

DEPARTMENT OF WATER AND SANITATION

# STRATEGIC PLAN

FOR THE FISCAL YEARS

2020 | 2021 to 2024 | 25



VOTE 41

WATER IS LIFE - SANITATION IS DIGNITY



# STRATEGIC PLAN (VOTE 41)

## FOR THE FISCAL YEARS 2020/21 TO 2024/25

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## Executive Authority Statement

The South African Constitution, with its roots firmly embedded in the Freedom Charter and the Bill of Rights, proclaims that “South Africa belongs to all who live in it” and that all citizens have a right to an environment that is not harmful. This is meant to result in an inclusive and non-racial society.

South Africa is a country brimming with potential and a resilient and fast growing economy is at the heart of our envisaged economic transformation agenda, directed by the National Development Plan, our South African Vision 2030.

The country’s Vision 2030 is well supported by the National Water and Sanitation Master Plan that we launched in November 2019, which Plan will direct all our efforts towards 2030 and beyond, the African Union’s Vision 2063, as well as the United Nations’ Sustainable Development Goals, Goal Number 6 (SDG-6) impacting on the delivery of water and sanitation.

Our economy has been facing difficulties since the financial crisis in 2008. As a country we embarked on an aggressive infrastructure development programme to stimulate growth, led by the Presidential Infrastructure Coordinating Commission. Global growth still remains muted and financial markets have become volatile. Currencies of emerging markets have become weak and they fluctuate widely, and the reality of other input factors cannot be ignored.

Our economy is also affected by domestic factors most notably electricity constraints and industrial relations both which are at times unstable.

The mandate of the Department of Water and Sanitation (DWS) is derived from the country’s Constitution and carries the responsibility to deliver basic yet crucial services to the populace. The service delivery tools for the DWS are embodied in the National Water Act (NWA), Water Services Act (WSA) and the Water Research Act (WRA) including all policy mandates and strategies which form a solid basis upon which to build our plans for the next financial year and beyond.

Our political guidance and directions are premised on the government’s Programme of Action which drives all our efforts to respond to and carry out the needs and desires of South Africans.

The planning terrain for the 2020/2021 medium term has been intensified and includes the Department’s entities. The department sets the agenda and identifies key projects for the State Owned Companies and entities to implement over a defined period. These interventions are essential for growth and sustained service delivery to a growing populace and demand.

It is important to recall that due to the fact that the Department had accruals in the last few years, it is necessary to review the strategic plan in order to align the Annual Performance Plan (APP) targets with the available budget.

At the same time, the Department will continue to find cost effective ways of realising its mandate within the allocated budget.

We all have a lot to do to turn the economy around and to reduce wastage. This belt-tightening exercise will require us to go through a difficult period until the economy recovers,.

We need to also adhere to:

- a) Scaling-up private-sector investment for water infrastructure.
- b) Growing the Ocean Economy;
- c) Identifying Cross-cutting Areas to Reform, Boost and Diversify the Economy through:
  - i Science, technology and innovation
  - ii Reliable Water and Sanitation provision

The maintenance and building of water infrastructure remains crucial to expanding access to South Africans wherever they live and work. In the same vein it is imperative to improve delivery of decent sanitation and while doing so explore the use of innovative technologies.

This Annual Performance Plan sets out the Department's transformative programme that is certain to yield positive outcomes.



**Sisulu L (MP)**  
**MINISTER OF HUMAN SETTLEMENTS, WATER AND SANITATION**



## Message from the Deputy Minister

Over the last twenty five years we have made strides in building a truly united, non-racial, non-sexist, democratic and prosperous society but we are the first to admit that more still needs to be done.

After the Sustainable Development Goals agenda was established by the United Nations (UN) in 2015, water and sanitation factored as part of the SDG goals especially goal 6 (Clean water & sanitation). Based on the decisions taken by the UN on SDGs various countries including South Africa are at various stages of driving this goal both at technical and policy levels.

The global importance of water cannot be overstated; it is crucial for all life and important for human socio-economic wellbeing; hence its value is seen from the context as an environmental, social and economic good. The well-being of human society through the ages has been dependent on secure sources of water; conversely, its absence has seen the demise of often well-established societies.

The fact that SADC countries share similar climate, hydrological and water resources governance provides a strong case to create a water-energy -food nexus platform to support regional planning. For example, Mozambique, Zambia and Zimbabwe share the Zambezi water basin, while South Africa supplies energy to several countries such as Zimbabwe, Botswana, and Swaziland.

The security of water supply is paramount socio-economic development. We must always plan for climate change. The challenges posed by climate change, water, nutrients and energy are converging. About 12 million hectares of land becomes degraded each year. Droughts and floods are becoming more frequent and larger. For a host of reasons Africa is at the eye of this storm.

Some reasons include the fact that southern Africa has already lost 25% of its soil fertility. And some countries on the continent have some of the highest population growth rates globally.

The recent World Economic Forum (WEF) report indicates that a quarter of the world's human population already living in the regions that suffer from severe water scarcity for at least six months of the year.

We are also enjoined to ensure all South Africans receive dignified sanitation services. This is notwithstanding ours being a water-scarce country. In this regard, there is a great need to look into and raise awareness that in our situation of water scarcity, there is absolute need for the introduction and use of alternative and new sanitation technologies. It will be most critical that sufficient buy-in is received in this regard.

It is important to raise the point that whilst as a department we continue to deliver on the planning, and delivery of bulk services, these need to translate to the actual betterment of the lives of all South Africans. The district development model will improve coordination amongst the three spheres and broader stakeholder in driving development.

With all the work that went into the completion of the fifteen regional bulk infrastructure project phases that were completed, we know that a total of 262 796 more households are being served than before. In addition, a total of 907 job opportunities were created from the construction of infrastructure projects, with a direct impact on the livelihoods of people.

Protection of the water resources is critical especial due to high levels of deteriorating water quality caused by infrastructure failure by many of the municipalities who are water services, mines and industries. The department conducted compliance monitoring on no less than 407 water users; these were within a number of disciplines

including agriculture, dam safety, industry, mining, municipality, public entities and stream flow reduction activities. We are pleased to indicate that as the report will indicate, no less than a healthy number totalling 94% of reported non-compliant cases were investigated. In actual numbers this relates to 441 of 471 cases.

As a developmental state, we cannot and should not compromise on that. With regard to water management and the protection of the source from pollution, an Anti-Pollution Task Team has been assembled and it has had its first bite in Mpumalanga province where it has been discovered that the Victor Khanye Municipality was discharging raw sewer into the river.

Regulation is a critical part of the core function of the DWS as it assist in ensuring that there is sufficient protection of the resource, a very important function in light of the country's challenges of water scarcity.

Cooperation and governance systems therefore become imperative and are critical success factors in addressing water resources and associated issues and challenges. Addressing these complexities requires collaboration on human capacity development. We need to continuously obtain new knowledge, develop new skills and tools for the changing conditions. We need to investigate opportunities to leapfrog to alternative pathways for delivering on water security and managing water and sanitation services.

We can and must build on these small developments. The path is clear. But we all need to work together and walk together to get to the destination we seek.



**Mr MD Mahlobo**  
**DEPUTY MINISTER OF HUMAN SETTLEMENTS, WATER AND SANITATION**



## Message from the Acting Director-General

In February 2019, the erstwhile Minister presented a proposal under the title “The Water and Sanitation Crisis in our Country: A comprehensive strategic Intervention Proposal” that mainly recommended a ten (10) year massive construction programme over the short, medium and long term periods.

Accordingly, a number of directives were issued to entities to give a special focus on infrastructure needs particularly in rural towns, farms and villages. The proposed intervention plan also suggests a number of areas to be optimised such harvesting of ground water and surface water and maximising the use of sea water through desalination.

South Africa needs a massive national infrastructure build that will eradicate all informal settlements, replacing them with decent human settlements. To achieve this; a funding model needs to be developed, wherein the focus will be on determining a variety of financing mechanisms adopted in South Africa and internationally to fund infrastructure. The project will look at the principles of infrastructure funding and financing and help to identify the lessons learnt that could shape future investment decisions in the South African water sector. This will enable the Department to deliver on its aspiration for a ten-year massive construction programme.

In 2013, the Minister of Finance announced a number of cost containment measures. Although excessive and wasteful expenditure is being reduced in the Department, more still needs to be done to cut wastage.

The Department will, therefore, continue finding cost effective ways of realising its mandate within the allocated budget.

The Department will continue optimising its revenue management plans through its customer relations function. Through this process, we will engage our business partners to ensure that all monies owed to the Department are collected. As we prioritise the operations and maintenance activities in support of the infrastructure that we manage, revenue optimisation remains essential.

Arising from further cost containment measures, the budget cuts on the compensation of employees for the 2019/20 financial year necessitated a further review of critical posts that will have to be filled in future. The reprioritised list of vacancies adopted in the 2018/19 financial year – which focuses mainly on scarce and critical posts as per the core functions of the Department – will be filled in the 2019/2020 financial year.

The Department will continue to reduce the vacancy rate in respect of engineers and scientists. A target of not more than 10% will be maintained.











The Department continues to work towards realising the National Development Plan and this Annual Performance Plan sets out a transformative programme that is certain to yield significant outcomes.

**Mr M Tshangana**  
**ACTING DIRECTOR-GENERAL**

## OFFICIAL SIGN-OFF

It is hereby certified that this Strategic Plan:

- Was developed by the management of the Department of Water and Sanitation under the guidance of L N Sisulu (MP);
- Takes into account all the relevant policies, legislation and other mandates for which the Department of Water and Sanitation is responsible.
- Accurately reflects the impact, outcomes and outputs which the Department of Water and Sanitation will endeavor to achieve over the period 2020/21 – 2024/25.

