	Comprehensive water conservation and water demand management and cost recovery programme focusing on reducing losses, reducing over-consumption and improving cost recovery. Private sector obtains return on investment from savings through reducing losses or from increases in revenue
2	Management contract	Programme in which private sector provides overall management support to W&S function in municipality, including both engineering and non-engineering (e.g. revenue collection) aspects. Private sector returns funded from savings through efficiency improvements or from increased revenue
3	Wastewater treatment	A programme focusing on assisting municipalities to upgrade, refurbish and rehabilitate their waste water treatment facilities. Funding and implementation will be done through the PSP Model which leverages a portion of future grant funding
4	Water re-use	Programme focusing on further treatment of municipal wastewater to enable it to be resold for either potable, industrial or agricultural use. Related resource recovery includes energy generation and sludge beneficiation. Private sector obtains return on investment from sale of re-used water, generation of energy and sludge beneficiation
5	Sea water desalination	Focus on independent water production by producing potable water through seawater desalination in coastal cities. Private sector obtains return on investment from sale of desalinated water to municipalities or other customers (with the approval of the WSA)

Bulk Water Resource Projects

1. Raising of Hazelmere Dam

Project Description:

- aimed to augment the water supply to the KZN North Coast by raising the dam wall by 7 meters to increase the yield of the dam for medium-term supply
- the scope of the work includes the construction of a piano key weir on the spillway, the installation of rock anchors, foundation grouting, and other minor works.

Project Progress:

- 100% completed in March 2023. Resettlement of houses and License to Impound Outstanding.

2. Raising of Tzaneen Dam

Project Description:

- aimed at augmenting the water supply in the Greater Letaba River Catchment of Limpopo Province by raising the dam wall by 3 meters to increase the yield of the dam to address water shortages.
- the scope of the work includes the demolition of the top of the existing spillway, the construction of a labyrinth spillway and other minor works on the embankment.

Project Progress:

- 26% complete. With an estimated completion: May 2025.

Bulk Water Resource Projects

3. Raising of Clanwilliam Dam

Project Description:

- aimed to provide additional water to improve the assurance of water supply for agriculture, provide for water allocations to resource-poor farmers on the West Coast (Western Cape), as well as to address dam safety aspects.
- the scope of the work includes the raising of the existing dam wall by 13 meters, the relocation of a section of the N7 directly affected by the raised dam wall.

Project Progress:

- 22% complete. With an estimated completion: May 2029.

4. Mzimvubu Water Project

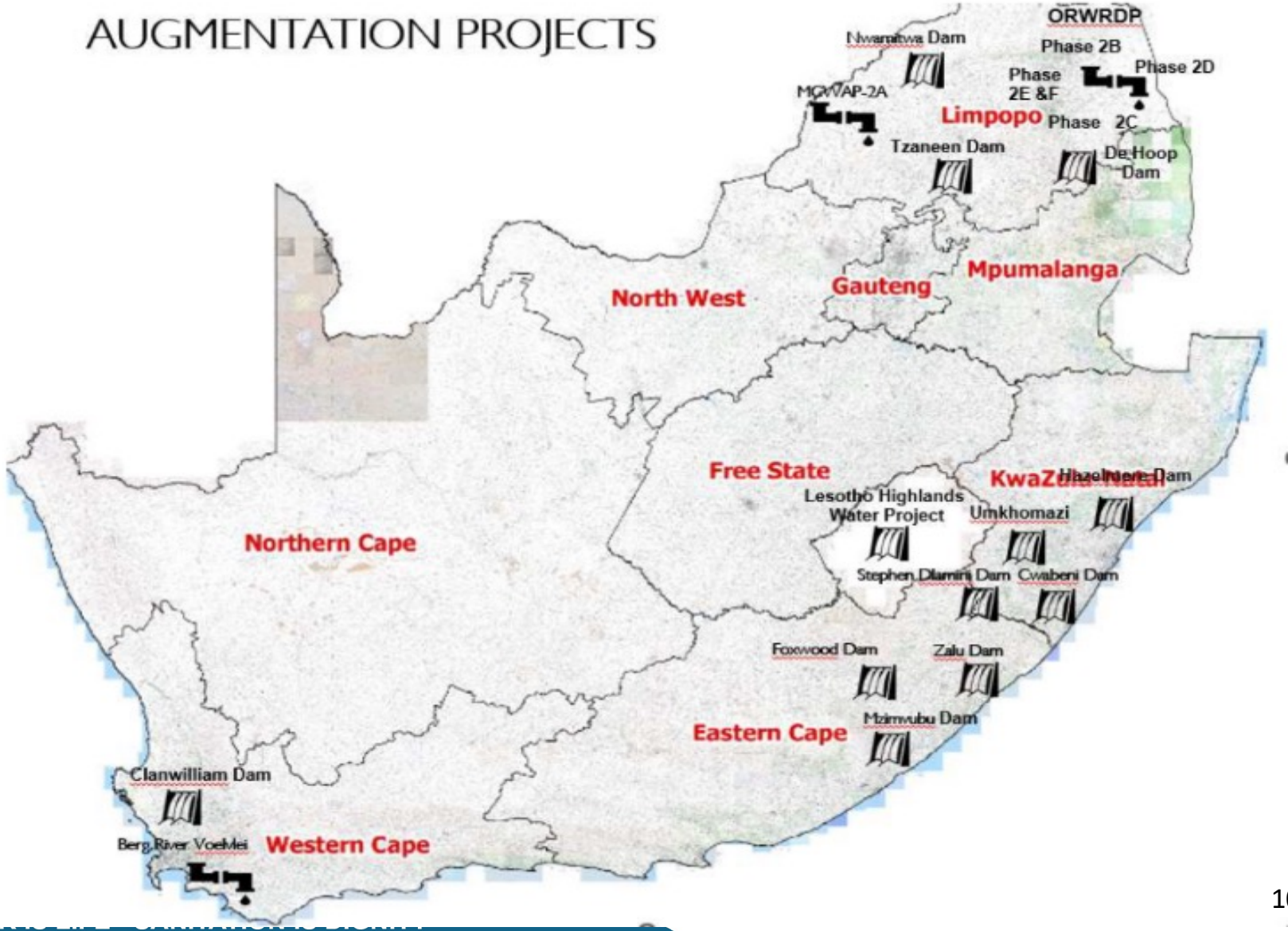
Project Description:

