National Water & Sanitation Master Plan
“A call to action”

Webinar on Water and Sanitation to Promote Co-operation between South Africa and Italy
22 February 2019

Presented by: Tendani Nditwani
OBJECTIVE OF NW&SMP

• The Master Plan points out the priority actions required until 2030 and beyond to ensure the water security and equitable access to water and sanitation services for all in RSA.

• It was developed in partnership with all relevant organs of state and water sector stakeholders, to give effect to local, national, regional, continental and international water and sanitation delivery targets and commitments.

• Ensure integrated planning and development across the entire water value chain (support the recommendations from Cabinet Lekgotla on IMTT basic Services strategy: eg. Focus on misalignment where bulk infrastructure has been provided without provision made for reticulation, LR4).
OBJECTIVE OF NW&SMP (2)

- Supports the President’s Economic Stimulus and Recovery Plan (ESRP) and give priority to the ‘Four broad parts’:
  - Implementation of growth enhancing economic reforms;
  - Reprioritisation of public spending to support job creation;
  - Establishment of an Infrastructure Fund.
  - Addressing urgent and pressing matters in education and health.
  - Investing in municipal social infrastructure improvement.
ROAD MAP

- **National Dialogue**: May 2017
- **Concept Master Plan developed**
- **Presentation to Portfolio Committee June 2017**
- **Provincial Introductory sessions: Round 1 June-July 2017**
- **NW&SMP takes shape Call to Action ready for stakeholder engagement November 2017**

**Operation Phakisa-**
- (Latter part of 2018/19)
- Roll out of implementation (March 2019 onwards)

**Presentation to Cabinet Committee -**
- 27 June 2018
- Portfolio Committee - 29 August 2018

**Presented to FOSAD :**
- SPCHD-14 Mar 2018
- ESEID- 12 Apr 2018
- Submission to Minister - March 2018

**National & provincial stakeholder consultation**
- (key challenges, critical actions, gap identification)
- November 2017 - January 2018

**Written comments welcome by 31 January 2018**

**National Departments**

**National organisations**
GDP Contribution per Sector versus Water Use per Sector

- **GDP Contribution** (Stats SA PO441)
  - Agriculture, Forestry and Fishing: 8%
  - Mining: 2%
  - Manufacturing: 12%
  - Energy, Gas and Water: 2%
  - Agriculture, Forestry and Fishing: 2%

- **Water Use** (DWS Water & San Master Plan)
  - Municipal: 27%
  - Manufacturing: 3%
  - Mining: 2%
  - Energy, Gas and Water: 2%
  - Municipal: 76%

Note that the level of assurance at which agricultural water is supplied is lower than that of other sectors.
The Constitution contains several provisions that give direction to the water and sanitation sector

Constitutional imperative:
- Guarantees the *right to an environment that is not harmful* to health or well-being (Section 24(b)(i to iii));
- Guarantees the *right to have access to sufficient food and water* (Section 27(1)(b))
- States that the *property clause may not impede the state from taking measures to achieve land, water and related reform*, in order to redress the results of past racial discrimination (Section 25(8))
Context (Constitution and NWA)

• The National Water Act (NWA) seeks to ensure that water resources are protected, used, developed, conserved, managed, and controlled to take into account:
  – To promote equitable access;
  – Redress the results of past racial and gender discrimination.

• The National Water Act translates this Constitutional imperative into (the NWA version of “set aside”):
  – *The Basic Human Needs Reserve* is the water allocated for human consumption before any other water can be assigned (The Reserves ensures that people are never overlooked in favour of ecosystems, calculated as a minimum of 25 litres per person per day).
  – *The Ecological Reserve* relates to water required to protect and sustain the aquatic ecosystems in order to secure ecologically sustainable development and water use (the National Water Act protects the rights of water ecosystems because they provide people with many free services necessary to life).
Content of NW&SMP

• The National Water and Sanitation Master Plan (NW&SMP) is a “Call to Action”. It seeks to rally all Water Sector Stakeholders in South Africa to work together to address the challenges confronting the Water and Sanitation Sector.

• The Plan enable the achievement of the targets set out in the National Development Plan (NDP) Vision for 2030 and the Sustainable Development Goals (SDG Goal 6 2030), of affordable and reliable access to sufficient and safe water and hygienic sanitation for socio-economic growth and well-being, with due regard to the environment.

• The Plan is also geared for the 5 key Strategic Pillars of the Department.
  - Pillar 1 National Water Resources and Services Authority
  - Pillar 2 National Water Resources and Services Regulator
  - Pillar 3 Water Resources and Services Value Chain
  - Pillar 4 Water Resources and Services Master Plan
  - Pillar 5 Institutional Rationalisation and Organisational Alignment
Outline of philosophy

• The Plan is based on five key objectives that define a ‘new normal’ for water and sanitation management in South Africa:
  – Resilient and fit-for-use water supply
  – Universal water and sanitation provision
  – Equitable sharing and allocation of water resources
  – Effective infrastructure management, operation and maintenance and
  – Reduction in future water demand.