Mr S Mahlangu DDG: Administration	
Ms F L. N W Lusenga DDG: International Water Support	
Ms D Mochotlhi DDG: Water Planning and Information Management	
Mr L Manus DDG (Acting): Water Infrastructure Development	
Mr A B Singh DDG: Water Sector Regulation	
Ms O N V Fundakubi Chief Operation Officer	
Mr F Moatshe Acting Chief Financial Officer: Main Account and Water Trading	
Mr M Tshangana (Acting) Director-General	
M D Mahlobo (MP) Deputy Minister of Human Settlements, Water and Sanitation	
L N Sisulu (MP) Minister of Human Settlements, Water and Sanitation	

PART A:

MANDATE

## 1 Constitutional mandate

### 1.1 Chapter 2 on the Bill of Rights makes the following provisions:

- Section 10 - “everyone has inherent dignity and the right to have their dignity respected and protected.” The same provision also applies to sanitation.
- Section 24(a) - “everyone has a right to an environment that is not harmful to their health or well-being”
- Section 27(1)(b) - “everyone has the right to have access to sufficient water”
- Section 27(2) - obliges the state to “take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation” of everyone’s right of access to sufficient water.

### 1.2 Chapter 6 on Provinces makes the following provisions

- S139 Provincial intervention in local government-
  - (1) When a municipality cannot or does not fulfil an executive obligation in terms of the Constitution or legislation, the relevant provincial executive may intervene by taking any appropriate steps to ensure fulfilment of that obligation.

### 1.3 Chapter 7 on Local Government makes the following provisions

- S154 Municipalities in co-operative government-
  - (1) The national government and provincial governments, by legislative and other measures, must support and strengthen the capacity of municipalities to manage their own affairs, to exercise their powers and to perform their functions.

### 1.4 Schedule 4 on Functional Areas of Concurrent National and Provincial Legislative Competence makes the following provisions:

- Water and sanitation services limited to potable water supply systems and domestic waste-water and sewage disposal systems

## 2 Legislative and policy mandates

The legislative mandate of the water and sanitation sector seeks to ensure that the country’s water resources are protected, used, developed, conserved, managed and controlled through regulating and supporting the delivery of effective water supply and sanitation.

### 2.1 Legislative mandate

The Department and the sector draw their primary mandate from the following legislation:

#### 2.1.1 The National Water Act, 1998 (Act No 36 of 1998) as amended

The National Water Act seeks to ensure that the country’s water resources are protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner for the benefit of all people.

The Act assigns the national government as the public trustee of the water resources. Acting through the Minister, it has the power to regulate the allocation, use, flow and control of all water in the Republic. It also identifies the need to establish suitable institutions in order to achieve its purpose. In addition, it provides for the development of the National Water Resources Strategy (NWRS) which must be regularly reviewed and the requirement of each Catchment Management Agency (CMA) to develop a catchment management strategy for the water resources within its jurisdiction.

### 2.1.2 The Water Services Act, 1997 (Act No 108 of 1997)

The Water Services Act prescribes the legislative duty of municipalities as water service authorities to supply water and sanitation according to national norms and standards. In addition, it regulates Water Boards as important water service providers.

The Act compels the Minister to maintain a National Water Services Information System and to monitor the performance of all water services institutions, as well as providing for the monitoring of water services and intervention by the Minister or the relevant Province when necessitated.

With reference to a “right to basic sanitation”, this is the primary legislation relating to sanitation in South Africa. It further defines basic sanitation as: ‘The prescribed minimum standard of services necessary for the safe, hygienic and adequate collection, removal, disposal or purification of human excreta, domestic waste water and sewerage from households, including informal households’. Further regulations, norms and standards pertaining to sanitation can be found in the Housing Act (No.107 of 1997).

It acknowledges that although municipalities have authority to administer water supply services and sanitation services, all government spheres are required to work towards this object, within the limits of physical and financial feasibility.

### 2.1.3 The Water Research Act, 1971 (Act No 34 of 1971)

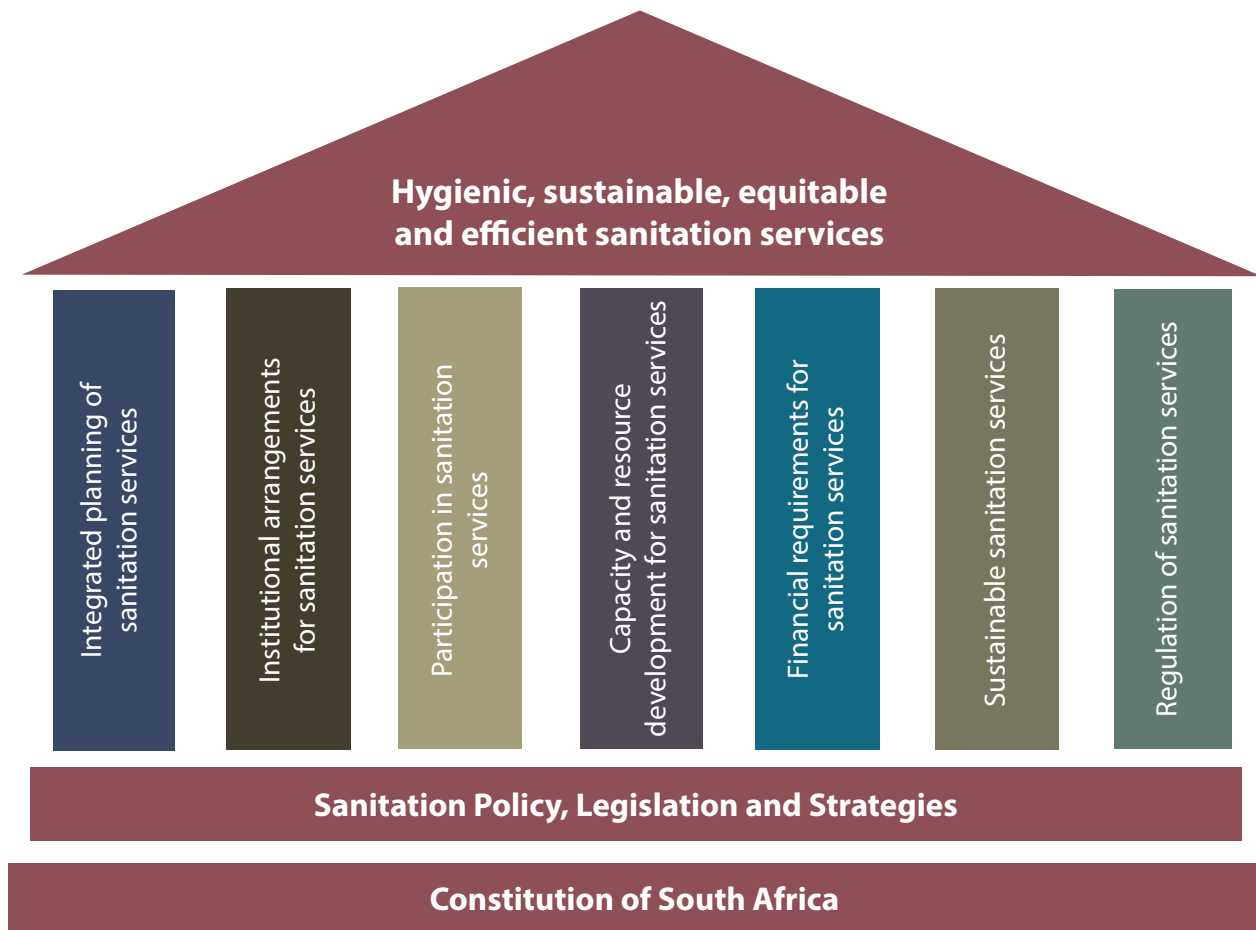
The Water Research Act establishes the Water Research Commission and the Water Research Fund, and thus promotes water related research and the use of water for agricultural purposes, industrial purposes or urban purposes. The Minister appoints members of the Water Research Commission (the Commission), and thus exercises executive oversight over the Commission.

## 2.2 Policy framework

2.2.1 **National Water Policy Review (2013):** the policy review determined unintended oversight and gaps in the existing water policies to provide amendment to address the following:

- (a) **Use-it or Lose-it:** Any authorised water use (including existing lawful use) unutilised for a specified period should be reallocated to the public trust. This water will be reallocated to address social and economic equity
- (b) **No water trading:** No form of temporary or permanent trading between authorised water users. The obligation for any holder of an entitlement to use water; if it is no longer utilised, is to surrender such use to the public trust.
- (c) **Prioritising social and economic equity:** The decision making will have equity as the primary consideration. Priority will be accorded to water use authorisation applications that meet the equity requirement, as provided in the regulatory instruments.
- (d) **Multiple water use approach in planning:** A multiple water use approach incorporating all water uses in an area including water supply, must be adopted in planning of bulk water infrastructure. This approach will also have equity and transformation as a priority.
- (e) **Access to basic water supply:** A water service authority (WSA) should work progressively or incrementally towards providing higher levels of a sustainable water supply to all households and public institutions, including rural areas. When planning, a WSA must consider a basic water supply which addresses current domestic and productive use requirements, as well as future growth in these requirements
- (f) **Free basic water supply to indigent households:** Free basic water supply will be provided to indigent households only.

2.2.2 **National Sanitation Policy (2016):** the policy review addresses the entire sanitation value chain (namely the collection, removal, disposal or treatment of human excreta and domestic wastewater, and the collection, treatment and disposal wastewater). The figure below indicates the categories under the seven (7) pillars of the policy



2.2.3 Other water and sanitation policies and strategies include the following:

- (a) White Paper on Water Supply and Sanitation (1994)
- (b) White Paper on National Water Policy for South Africa (1997)
- (c) White Paper on Basic Household Sanitation (2001)
- (d) Strategic Framework for Water Services (2003)
- (e) National Water Resources Strategy, Second Edition (2013)
- (f) Water and Sanitation Climate Change Policy (2017)

## 2.3 Legislative and policy mandates for cross cutting priorities

- 2.3.3 Employment Equity Act 55 of 1998: section 20(1) requires the development of an employment equity plan that will achieve reasonable progress towards employment equity in the workforce
- 2.3.4 Preferential Procurement Policy Framework Act 5 of 2000: the 2017 regulations indicate the requirements for local production and content; subcontracting conditions
- 2.3.5 The Broad-Based Black Economic Empowerment Act 53 of 2003:

- 2.3.6 National Youth Policy 2015-2019
- 2.3.7 Youth Accord Pillars: (Youth Employment Accord April 2013)
- 2.3.8 South African National Policy Framework for Women Empowerment and Gender Equality (NPFWEGE), 2000
- 2.3.9 Job Access Strategic framework for recruitment, employment and retention of people with disabilities (2006 – 2010)
- 2.3.10 White Paper on the Rights of People with Disabilities in South Africa 2016

### 3 Institutional policies and strategies over the five year planning period

The National Development Plan (NDP) predicts that before 2030, all South Africans will have affordable, reliable access to sufficient safe water and hygienic sanitation<sup>1</sup>. The Industrial Policy Action Plan (IPAP) also sets out the intentions of South Africa in terms of expanding the manufacturing sector, which will increase water demand. To balance requirements and supply, South Africa will therefore need to reduce water demand, as well as increase supply for a growing population and economy in order to ensure water security.