- aimed to develop a conjunctive scheme comprising of two multi-purpose dams and associated bulk water distribution infrastructure for domestic and irrigation water supply as well as hydropower generation. The project is intended to stimulate socio-economic development in the area and the Eastern Cape Province as a whole.
- Stage 1: Advanced Infrastructure,
- Stage 2: Ntabelanga Dam and WTW,
- Stage 3: Bulk Distribution System,
- Stage 4: Irrigation, Hydropower and Delivery tunnel.

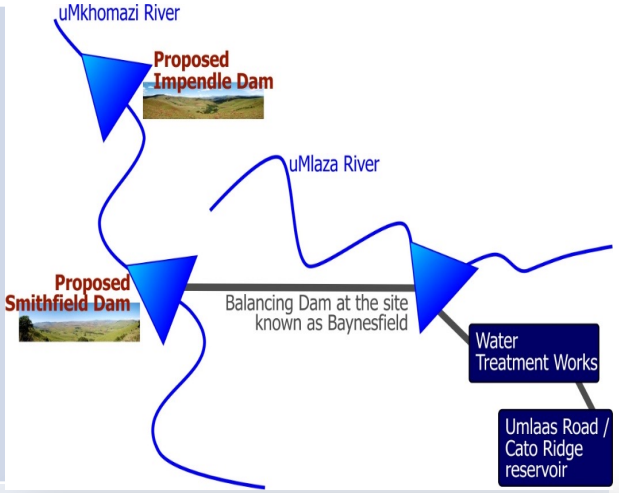
Project Progress

- 85% complete on Advance Infrastructure- Access Roads. With estimated completion: June 2024.

Water Resource Development Projects Underway



Water Resource Development Projects Underway

uMkhomazi Water Project	• A dam around Smithfield (251 million m^3) in the uMkhomazi River near Bulwer; • A conveyance infrastructure from the dam to the water treatment works (600Ml/d) in the uMlaza River valley, and • A gravity pipeline to the Umgeni Water bulk distribution system	
Vaal Gamagara Water Services Project	• **Phase 1** of this project entailed the functional replacement of the existing 75 km steel pipeline with a new pipeline to provide assurance of current and future demands by all users. • The main water users in the area include the various mines, municipalities, agricultural sector and Transnet • Households to benefit is ±5958 • Phase 2 (R10 billion) consists of the replacement of pipelines, development of well-sites, refurbishment of rising mains, upgrading and refurbishment of WTW and pump stations (where determined to be necessary)	

Water Resource Development Projects Underway

Olifants River Development Water Project	•The Olifants Management Model (OMM) involves the further development of the bulk water distribution system from the De Hoop Dam consisting of a pipeline from Flag Boshielo dam to Sekuruwe WTW in Mogalakwena (ORWRDP 2B & 2B+), a pipeline from Clapham pump station to the Olifantspoort weir (ORWRDP 2F) and the refurbishment of existing LWUA infrastructure (ORWRDP 2H). • Additional work includes the southern extension of the existing LWUA pipeline, and the potable water supply system to communities adjacent to the bulk supply system. • The purpose of the Olifants River Water Resources Development Project Phase 2 (ORWRDP-2) is to develop the infrastructure required in the Middle Olifants River (in the areas of Sekhukhune and Mogalakwena Districts of Limpopo) to meet the water demands in the area. • The construction of bulk pipelines and pump stations as part of the conveyance system.
Groot Letaba River Development Project (GLeWAP): Nwamitwa Dam	Construction of a large storage dam with a gross storage capacity of approximately 187 million m3 on the Great Letaba River downstream of the confluence of the Nwanedzi River.

Transboundary Projects

Komati Basin Water Authority (KOBWA)	• The agreement was between the Kingdom of Eswatini and the Republic of South Africa and the purpose was to implement Phase 1 of the Komati River Basin Development Project. Phase 1 comprised; the design, construction, operation, and maintenance of the Driekoppies Dam in South Africa (Phase 1a) and the Maguga Dam in Eswatin (Phase 1b). The construction of Maguga Dam marked the end of phase 1 of the Komati River Basin Development Project.
Lesotho Highlands Water Project (LHWP)	• It is the largest bi-national infrastructure project between Lesotho and South Africa. It involves the construction of an intricate network of tunnels and dams to divert water from the mountains of Lesotho to South Africa. It will provide water for South Africa and money and hydroelectricity for Lesotho.
Beitbridge Water Project	• According to the agreement, the two countries will kick-start an implementation plan and oversee the construction of a pipeline and of pump stations to transfer 15 million cubic metres (41 ML/day) of treated water from Zimbabwe to Musina • The two implementing agents to oversee the construction projects are South African Development Bank, and the Zimbabwe National Water Authority, and the completion of the projects is expected to be in 2026.

THANK YOU