• The Plan is configured based on twelve milestone elements, which define the key programmes identified as necessary to operationalise the new water and sanitation sector paradigm. Six of these elements fall under the heading of water and sanitation management, and the other six under the heading of enabling environment, shown in diagram on previous slide.
NW&SMP PHILOSOPHY

INSTRUMENTS
- National Water and Sanitation Bill
- National Water and Sanitation Master Plan
- National Water and Sanitation Resources Strategy
- Water Security Framework

Without sufficient revenue from transfers and tariffs, the sector will be unsustainable.

Affordable and reliable access to sufficient and safe water and hygienic sanitation for socio-economic well-being with due regards to the environment.

KEY OBJECTIVES - NEW NORMAL

DRIVERS
- Sustainable Development Goals
- National Development Plan
- National Water Resource Strategy
- National Water & Sanitation Strategy
- National Water & Sanitation Bill
- Climate Change
- African Union Agenda 2063

Ready for the future, ahead of the curve

Consolidate and Prioritize Schedule of Actions
Problem statement/Key challenges (1)

- *Without intervention*, national water deficit will be around 17% by 2030 (deficit could be between 2 700 and 3 800 million m3/a).
- Water availability could deteriorate as supply contracts and demand escalates due to growth, urbanization, inefficient use, degradation of wetlands, water losses and the negative impacts of climate change.
- IPAP sets out the intentions of South Africa in terms of expanding the manufacturing sector, which must drive innovation and which will in turn increase water demand but has the potential to increase water pollution if not appropriately regulated.
- The agricultural sector, the largest employer in the rural areas of the country, uses the most water (approximately 61%) and benefits from a large subsidy on the price of water (structure of the water pricing strategy), need for greater efficiency in water use.
- There is currently a heavily reliance on surface water (73% of total available yield). Not sufficiently diversified water Mix.
Being ready for the future means making a diversified water mix a reality in South Africa.

- **Surface Water**
  - Water Availability Mix (2000): 73%
  - Mid Term 2025: 67%
  - Long Term 2040: 60%

- **Return Flows (Irrigation Treated Effluent)**
  - Water Availability Mix (2000): 13%
  - Mid Term 2025: 3%
  - Long Term 2040: 4%

- **Desalination**
  - Water Availability Mix (2000): 14%
  - Mid Term 2025: 16%
  - Long Term 2040: 20%

- **Acid Mine Drainage**
  - Water Availability Mix (2000): 1%
  - Mid Term 2025: 1%
  - Long Term 2040: 2%

- **Groundwater**
  - Water Availability Mix (2000): 1%
  - Mid Term 2025: 1%
  - Long Term 2040: 1%

WATER IS LIFE - SANITATION IS DIGNITY

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Problem statement/Key challenges (2)

• About 50% of South Africa’s water resources originate from 10% of the country’s land, but many of these “water factories” are under threat.

• Between 1999 and 2011 the extent of main rivers in South Africa classified as having a poor ecological condition increased by 500%, with some rivers pushed beyond the point of recovery.

• South Africa has lost over 50% of its wetlands, and of the remaining 3.2 million hectares (approximately 30%) are already in a poor condition.

• Approximately 56% municipal wastewater treatment works and approximately 44% water treatment works in the country are in a poor/critical condition and need urgent rehabilitation, with some 11% completely dysfunctional which is having a significantly detrimental impact on the environment and driving up the cost of water treatment.
Map of Strategic Water Source Areas

Strategic Water Source Areas-50% from 10%:
Support >50% of population, >64% of national economic activity & supply ±70% of irrigation water.
Problem statement/Key challenges (1)

Why this Call to Action?

• Over 3 million people still do not have access to a basic water supply service and 14.1 million people do not have access to safe sanitation.

• Past 20 years, the sector has not made sufficient progress on its mandate for water allocation reform (reallocation to address racial and gender discrimination).

• DAFF Irrigation Strategy (2013): very little areas left with irrigable soils that can be put under irrigation

• Some 77% of rural households are indigent and therefore entitled to free basic water which is placing a significant strain on municipalities with a low revenue base.