In support of the NDP, the Medium Term Strategic Framework (MTSF) for 2019 to 2024 seeks to address unemployment, inequality and poverty. The MTSF indicates that significant work still needs to occur in order to transform the status quo onto a new development trajectory. To achieve this, it identifies seven priorities namely economic transformation and job creation; education, skills and health; consolidating the social wage through reliable and quality basic services; spatial integration, human settlements and local government; social cohesion and safe communities; a capable, ethical and developmental state; and a better Africa and world. In addition, it requires government to put a concerted effort in prioritising initiatives that support women, youth and people with disabilities.

- 3.1 **Mine Water Management policy:** the policy seeks to balance the mining sector's economic development with the protection and ensuring sustainable use of water resources in a manner that is beneficial to all. It will provide a coherent and integrated South African approach for sustainable mine water management by building on existing strengths; addressing gaps / weaknesses and seizing identified opportunities relating to mine water management (including acid mine drainage).
- 3.2 **Sustainable Hydropower Generation policy:** the policy aims to support the long term energy master plan that pursues hydropower as part of the energy mix. In addition, it would provide policy positions on the establishment and development of hydropower from infrastructure owned by the DWS as part of long term interventions that support and contribute towards sustainable power supply in South Africa.
- 3.3 **Integrated Water Quality Management policy:** the policy seeks to develop an intergovernmental water quality management approach which would facilitate an integrated response to address water quality management challenges in the country. The policy would strengthen the existing integrated water quality management strategy that identified priority programmes to be implemented country-wide.
- 3.4 **National Water and Sanitation Bill:** this is a consolidation of the National Water Act, 1998 (NWA) and the Water Services Act, 1997 (WSA) to a single legislation. It will clarify the legislative framework regarding water management across the water and sanitation value chain. It will further obviate the need for cross reading between the NWA and the WSA.
- 3.5 **National Water Resource Strategy third edition (NWRS-3):** the NWA requires the review of the NWRS at intervals of not more than five (5) years.

<sup>1</sup>Source: National Development Plan 2030, National Planning Commission (2012: 178)

- 3.6 **Review of the water pricing strategy:** The strategy review seeks to improve the financial viability of government's bulk raw water business to ensure that this scarce resource is valued by all citizens. The major change of the review is to move from the Return on Asset method of infrastructure costing to a method of pricing based on Future Infrastructure Built over 10 years per province.
- 3.7 **National Water and Sanitation Master Plan:** sets out the critical priorities to be addressed by the water sector in the period from 2018 – 2030. It also identifies actions and interventions to ensure the realisations of the priorities.

## 4 Relevant court rulings

**Constitutional Court Case:** Mazibuko and others v City of Johannesburg and Others (CCT 39/09) (2009) ZACC. In this case the Constitutional Court recognised that water is life and that everyone has the right to sufficient water.

PART B:

STRATEGIC FOCUS

## 5 Vision

Equitable and sustainable water and sanitation that support socio-economic growth and development of the well-being of current and future generations.

## 6 Mission

- To ensure the universal access of all South Africans to equitable water resources and sustainable water and sanitation services, by:
- Protecting, developing, conserving, managing and regulating water resources;
- Managing, regulating and providing efficient and effective water and sanitation services;
- Providing strategic leadership and evidence based policy direction to a coordinated water and sanitation sector for improved sector performance and service delivery;
- Building the skills and capabilities of the sector and enhancing information management to inform decision making; and
- Enhancing communication and stakeholder partnerships with communities and sector constituencies to advance the national development agenda.

## 7 Values

- Providing services impartially, fairly, equitably and without bias;
- Utilising resources efficiently and effectively;
- Promoting and maintaining high standards of professional ethics;
- Responding to people's needs; citizens are encouraged to participate in policy-making;
- Rendering an accountable, transparent, and development -oriented public administration.

## 8 Situational analysis

A number of external and internal environment matters affect the department's ability to deliver on its mandate. Some of these present various challenges and opportunities impacting on its operations influencing planning decisions and the required trade-offs. This results in the prioritisation of certain interventions and programmes over others taking into consideration the required resourcing and associated risks.

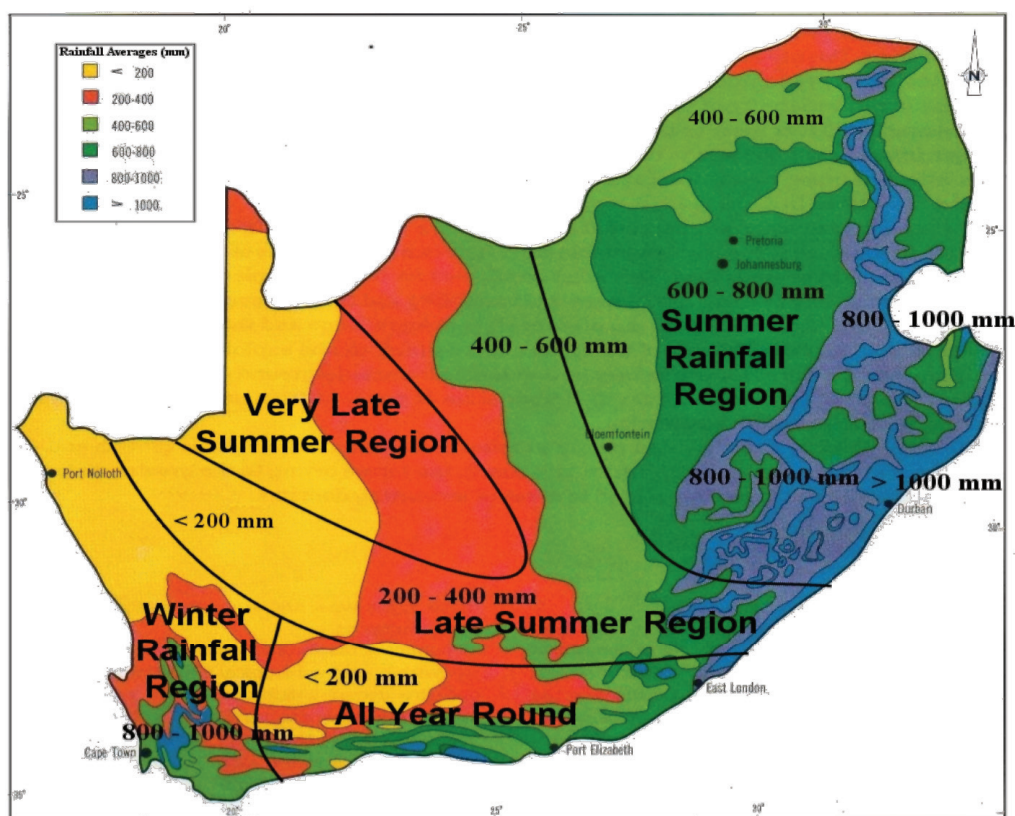
### 8.1 External environment

Water crises are identified as one of the global risks in terms of societal impact. These are defined as a significant decline in the available quality and quantity of fresh water, resulting in harmful effects on human health and / or economic activity<sup>2</sup>. There is a probability of the water crises in South Africa due to insufficient investment in water infrastructure; poor maintenance in existing water infrastructure; recurrent droughts driven by climatic variation; inequities in access to water and sanitation; deteriorating water quality, and a lack of skilled water engineers. These water crises are exacerbated by climate change which continues to present changes in temperature, precipitation and extreme weather events having a detrimental effect on both local and international confidence. The persistent challenges related to water security in South Africa are summarised below:

<sup>2</sup>Source: Global Risks Report, World Economic Forum (2019: 98)

## Increasing water demand and declining supply

South Africa has an arid to semi-arid climate, with a mean annual rainfall of 500 mm as compared to the world average of 860mm. This rainfall produces a total annual runoff of approximately 49 000 million m<sup>3</sup>/a. The figure below indicates that 65% of South Africa has a mean annual rainfall of less than 500mm and 21% of the country with a mean annual rainfall of less than 200mm. The country therefore experiences severe and prolonged hydrological droughts, which may last as long as 10 years at a time.



**Figure 1: Climate and runoff regions**

(Source: Adapted from Botai CM, Botai JO, Adeola AM. Spatial distribution of temporal precipitation contrasts in South Africa. *S Afr J Sci.* 2018; 114 (7/8), Art. #2017-0391, 9 pages. <http://dx.doi.org/10.17159/sajs.2018/20170391>)

The country's water security is mainly reliant on fresh surface water, with ground water and return flows underutilised. There are currently 5 551 registered dams with a total gross storage capacity of 33 291<sup>3</sup> million m<sup>3</sup>. Of these registered dams, 4 294 are small (i.e. less than 12m) serving farms and municipalities. These smaller dams play a critical role in local water security and climate resilience. The total national potential for accessible groundwater, on the other hand, is approximately 4 500 million m<sup>3</sup>/a; of which between 2 000 and 3 000 million m<sup>3</sup>/a, is being utilised.

The 2019 national demand for water requirements is 10 233 million m<sup>3</sup>/a; with the current reliable national yield of surface water at an acceptable assurance of supply at approximately 10 137 million m<sup>3</sup>/a. This means there is a nation deficit of 96 million m<sup>3</sup>/a; in other words the demand is exceeding supply. Although there is a national deficit, there are certain areas with surpluses; water is transferred through the transfer schemes to service the demand areas. Due to the skewed nature of the strategic water source areas, large transfer schemes have been developed to service various demand centres. Water is therefore managed through catchment areas rather than political boundaries.

<sup>3</sup>Note: The total gross storage capacity is not an indication of the dam's current level but the design storage capacity when the dam is full (i.e. 100% storage).

Agriculture is the largest water use at 61%, followed by municipal use at 27% (including industrial and commercial users provided from municipal systems), with power generation, mining and bulk industrial use, livestock and conservation and afforestation jointly making up the remaining 12%. The assurance level at which agricultural water is supplied is lower than for other sectors at 90%. Water for power generation is seen as strategically important and is provided with the highest assurance of supply at 99.5%; which translates to 1: 200 year risk of failure.

Agricultural consumption is largely unmetered, and there are concerns about unauthorised abstraction and water wastage in the sector. In addition, agricultural users pay a much lower tariff than other users of untreated water and the relatively cheap water has not incentivised the adoption of water efficient irrigation practices. However, the agricultural sector is important in terms of jobs and contribution to the GDP. The value of primary agricultural production in South Africa was R263,2 billion in 2016.

The domestic sector has high water use partly due to municipal non-revenue water which is currently at 41%. Non-revenue water includes all water supplied that is not paid for, including physical water losses through leaks in the distribution system, illegal connections, unbilled consumption and billed, but unpaid for water use. While figures vary greatly between municipalities and services providers, average physical losses in municipal systems are estimated to be around 35%, against a global best practice in the order of 15%.

The Industrial Policy Action Plan (IPAP) sets out the intentions of South Africa in terms of expanding the manufacturing sector, which will increase water demand in this sector, and which has the potential to increase water pollution if not appropriately regulated.

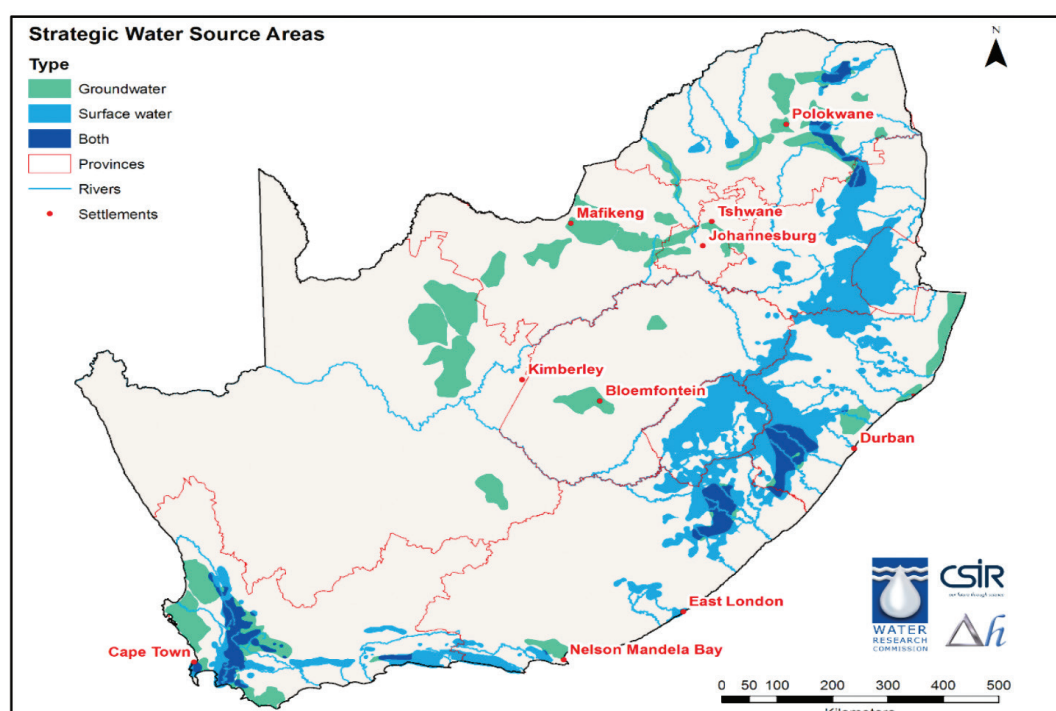
To balance requirements and supply, South Africa will need to reduce water demand, as well as increase supply for a growing population and economy in order to ensure water security by 2030. Without demand management, currently planned infrastructure development and the broadening of the water mix will not be sufficient to balance supply and demand. However, if the targets of reducing physical losses in municipal systems are reached, as well as a reduction in the per capita consumption to the global average, in addition to the surface and groundwater supplies, and desalination, re-use and treated AMD, there will be a slight surplus available in 2030.

## Deteriorating water ecosystems

South Africa's aquatic ecosystems include seven of the world's freshwater ecoregions, and are characterised by a wide range of river, wetland and estuarine ecosystem types. Many of these aquatic ecosystems make up the country's ecological infrastructure (i.e. nature's equivalent of built infrastructure) that generates and delivers benefits in the water value chain. Ecological infrastructure is currently an under-realised asset that can play a significant role in enhancing returns-on-investment in built infrastructure (e.g. dams), especially if its maintenance is explicitly incorporated into the planning and construction of built infrastructure.

Most of South Africa's freshwater come from catchments that receive the highest rainfall (i.e. strategic water source areas). There are 22 strategic water source areas occupying 8% of the land, however these provide 50% of the surface run-off (i.e. water in wetlands, streams and rivers). The strategic water source areas support the water needs of approximately 60% of the population, 67% of the national economic activity<sup>4</sup> and supply approximately 70% of irrigation water.

<sup>4</sup> Source: Centre for Environmental Rights, <https://cer.org.za/news/why-we-must-protect-south-africas-water-source-areas-now>.



**Figure 2: Spatial distribution of strategic water source areas**  
(Source: National Water and Sanitation Master Plan Volume 1, 2018: 36)

Many of the high value aquatic ecological infrastructure assets are poorly protected, and in some areas of the country are under severe pressure, from intensive agriculture, mining and urban sprawl that results in loss or degradation of ecosystems. Like built infrastructure, ecological infrastructure needs to be maintained, and in some cases restored, in order for its socio-economic benefits to be realised.

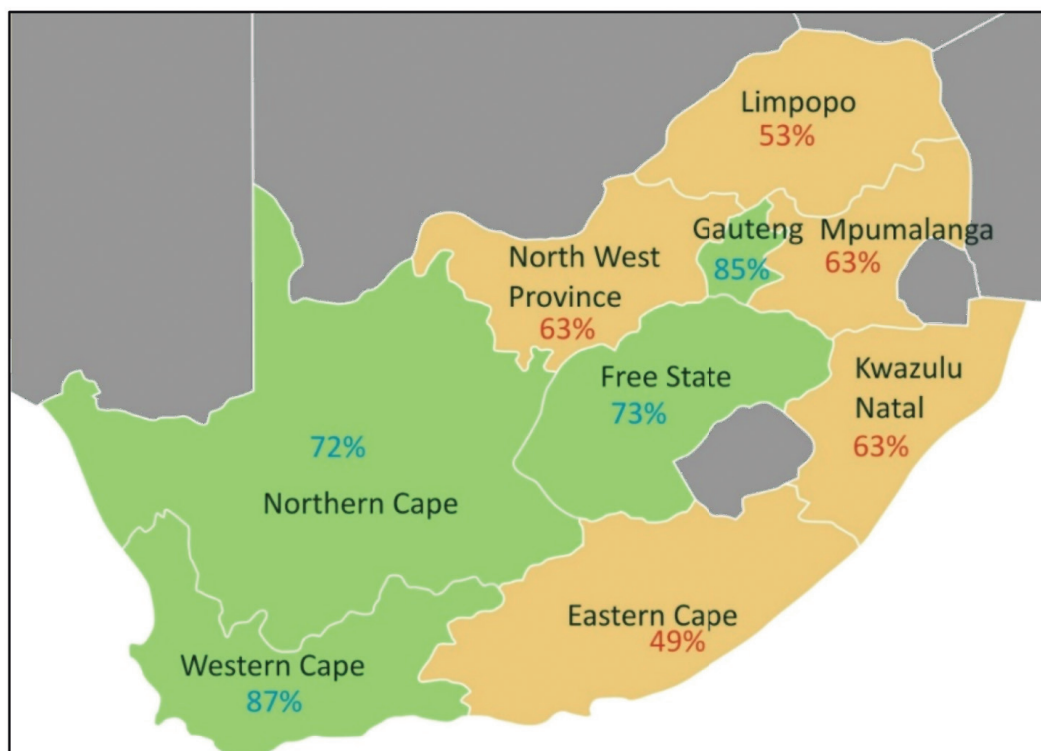
It is estimated that South Africa has lost over 50% of its wetlands, and of the remaining 3.2 million ha (less than 5% of SA's land cover) a third are already in a poor condition limiting their ability to inter alia regulate water flow and purify water. The loss and degradation of ecological infrastructure negatively affects system yield and increases water-related risks. Degraded wetlands, for example, lose their ability to release water in times of drought, or to recharge groundwater supplies. Degraded ecological infrastructure increases the vulnerability of people and built infrastructure to floods and increases maintenance and repair costs on built infrastructure. It is often more cost effective to rehabilitate ecological infrastructure than to be faced with an ongoing need to repair or replace built infrastructure.

### Unreliable water and sanitation services

Section 27(1)(b) of the Constitution indicates that “everyone has the right to have access to sufficient water” with section 10 indicating “everyone has inherent dignity and the right to have their dignity respected and protected”; which also applicable to sanitation.

In 1994, 15.2 million people were estimated to have no access to basic water supply and an estimated 20.5 million lacked basic sanitation. Twenty five years later there is significant progress with 95% of the population provided with access to a basic water supply and basic sanitation service is provided to 79% of the population.