• Municipalities have made little progress towards meeting water conservation targets set by the NDP with average municipal water use currently around 237 litres per person per day compared to the world average of 173 litres per person per day.
Current water use by sector

How we use our water resources in South Africa

- Municipal / Domestic: 27% total, 24% urban, 3% rural
- Agriculture Irrigation: 61%
- Afforestation: 3%
- Power Generation: 2%
- Industrial (If not part of Urban Domestic): 3%
- Mining: 2%
- Watering and Nature Conservation: 2%
Problem statement/Key challenges (3)

• Responsibility for water supply and sanitation (constitutionally) lies with 144 municipalities that are Water Services Authorities (WSAs). At least a third of these are regarded as dysfunctional and more than 50% have no, or very limited, technical staff. Twenty-seven priority districts have been identified as being particularly dysfunctional and requiring specific intervention (though not all are WSAs).

• The reliability of services that have been provided since the advent of democracy is declining, with only 64 % of households having access to a reliable water supply service (StatsSA General Household Survey).

• The institutional landscape of the water sector is also overly complex and not sufficiently transformed, which is impacting the value chain.

• Note: since the preparation of the Master Plan the IMTT on Basic Services has identified 57 Municipalities which account for over 87% of all households living in informal settlements or backyard dwellings, constitute over 50% of all backlogs and are the epicentre of recorded public service delivery protests.
Problem statement/Key challenges (4)

- Current pricing strategy does not adequately make provision to: reward users who conserve water and penalise consumers that ignore consumption caps.

- Waterborne sanitation is unsustainable, need to adopt “water-less” sanitation technology. Pragmatic management of the Free Basic Water policy is required.

- Non-Revenue Water in municipalities is estimated at 41%, losing some R 9.9 billion of potential revenue per year. Need to deal with non-payment for services, and enforce cost-recovery.

- The water sector is not financially sustainable, Pricing Strategy will have to be reviewed to address the historic undervaluation of water and sanitation services.

- High levels of debt at municipal level reverberate up the value chain, impacting on the financial sustainability.

- South Africa invests R 42 billion per year into water infrastructure, and R13 billion into sanitation. The estimated capital investment requirement is R90 billion per year over the next ten years, which is R 33 billion per annum more than the current investment.
Selected Proposed Actions (1)

The master plan highlights the key challenges in the water sector. The master plan place emphasis on the country and communities to plan for droughts and floods.

• Through drought, the disaster management approach has moved to building resilience, which includes the entire Water and Sanitation value chain.

• Tactics to reduce the risk of floods include
  • Building dams, control river flow and engineering schemes to divert water ways away from urban areas,
  • Creating reservoirs that can hold excess water during heavy rainfall, and
  • Raising the height of land alongside rivers to make them less likely to flood.

• Natural vegetation such as wetlands can also help to control the flow of flood water and reduce the damage they can inflict.

• Reduce risk from drought on a household scale include rainwater harvesting and water recycling
Selected Proposed Actions (2)

• Develop a business case for streamlined institutional rationalisation and organisational alignment in the water sector. This will include Disaster Management Components and committees at all levels of government and relevant institutions.
• DWS is also required to be represented on a very wide spread of joint disaster management committees.
• Establish financially sustainable CMAs across the country.
• Establish the National Water Resources and Services Authority
• Establish the National Water Resources and Service Regulator
• Redefine the configuration of Water boards to manage regional bulk water supply; assist municipalities to perform their primary water services mandate where necessary, manage regional water resources infrastructure, manage regional bulk WWTW
PLANNED INSTITUTIONAL ARRANGEMENTS FOR THE WATER SECTOR

Dept of Water and Sanitation

- Water Research Council
- Water Resources and Services Regulator
- Catchments Management Agencies

National Water and Services Authority

International Water Bodies (ORASECOM etc.)

- Water Boards
- Local Water Resource Management Institutions

Water Services Authorities

Dept of COGTA

SALGA

Water Services Providers

Catchments Management Agencies
Selected Proposed Actions (3)

- DWS will form part of the Co-ordinated Inter-Departmental and Inter-Governmental approach to planning, budgeting and implementation for Social Infrastructure and Services in the 57 Identified Prioritised Municipalities (LR1, ESRP).
- The Co-ordinated Service Delivery approach in the 57 Identified Priority Municipalities (8 Metros, 43 Locals and 6 Districts) must reach the greatest number of households still requiring basic services: (LR2, ESRP) (eg WCWDM).
- DWS will establish a specialised municipal intervention unit for water and sanitation (MIUWS) to drive the national programme of interventions, which includes the reintroduction of a Sector-Wide Approach (SWAP).
- A national programme, driven by the MIUWS, to support the adoption of alternative water sources such as desalination and water re-use (including a programme to determine the costs and benefits of new technologies).
- DWS will form part of Joint team to work on all areas in which improved bulk and reticulation infrastructure alignment - including the seven pilot Water Services Authorities. (LR3)
- A national programme is proposed to drive the reduction of non-revenue water levels to meet national and catchment targets.
- Address financial sustainability issues across the sector to turn around the currently poor levels of maintenance and refurbishment that are contributing to the decline in reliability of services and the high levels of wastage of water through leaks.
- Water Conservation and Demand Management (WC/WDM) targets will be set for all municipalities.
Selected Proposed Actions (4)

• DWS/DEA will identify and declare high yielding areas (‘‘Water Factories’’), critical groundwater recharge areas and aquatic ecosystems recognised as threatened or sensitive as protected areas.