Despite these achievements, more than 3 million people are estimated not have access to a safe and reliable water supply and an estimated 14.1 million people do not have access to safe sanitation. In addition, the reliability of services to the country's households has declined to an estimated at 57% as a result of inter alia aging infrastructure and poor operations and maintenance.



**Figure 3: Reliability of water supply and sanitation services per province**  
 (Source: National Water and Sanitation Master Plan Volume 1, 2018: 21)

The failure of some water service authorities (municipalities) to provide reliable water and sanitation services is largely due to the lack of technical skills; institutional capacity and funding to operate, maintain and manage water and waste water infrastructure assets properly. Furthermore, is the limited budget allocated by some municipalities for operations and maintenance relative to new capital works; poor revenue management; and the failure to employ suitably qualified technical staff members. In addition, the national infrastructure grant funding mechanisms incentivise the building of new infrastructure, rather than the maintenance of existing infrastructure.

A case in point is the operations and maintenance of the country's water treatment works (WTW) and wastewater treatment works (WWTW). Approximately 56% of the over 963 WWTW and approximately 44% of the 1010 WTWs are in poor or critical condition and in need of urgent rehabilitation. The poor state of water and wastewater treatment has significant implications for public health. In 2017, there were 2.8 million households in South Africa that utilised unimproved sanitation including 280,791 households which practised open defaecation (STATS SA, 2018).

The constitutional water supply and sanitation services responsibility lies with 144 municipalities that are water services authorities (WSA). At least 33% of these municipalities are regarded as dysfunctional and more than 50% have no or very limited technical staff. The 27 priority district municipalities have been identified as being particularly dysfunctional and requiring specific intervention.

In addition, many of the smaller and/or rural municipalities are faced with financial challenges. The socio-economic profile of South Africa is highly variable with 63% of households earning less than R38 000 per year (and therefore classified as indigent). Municipalities with high levels of indigent households are dependent on national grants to provide reliable and affordable water and sanitation services. In rural and/or smaller municipalities, the proportion of indigent households averages 77%. It is consequently difficult for municipalities with a low revenue base to address their backlogs and to allocate sufficient funds for maintaining and operating existing works. In some areas, major water infrastructure runs through rural areas without supplying them (such as the Tugela-Vaal scheme).

Statistics South Africa estimates the mid-year population for South Africa in 2019 at 58,78 million; of which 51.2% (approximately 30 million) is female and 28.8% is younger than 15 years<sup>5</sup> which reinforces the importance of investing in women and youth. In addition, high rates of urbanisation have a major impact on the demand for water supply and sanitation services.

### Inequitable water allocation

The national water and sanitation policies and legislation mandate the water sector to provide universal and equitable access to reliable water supply and sanitation service. The sector is also mandated to protect, manage and develop the nation's water resources in a manner that supports justifiable and ecologically sustainable economic and social development and to transform access to water to redress racial imbalances.

Transformation is critical in ensuring that water for productive use for purposes is equitable; governance of water is representative; there is access to decent water and sanitation services for all. Despite both policy and legislative tools intended to enable the transformation of water allocation to redress the historical racial discrimination in access to water, little has been achieved since the National Water Act (NWA) was promulgated in 1998. This is particularly true in the agricultural sector, where around 95% of the water is estimated to be used by white commercial farmers.

The Existing Lawful Use (ELU) was intended as a transitional arrangement. However, 20 years after the NWA was promulgated, ELUs authorise the biggest volume of water used in the country.

While the restitution of agricultural land has been slower than intended, the reallocation of water has not always even kept pace with the transfer of that land. In some instances, the previous owners traded away their existing lawful water use rights, so that the water allocation was not transferred to land reform beneficiaries. According to the Institute for Poverty, Land and Agrarian Studies, more than 70% of commercial farms in the country are estimated to be owned by white farmers with about 39 000 white commercial farmers and 5 300 black farmers, according to the African Farmers Association of South Africa. Most of the black commercial farmers have relatively smaller farms.

The demand for land reform is high on the political agenda and will remain so until adequately addressed. Within the land reform programme, the transfer of some irrigable land without a water allocation has limited the ability of recipients to make productive use of the land. In addition, there are black farmers and entrepreneurs who have expressed their concerns about lack of access to water, and the challenges in getting water allocated for farming and enterprise development. The pressure to reallocate water to achieve more equitable water use thus remains high.

### Weak regulation of the water and sanitation sector

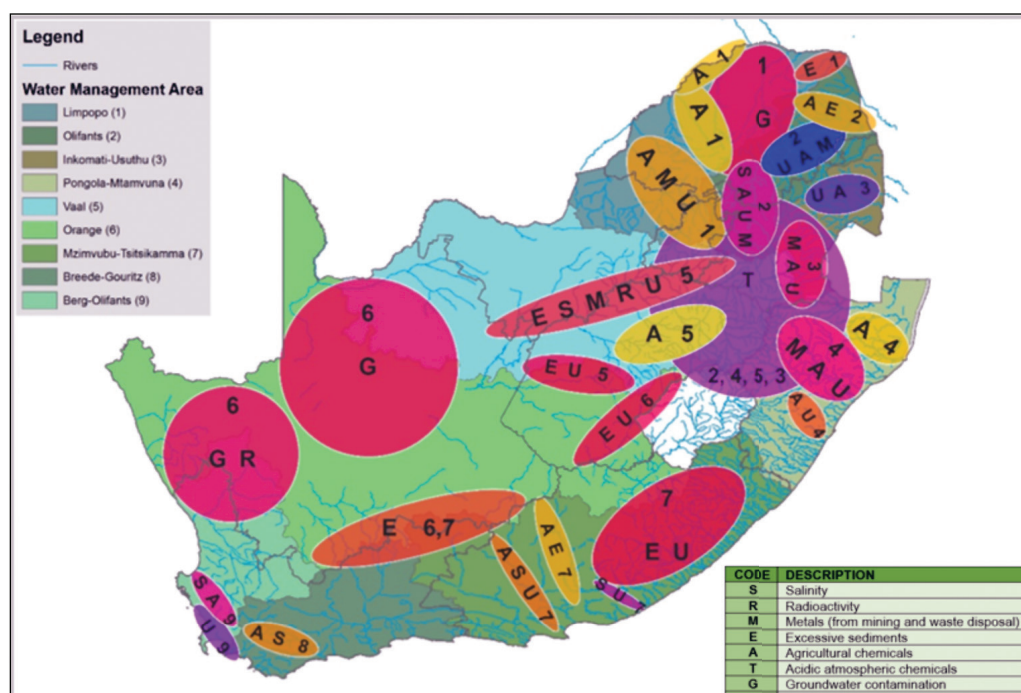
Strong regulation is critical to achieve water security in South Africa, in terms of water quality (in rivers and taps), balancing demand and supply, ensuring the safety of dams, and being resilient to climate change impacts. Authorisation for water abstraction, waste discharge, and dam safety, and setting the charges for the use of raw water and the discharge of effluent are some of the tools used by the Department to regulate the water and sanitation sector.

Standards for water and sanitation services provision and associated tariffs are also governed by the Municipal Systems Act and the Municipal Finance Management Act. There are significant challenges in ensuring that WSA set appropriate tariffs that cover costs, including operation and maintenance costs, and that promote water use efficiency.

In addition to the national water and sanitation policies and legislation, WSAs are responsible for developing by-laws that, amongst others, enable regulation of water supply and sanitation provision and use within its area of jurisdiction. The South African Bureau of Standards (SABS) also sets several water quality standards for the water sector, including drinking water standards (SANS 241) and other relevant guidelines.

<sup>5</sup>Source: Mid-year population estimates, Statistics South Africa (2019: 5)

Despite strong regulatory tools in the legislation, the quality of raw water continues to deteriorate across the country in many parameters as depicted in figure 4 below. This deterioration poses a threat to economic growth, social development, health and hygiene and aquatic ecological functioning. Poor raw water quality increases the costs of treatment for domestic and industrial use. It also negatively impacts agricultural production.



**Figure 4: Water quality problems in the country**  
(Source: National Water and Sanitation Master Plan Volume 1, 2018: 30)

A case in point is the failure of some WSAs to deliver the requisite level of water supply and sanitation. This failure to meet drinking water quality standards is exacerbated by the cessation of the Blue, Green and No Drop assessments. In the 2014 Blue Drop assessment, 86% of WSAs achieved good or excellent status for microbiological water quality compliance, but only 70% achieved good or excellent status for water quality operational compliance.

The dam safety regulation is also severely strained owing to limited qualified personnel in the country. The National Water and Sanitation Master plan indicates that there are less than 100 dam safety approved professional persons (APPs) in South Africa (approximately 1 qualified person for every 50 dams on the dam safety register), and more than 66% of these APPs are older than 60 years of age.

The need to use the courts to impose sanctions on contraventions of water legislation hampers the ability to get speedy resolution on such matters. This is exacerbated by the overly complex water sector institutional landscape that is not sufficiently transformed and thus impacting the water value chain.

## 8.2 Internal environment

The assessment of the Department's resources and capabilities is essential in the realisation of this strategy. The assessment is summarised below:

### Organisational alignment

The water sector is inter-sectoral and multi-disciplinary in nature. Its multi-disciplinary nature covers a range of responsibilities including policy and regulation, planning and management, capital works design, construction, operation and maintenance, ecological, water quality and social analysis, financial management, all across both urban and rural environments.

The Department is the executive arm of national government with various roles including policy developer a regulator, an implementer and an operator of water resource infrastructure. Some of these roles have a potential conflict of interest, while, water resources regulation, which is local in nature, could be performed better by a more decentralised arrangement such as a catchment management agency.

An effective water sector requires human resources capacity for different functions at different institutions – both in terms of numbers to meet demand for specific skills; and competencies in terms of skills, qualifications and experience. A skills gap analysis conducted by the WRC in 2015, looking at numbers of staff and their skills relative to required skills, showed significant skills gaps in water sector institutions, including DWS, CMAs, water boards and municipalities.

By the end of March 2019, the Department's overall vacancy rate was at 13.7%. However, the vacancy rate for engineers and scientists was below 10%. Despite this, a challenge of attracting and retaining experienced technical expertise still remains owing to uncompetitive salaries and / or unsuitable working environment. The lack of experienced engineers and scientists affects the Department's ability to mentor and train graduate trainees as well as their ability to register as professionals. In view of this, a detailed assessment of sector skills and capacity building is required.

## Managing data and information

Effective information management, monitoring and evaluation is crucial for the successful management and regulation of water resources or water services as it creates the platform to initiate interventions / actions, understand trends, adapt management plans appropriately or plan effectively for the future. This is particularly critical in an environment facing significant change. The lack of data and information resulting from weak monitoring systems, information systems that are outdated or not maintained, pose a high risk. In addition, monitoring and reporting has also been compromised by the high staff turnover in the Department, resulting in the lack of technically qualified staff. Also, this is affected by budget constraints whilst the costs for running the programmes are increasing. Therefore, improved and modernised information systems must be developed.

The use of ICT in the department continues to play an enabling role in order to support the business processes. One of the key ICT strengths is, that the Department had developed and approved the ICT strategic plan and maintained a high availability of ICT systems due to effective service level agreements (SLAs) with vendors. However poor implementation of the ICT strategic plan due to funding constraints as well as the ageing ICT infrastructure and applications contributes to weaknesses of ICT. The lack of internal capacity on critical ICT posts resulting in overreliance on consultants poses a threat to the Department. Digital transformation present the Department with new opportunities that integrates digital platforms, products and services as new ways and approaches for improving water resource management efficiently and provides new insights from data in service delivery.

## Financial resources

Funding of the water sector comprises capital for infrastructure development, operation and maintenance (O&M) along the water supply chain, as well as funding for governance (plan, organize, lead and control) and effective management of water and sanitation services provisioning.

The financial health of the water and sanitation sector, however, is challenged by a number of factors including but not limited to a funding gap; high non-revenue water; degradation of existing asset value; tariffs not cost reflective.

The Department funds and implements new bulk water resource infrastructure from the fiscus or through the Trans Caledon Tunnel Authority (TCTA) and collects revenue from its raw water provisioning.

Raw water billing is substantial, but revenue collection is failing. Water pricing is based on the "user-pays" principle and tariffs from users provide a significant cash inflow to the sector with billing of raw water of about R 16 billion per annum to more than 85,000 users. Billing and collection is a major administrative and operating challenge with such a large user base

Revenue management within the Department is not optimal and not properly structured/geared to address the billing and collection challenges that exist.

Bulk raw water supply to domestic and industrial users (including mines and power stations) is often metered by the bulk user and the Department is not always directly involved, making meter reading problematic and erratic, impacting on billing and revenue collection.

Municipal accounts represent about 50% of the accumulated raw water debt at DWS, while water boards add another R1,7 billion, which is mostly also due to non-payment by local municipalities.

Irrigation water revenue is at 46% of billable amount. Irrigation water is poorly metered, and billing is at best described as “ad-hoc”. The large irrigation schemes have established water user associations (WUAs) and irrigation boards (IRBs), who assist the Department with operation and maintenance of water distribution to irrigable farm areas and selected towns and industries located along the canals. Currently, 47 of the 240 WUAs are also assisting the Department with revenue collection through signed “billing agent agreements”.

### 8.3 National priorities

The following are the water and sanitation sector priorities identified in the National Water and Sanitation sector Master Plan.



Figure 5: Water and sanitation sector priorities  
(Source: National Water and Sanitation Master Plan Volume 1, 2018: 6)

# PART C:

## MEASURING PERFORMANCE

## 9 Performance information

### 9.1 Measuring the impact

<b>Impact statement</b>	Water resources that are protected, used, developed, conserved, managed and controlled in a manner that supports ecologically sustainable economic and social development that transforms access to water to redress racial imbalances
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### 9.2 Measuring outcomes

	Outcome	Outcome indicator	Baseline	Five year target
1	Efficient, effective and development orientated department	Percentage implementation of the departmental financial recovery and turnaround plan	New indicator	100%
		Percentage compliance with corporate governance regulatory prescripts	New indicator	100%
		Annual International Relations Programme implemented	New indicator	80%
		Annual Communication, Stakeholder Management and Partnership Programme implemented	New indicator	98%
		Targeted procurement supporting SMMEs	Revised indicator	30%
2	Ecological infrastructure protected and restored	Number of river systems with water resource classes and determined resource quality objectives	10	6
		Waste Discharge Charge System (WDCS) finalised for priority water management areas	New indicator	3
		Number of main stem rivers monitored for implementation of Resource Directed Measures (i.e. classification, resource quality objectives and the reserve) by 2024	New indicator	10
		Number of rivers in which the river eco-status monitoring programme is implemented	71	83
		Number of strategies developed for AMD mitigation	3	2
		Mine water/ waste water management plans implemented	New indicator	3
3	Water demand reduced and water supply increased	Water conservation and water demand strategies developed for water use sectors	New indicator	4
		Water resource mix diversified	77% surface water	70% surface water
			9% ground water	10% ground water

Outcome		Outcome indicator	Baseline	Five year target
			14% return flows	16% return flows
			0.5% desalination	3% desalination
			0.1% acid mine drainage	1% acid mine drainage
		Gauging stations developed, maintained and refurbished to improve management decisions on water quantity and quality	0 existing gauging stations developed	2 new gauging stations developed
			1 existing gauging station maintained and refurbished	1 existing gauging station maintained and refurbished
4	Water and sanitation services managed effectively	Annual Municipal Strategic Self-Assessment (MuSSA) reports on water service authorities' performance in providing water and sanitation services	Revised indicator <sup>6</sup>	5
5	Enhanced regulation of the water and sanitation sector	Green Drop report on wastewater systems' compliance with regulatory requirements	2013 Green Drop report on wastewater systems' compliance with regulatory requirements	2
		Blue Drop report on water supply systems' compliance with regulatory requirements	2014 Blue Drop report on water supply systems' compliance with regulatory requirements	1
		Timeframe for processing water use license application reduced	3-12 months depending on complexity	Timeframe for water use license applications reduced to 90 days
		Percentage level of compliance of water users in various sectors monitored for compliance with water use licenses	55%	65%
6	Water redistributed for transformation	Indication water availability for land reform projects <sup>7</sup>	New indicator	90%
		Effective and efficient institutions established	2 catchment management agencies	6 catchment management agencies
			0 regional water utilities	3 regional water utilities
			85 water user associations established	Additional 41 water user associations established

<sup>6</sup>The previous unit of measurement has been revised from number of water service authorities to finalisation of the annual MuSSA reports

<sup>7</sup>The Department supports the land reform programme

## 9.3 Explanation of planned performance over the five year planning period

### 9.3.1 Programme 1: Administration

Provide strategic leadership, management and support services to the Ministry and the Department; for the development promotion of international relations on water resources between neighbouring countries; stakeholder management and partnership development.

The NDP prioritises the significant role of women, of the youth and of disabled persons and requires their mainstreaming in government's planning. To contribute to these are cross-cutting priorities the Department plans to implement targeted procurement that supports Small Medium and Micro Enterprises (SMMEs) owned and / or controlled by women, youth and people with disabilities.

### 9.3.2 Programme 2: Water Planning and Information Management

The programme is responsible to ensure that the country's water resources are protected, used, developed, conserved managed and controlled in a sustainable manner for the benefit of all people and the environment by developing a knowledge base and implementing effective policies, procedures and integrated planning strategies for water resources and water and sanitation services..

South Africa as a water scarce country is faced with the challenge of protecting water resources (i.e. quantity and quality) and the need to utilise water for social and economic development.

Some of the country's water resources are overused (e.g. polluted, the available water is already allocated and / or the surrounding environment is in a poor state). Other water resources are hardly used and the dependent environment is still in a natural state. However, South Africa has very few water resources that are still in a natural state and hence the requirement for different levels of protection.

The NWA provides decision-making tools to achieve a balance between protecting and utilising water resources to ensure that water is available for current and future human use.

The classification system and the determination of the resource quality objectives are two mechanisms that are used to balance protection and development.

The classification system states the acceptable impacts on the water resource and the unacceptable impacts in order to protect the resource. The class also states the amount of water that can be used from the water resource. The classes therefore allow for a grouping of water resources of those that are in a very good state and those that are in a very poor state.

The resource quality objectives are an indication of the required level of protection for each water resource. The objectives therefore state the desired water quantity and quality, condition of the instream and riparian (river bank) habitat, as well as the condition of the aquatic animal and plant life.

The NWA requires the establishment of national monitoring and information systems, for all aspects of water resources. There is a well-established network of monitoring points that provide for the collection of data and information to assess among other things water quantity and quality as well as water use. It further includes information on the ecological properties of water resources, both surface and groundwater. The development, maintenance and refurbishment of gauging weirs seeks to improve the coverage of rainfall and runoff gauging that has deteriorated and in some instances no longer functional.

The Municipal Strategic Self-Assessment (MuSSA) is an annual review on the effectiveness of water services management within WSAs. The WSAs which may be a district, local, or metropolitan municipality undertake a structured self-evaluation of their current and expected future performance in providing water and sanitation services. The review is based on five "essence questions" for 18 "business health attributes" related to service delivery in general and water and sanitation services in particular. The MuSSA reports for each WSA provide an insight particularly on the strengths and vulnerabilities in terms of water and sanitation service delivery.

### 9.3.3 Programme 3: Water Infrastructure Development

Develop, rehabilitate and refurbish raw water resources and water services infrastructure to meet the socio-economic and environmental needs of South Africa.

The National Water and Sanitation Master Plan (NWSMP) indicates that by 2040, treated acid mine drainage and desalinated seawater will make a significant contribution to South Africa's water mix, ground water usage will increase, and the over-reliance on surface water will reduce. Although some large surface water schemes are currently planned and developed, South Africa is approaching full utilisation of available surface water yields and is running out of suitable sites for developing large dams.

The recent water-related disasters (e.g. drought) have shown that water security is significantly impacted owing to the delays in implementing certain infrastructure projects as well as water demand management. Although many scholars suggest the diversification of the water mix as a way to respond to water insecurity; this would not be sufficient to balance supply and demand if water demand management is not implemented.