• DWS will work with government departments and other sector partners to formalise funding arrangements for the sector, in order to close the funding gap.

• DWS and DEA, will focus on enforcement (water use licence conditions for both abstraction and waste discharge and other illegal activities), and prosecution of high-impact non-compliant water users (‘‘business unusual’’).

• Re-focus the Water Allocation Reform (WAR) programme.

• Implement proposal to establish a water and agrarian reform programme (led by Department of Rural Development and Land Reform (DRDLR)) to ensure that the reallocation of both land and water are aligned and take place within a framework of agrarian reform and effective rural development (MOU between DWS and DRDLR is already in place).
Selected Proposed Actions (4)

• DWS support **LR 6 : Back-to-Basics Programme**
• A national programme of refurbishing and turning around failing WWTWs to protect our natural resources and citizen health is non-negotiable.
• Re-introduce the Blue, Green and No Drop programmes.
• DWS support **LR 5: Financial Management**
• Metering of water use in the agricultural sector and the reconsideration of the subsidy on agricultural water charges to drive water conservation.
• The water sector research, development and innovation programme, driven by the DST and the WRC will support the implementation of the NW&SMP.
• Increase supply by: increasing surface water yield, increasing ground water use, desalination (including AMD), water re-use
• A Phakisa is proposed for 2019. The Phakisa Planning process for the water and sanitation sector will refine priorities, consolidate plans and actions, set time frames and allocate resources and responsibility to relevant departments, entities and institutions to ensure effective delivery and achievement of desired outcomes of the Master Plan.
1. Water and Sanitation Management

1.1 Reducing Demand and Increasing Supply

Level 1 Actions
includes the twelve elements which reflect the key programmes that have been identified to operationalise the new water and sanitation sector paradigm, i.e. water and sanitation management and creating the enabling environment.

Level 2 Actions

1.1.1 Reduce Non Revenue Water (NRW) and water losses in all municipalities to 15% below the business as usual.

Level 3 Actions

Is defined as the key actions listed under Volume 1 and the subordinate / supporting actions listed within Volume 2.

Delivery Unit to be established

Monitoring & Evaluation System to be developed
Phakisa

- On 27 June 2018 the Cabinet Committee of the Government of the RSA noted the development of the first National Water and Sanitation Master Plan.
- Cabinet also supported a recommendation that the sector undertake a collaborative, embedded planning initiative utilising the Phakisa methodology adopted by Government in 2013.
- The support of Cabinet for the mobilisation of a Phakisa for Water and Sanitation is a game-changer for the DWS and the broader water sector.
- The Phakisa on Water and Sanitation will see sector partners agree to the concrete actions, budgets and timeframes necessary to implement the Master Plan and ensure a water-secure future for the country, while also addressing the triple challenge confronting the country, namely poverty, unemployment and inequality.
- It is the intention of the Department to mobilise the sector to undertake the Phakisa by 2019. A planning period of 4 – 6 weeks is anticipated.
Governance structure

PRESIDENTIAL OPERATION PHAKISA ISSUE RESOLUTION COMMITTEE
[Chair: Minister DPME]
{Participants: Minister of Finance, Cluster Heads}

Operation Phakisa Sector Ministerial Committee
[Co-chairs: Minister DPME, Minister of Lab Lead Department]
{Participants: DPME, Lab Lead Department and other relevant departments}

Lab Co-ordinating Committee
[Co-chairs: DG DPME, DG Lab Lead Department]
{Participants: DGs/Representatives of focus area/lead departments}

Lab 1 Secretariat
Lab 2 Secretariat
Lab 3 Secretariat

DPME [Phakisa Unit]

Cluster

Steering Committee [Minister]
Steering Committee [Minister]
Steering Committee [Minister]
Steering Committee [Minister]

Delivery Unit
Delivery Unit
Delivery Unit
Delivery Unit

Focus area lead / Provincial Department
Focus area lead / Provincial Department
Focus area lead / Provincial Department
Focus area lead / Provincial Department

Work Groups Led by Initiative Owners
Phakisa Implementing Agents
Phakisa Implementing Agents
Phakisa Implementing Agents

Cross-cutting Steering Committees on e.g., Skills, Research, Communications

Key
Delivery Content Issues
Disaggregated
Aggregated
Delivery Progress Reports
Disaggregated
Aggregated
Institutional Issues
Frequency of Meetings
Frequency of Monitoring

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Thank you