Climate change is projected to increase the variability of rainfall throughout the country, and to reduce average rainfall. However, the total water supply requirements in the country will increase due to population and associated economic growth.

There is a need to optimise the water mix which is currently strongly dominated by surface water, with some groundwater and return flows. The delayed reaction of groundwater to climate change impacts and other stresses such as land-use change is one of the motivating factors for its increased use. In the face of climate change, groundwater, which will not experience the increased evaporation that will impact on surface water as temperatures increase, will become increasingly important. Artificial recharge of aquifers will be an important element of water management.

The water re-use could guarantee availability of water supply (particularly for non-potable water uses); substantially lower water bill; supplement industry's profitability by harvesting valuable resources contained in wastewater; and practice more environmentally sound water usage operations.

Although the NWSMP indicates a planned reduction in the reliance of surface water, there will be a development of strategic water resources infrastructure projects (e.g. Lesotho Highlands Water Project phase 2, uMkhomazi Water Project, Mokolo Crocodile (West) Water Augmentation project etc.).

Domestic rainwater harvesting should be encouraged as a way of improving household food security, income savings and improved reliability of water supply, especially in rural areas. Although mostly only suitable as augmentation, it has been proven that, with good management, rainwater harvesting can yield more economical water than formal municipal water supply.

Water conservation and water demand management targets will be set for all water use sectors (namely agriculture, industries, mining, power generation, municipal and domestic water supply) to reduce total the water requirements from existing infrastructure. In addition, through the existing grant mechanisms, water conservation and water demand strategies would be implemented by supporting projects that will directly impact on bulk infrastructure requirements.

### 9.3.4 Programme 4: Water Sector Regulation

The purpose of the programme is to ensure the development, implementation, monitoring and review of regulations across the water supply value chain.

One of the main mechanisms of ensuring access to sufficient water, protection of the environment, and reallocation of water to advance the previously disadvantaged communities is to control water use. Water use registration regulates the manner in which water can be used. The 2017 regulations indicate that process of water use applications is undertaken within a period of 300 days of submitting such application. However, the Framework Agreement for the Jobs Summit requires a review of the turnaround time for considering water use license applications. This is essential in the effective implementation of the various projects particularly emerging farming enterprises in the agricultural sector.

Strong regulation is critical to achieve water security in South Africa, in terms of water quality (in rivers and taps). An incentive based regulation initiative pursuing excellence in drinking water quality and wastewater service management was introduced to create a paradigm shift from minimum requirement compliance towards continued risk management. The Blue Drop and Green Drop reports review the WSAs compliance with the requirements for drinking water quality and wastewater service management.

The aim of setting of waste discharge standards is to ensure that the aquatic ecosystem will not be compromised. It also seeks to ensure that the quality will always comply with the requirements for basic human needs and other economic uses, bearing in mind that at least some basic treatment process will be applied before the water is used. It therefore supports the pricing strategy in differentiating between different types of water uses and water users as it affects the charges for different uses and users. It is one mechanism that the pricing strategy achieves equity.

The NWA provides for the establishment and transformation of institutions to assist in giving effect to the Department's mandate. The enactment of the NWA and the Water Services Act, provided for the establishment of the institutional framework for water resource management and water services.

To manage water resources at the catchment level, the NWA provides for the establishment of catchment management agencies (CMAs) that must ensure that all interested and affected stakeholders (including poor communities that have been disadvantaged and marginalised) participate in the decisions of the CMA.

The NWA also provides for the transformation of existing irrigation boards into Water User Associations that include emerging farmers. The Water Services Act provides for the establishment of water boards that provide bulk water services to other water services institutions (e.g. WSAs, mines, industry etc.).

The Department plays various roles (namely policy developer, a regulator, an implementer and an operator of water resource infrastructure); some of these have a potential conflict of interest. Water resources regulation is local in nature, could be better performed by a more decentralised arrangement and hence the necessity of establishing catchment management agencies. Water user associations enable water users to cooperate and pool their resources (e.g. financial, human resources and expertise) to effectively carry out water-related activities. The NDP indicates that "while local government will retain responsibility for ensuring adequate service provision in its areas, regional water utilities will provide services where municipalities have inadequate technical and financial capacities"<sup>67</sup>.

Compliance, monitoring and enforcement (CME) is one of the priority focus areas identified in the second edition of the National Water Resources Strategy. CME is essential to support water allocation and water allocation reform (WAR) to ensure that water is used according to authorisation conditions, and by legally authorised water users.

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<sup>67</sup>Source: National Development Plan 2030, National Planning Commission (2012: 178)

## 10 Key risks

No	Outcome	Key Risk	Risk Mitigation
1	Efficient, effective and development orientated department	ICT may not be in a position to enable the department to effectively achieve its strategies	<ul style="list-style-type: none"> <li>• MSP to be developed in line with the reviewed departmental 5 year strategic plan</li> <li>• Ensure the provision of funding for the implementation of the MSP</li> </ul>
		Non-payment of debts by Water Boards/ Municipalities and other users	<ul style="list-style-type: none"> <li>• Implementation of the Revenue Enhance Strategy</li> <li>• Water cuts to be implemented on defaulting Municipalities</li> <li>• Participate in the Inter-Ministerial Sub-committee that deals with water</li> <li>• Litigation against debtors</li> </ul>
		Leadership instability	<ul style="list-style-type: none"> <li>• Alignment of the organisational structure to the mandate and the strategy of the department.</li> <li>• Filling of critical posts e.g. CFO, CRO, DG posts.</li> <li>• Vetting of senior managers</li> <li>• Finalisation of disciplinary action against identified employees.</li> <li>• Implementation of the Fraud Policy and Response Plan</li> <li>• Ensure functioning of the Ethics Committee.</li> <li>• Review of the governance structures</li> <li>• Capacitation of RM, Internal Audit and Control (i.e. vacancies and the adequate skills).</li> </ul>
		Inadequate technical/ professional skills in the engineering field	<ul style="list-style-type: none"> <li>• Review the scope of the Learning Academy to consider the entire water sector.</li> <li>• Review the ratio of the officials that are coming through the Learning Academy (engineers vs. scientist).</li> <li>• Filling of vacant e.g. engineering positions, Scientist, Water Control Officers and other professionals (5 Year).</li> </ul>
		Financial instability (negative bank balance)	<ul style="list-style-type: none"> <li>• Implementation of the Financial Recovery Plan</li> <li>• Development of the financial funding model (deficit).</li> <li>• Alignment of the budget with the core mandate of the business (flexibility)</li> <li>• Ensure effective cash flow management</li> </ul>
2	Ecological infrastructure protected and restored	Pollution of water resources Non-compliance with drinking water quality standards	<ul style="list-style-type: none"> <li>• Monitor non-compliant wastewater treatment systems.</li> <li>• Monitor non-compliant water supply systems.</li> <li>• Develop a strategy per Catchment Management Areas</li> <li>• Implement the polluter pay principles</li> </ul>

No	Outcome	Key Risk	Risk Mitigation
3	Water demand reduced and water supply increased	Gaps in quality and quantity monitoring data and information	<ul style="list-style-type: none"> <li>• Upgrade all supporting elements to restore Water Conservation and Water Demand Management, water use and resource monitoring to its required levels</li> </ul>
		Inability to guarantee sustainable maintenance of bulk raw water infrastructure	<ul style="list-style-type: none"> <li>• Develop and implement the Resource Management Plans (RMP), Asset Management Strategy (AMS), Operations and Maintenance Plans (O &amp; M P), Rehabilitation and Refurbishment Plans (R &amp; R) and EPPs.</li> <li>• Ensure there is a dedicated budget for Operations and Maintenance.</li> <li>• Term contracts for operation and maintenance.</li> <li>• Replenish the Pumping Reserve</li> </ul>
		The SCM processes does not support the construction/ engineering environment	<ul style="list-style-type: none"> <li>• Implementation of the FIDPM. Regular engagements with the CFO to address SCM challenges on critical projects.</li> <li>• Adherence to turn around times in accordance with the SCM charter (e.g. Bid Spec, Bid Evaluation, DBAC and etc.)</li> </ul>
		Projects not completed on time and within budget	<ul style="list-style-type: none"> <li>• Continuous monitoring of project expenditure through monthly reporting.</li> <li>• Continuous monitoring of the payment of invoices on a continuous basis.</li> <li>• Finance to be represented at monthly project co-ordinated committee and project management committee meetings.</li> <li>• Full Implementation of the FIDPM.</li> <li>• Management and monitoring of VO's and the National Treasury Instruction note on variation orders-submission to National Treasury for approval in line with the threshold.</li> <li>• Establishment of the Project Management Unit</li> <li>• Alignment of APP, DMP and budget and approval</li> <li>• Project Steering Committee to perform oversight role over projects</li> <li>• Monitor adherence to GCC for construction work.</li> <li>• Develop and implement a costing methodology</li> <li>• Centralisation of the processing of invoices</li> </ul>
4	Water and Sanitation services managed effectively	Inadequate planning and project implementation resulting in unreliable water and sanitation services delivery	<ul style="list-style-type: none"> <li>• Development of completed 5 year reliable water and sanitation service delivery implementation plans.</li> </ul>

No	Outcome	Key Risk	Risk Mitigation
5	Enhanced regulation of the water and sanitation sector	Declining water quality in the water resources	<ul style="list-style-type: none"> <li>• Re-establish routine monitoring of resource water quality.</li> <li>• Re-establish and maintain the Water Management System (WMS) for resource water quality management.</li> <li>• Assess and report on resource water quality information.</li> <li>• Implement the Integrated Water Quality Management Strategy (DWS Report 000/00/21715/5) with action plans to mitigate pollution from all water use sectors.</li> <li>• Implement the Waste Discharge Charge System (WDCCS) in all catchments.</li> <li>• Develop, implement and maintain integrated water quality management plans for priority catchments.</li> <li>• Increase the staff capacity</li> </ul>
6	Water redistributed for transformation	Delays in finalising water use authorisation applications within regulated times frames	<ul style="list-style-type: none"> <li>• Further review of the delegation of authority for the approval of the water use license.</li> <li>• Increase the staff establishment for the licensing component at head office.</li> <li>• Establishment of a dedicated unit in the regions and to fill vacant positions.</li> <li>• Review the licensing process</li> <li>• Review Regulations on Water authorisations</li> <li>• The end result: WULAs to be finalized within 120 days by year 5</li> </ul>
		The stressed water resources in catchments, low stream flow, low groundwater levels and low dam levels (drought)	<ul style="list-style-type: none"> <li>• Develop a drought response plan for DWS Regional Offices (D: Strategy and Regional Offices).</li> <li>• Rehabilitation and development of borehole infrastructure, gauging weirs and silted dams (DDG NWRI)</li> <li>• Gazetting and implementation of system operating rules (D: WRPS).</li> <li>• Monitor and enforce the implementation of system operating rules by WSAs (CD: CM; D: WRPS and Regional Offices).</li> <li>• Monitoring the groundwater levels, dam levels and stream-flows (Regional offices, D: SGWI and D: WRPS)</li> <li>• Establish and maintain groundwater infrastructure to augment portable water supply (DDG: NWRI and Regional Offices).</li> <li>• Accessing funding for drought relief (Treasury and DWS).</li> </ul>

## 11 Public entities

Name of public entity	Mandate	Outcomes	Current annual budget (R 000)
Amatola Water	The primary activity of Amatola Water is to provide water services to other water services institutions within its service area in terms of (Section 29 of the Water Services Act No 108 of 1997)	Provide bulk potable water services to the municipalities and industries	485
Bloem Water	The primary activity of Bloem Water is to provide water services to other water services institutions within its service area in terms of (Section 29 of the Water Services Act No 108 of 1997)	Provide bulk potable water services to the municipalities and industries.	794
Lepelle Water	The primary activity of Lepelle Northern Water is to provide water services to other water services institutions within its service area in terms of (Section 29 of the Water Services Act No 108 of 1997)	Provide bulk potable water services to the municipalities and industries.	803
Magalies Water	The primary activity of Magalies Water is to provide water services to other water services institutions within its service area in terms of (Section 29 of the Water Services Act No 108 of 1997)	Provide bulk potable water services to the municipalities and industries.	795
Mhlathuze Water	The primary activity of Mhlathuze Water is to provide water services to other water services institutions within its service area in terms of (Section 29 of the Water Services Act No 108 of 1997)	Provide bulk potable water services to the municipalities and industries.	735
Overberg Water	The primary activity of Overberg Water is to provide water services to other water services institutions within its service area in terms of (Section 29 of the Water Services Act No 108 of 1997)	Provide bulk potable water services to the municipalities and industries.	51
Rand Water	The primary activity of Rand Water is to provide water services to other water services institutions within its service area in terms of (Section 29 of the Water Services Act No 108 of 1997)	Provide bulk potable water services to the municipalities and industries.	17 198

Name of public entity	Mandate	Outcomes	Current annual budget (R 000)
Sedibeng Water	The primary activity of Sedibeng Water is to provide water services to other water services institutions within its service area in terms of (Section 29 of the Water Services Act No 108 of 1997)	Provide bulk potable water services to the municipalities and industries.	1 821
Umgeni Water	The primary activity of Umgeni Water is to provide water services to other water services institutions within its service area in terms of (Section 29 of the Water Services Act No 108 of 1997)	Provide bulk potable water services to the municipalities and industries.	2 980
TCTA	It was established in 1986 as a state-owned entity specialising in project financing, implementation and liability management.	Development of bulk raw water infrastructure for the expanded supply of water to stimulate South Africa's economic growth, and to simultaneously deal with the historical imbalances relating to access to water.	7 095
Water Research Commission (WRC)	WRC was established in 1971 to generate new knowledge and to promote the country's water research.	The WRC aims to empower communities, inform policy and decision making, develop innovative products and services for economic growth, enhance human capital development and the water and science sectors, promote transformation and redress and to drive sustainable development solutions.	318
Inkomati-Usuthu CMA	Is a water management institution that was established in terms of section 78 of the National Water Act 36 of 1998 and is operational in the Inkomati-Usuthu Water Management Area	Investigate and advise interested persons on water resource management, co-ordinate related activities of water users and WMIs, promote co-ordination of implementation of any applicable development plan, promote community participation in water resource management	130

Name of public entity	Mandate	Outcomes	Current annual budget (R 000)
Breede-Gouritz CMA	Is a water management institution that was established in terms of section 78 of the National Water Act 36 of 1998 and is operational in the Breede-Gouritz Water Management Area	Investigate and advise interested persons on water resource management, co-ordinate related activities of water users and WMIs, promote co-ordination of implementation of any applicable development plan, promote community participation in water resource management	67

# PART D:

## TECHNICAL INDICATOR DESCRIPTION (TID)

## Programme 1: Administration

### Percentage implementation of the financial recovery and turnaround plan

Indicator Title	Percentage implementation of the financial recovery and turnaround plan
Definition	This measures the extent to which the key deliverables of the Financial Recovery Plan have been implemented. The analysis assess the achievement of the following broad strategies, funding and budget management, expenditure control, financial governance and accountability, alignment of strategic intent, policy, legislation and institutional matters
Source of data	Reports on the implementation progress against the Financial Recovery Plan
Method of Calculation/ Assessment	Monthly and Annually reports, against the Financial Recovery Plan
Means of verification	Reports
Assumptions	Approved budget, DMP and APP
Disaggregation of Beneficiaries (where applicable)	Target for women: N/A Target for youth: N/A Target for people with disabilities: N/A
Spatial Transformation (where applicable)	Reflect on contribution to spatial transformation priorities: N/A Reflect on the spatial impact area: N/A
Calculation type	Non-cumulative
Reporting cycle	Annually
Desired performance	100%
Indicator responsibility	Chief Financial Officer

## Compliance with corporate governance regulatory prescripts

Indicator title	Compliance with corporate governance regulatory prescripts
Definition	This assesses the extent in which the department adhere to HR policies by maintaining the minimum vacancy rate, managing coaching and mentorship programmes and availability of information technology network system and assessing the effectiveness of safety and security of departmental facilities; for internal controls and operations to enhance good governance and effectiveness of the organisation.
Source of data	Reports of [Human Resource Management and Safety and Security Assessments; and Information Technology Plan
Method of calculation/ assessment	Produced reports
Means of verification	Reports on HR and safety and security plan, attendance registers for coaching and mentorship programme
Assumptions	Budget allocation; availability of electrical power, agility of SCM process, responsiveness and agility of outside role-players (i.e SITA)
Disaggregation of beneficiaries (where applicable)	Target for women: N/A Target for youth: N/A Target for people with disabilities: N/A
Spatial transformation (where applicable)	Reflect on contribution to spatial transformation priorities: N/A Reflect on the spatial impact area: N/A
Calculation type	Non-Cumulative
Reporting cycle	Annually
Desired performance	Enhanced good governance, effective internal control and operations
Indicator responsibility	Deputy Director-General: Corporate Services

## Percentage implementation of 2020/21 annual International Relations programme

Indicator Title	Percentage implementation of 2020/21 annual International Relations programme
Definition	<ul style="list-style-type: none"> <li>• This measures the extent in which the approved International Relations Implementation Plan is implemented.; and it consist of the following::</li> <li>• The new strategic cooperation's initiated with countries in Africa and Globally</li> <li>• The existing agreement with countries in Africa and globally</li> <li>• The obligatory multilateral platforms</li> </ul>
Source of data	<ul style="list-style-type: none"> <li>• Outcomes from the engagements with water sector partners</li> <li>• Attendance register, signed back to office reports and other related reports</li> <li>• Foreign policies and</li> <li>• Country and departmental priorities</li> </ul>
Method of Calculation/ Assessment	<p>The total number of implementation of 2020/21 International Relations programme that will include the following [2: Cooperation's, 15 agreements and 21 obligatory water and multilateral platforms] will be given as an X. What is required to be implemented on the International Relations programme will be given as y. The total of all 2020/21 International Relations programme is 38 and that constitute 80%</p> $y\% = x/y \times 100$
Means of verification	Signed Agreement, MoU's, reports and attendance registers
Assumptions	Signed summary notes
Disaggregation of Beneficiaries (where applicable)	<p>Target for women: N/A</p> <p>Target for youth: N/A</p> <p>Target for people with disabilities: N/A</p>
Spatial Transformation (where applicable)	<p>Reflect on contribution to spatial transformation priorities: N/A</p> <p>Reflect on the spatial impact area: N/A</p>
Calculation type	Non-Cumulative
Reporting cycle	Annually
Desired performance	80%
Indicator responsibility	Deputy Director-General: International Water Support

## Percentage implementation of the 2020/2021 Annual Communications, Stakeholder Management, and Partnership Programme

Indicator Title	Percentage implementation of the 2020/2021 Annual Communications, Stakeholder Management, and Partnership Programme
Definition	This measures the extent in which the department assesses the implementation of its approved Annual Communications, Stakeholder Management and Partnership programme.
Source of data	<ul style="list-style-type: none"> <li>• An annual Communications, Stakeholder Management and Partnership programme will be developed with reports on its implementation.</li> <li>• The document verification includes: <ul style="list-style-type: none"> <li>• The approved Annual Communications, Stakeholder Management and Partnership programme</li> <li>• Annually reports on the implementation of the Annual Communications, Stakeholder Management and Partnership Programme</li> </ul> </li> </ul>
Method of Calculation/ Assessment	<p>If the number of implemented Communications, Stakeholder Management and Partnership activities (i.e. media relations, content development, public relations, branding, awareness campaigns, events and conferencing, stakeholder management engagements and partnership activities) is given the value “x” and the total number of Communications, Stakeholder Management and Partnership activities in the approved communications programme (i.e. media relations, content development, public relations, branding, awareness campaigns, events and conferencing, stakeholder management engagements and partnership activities) is given the value “y” the formula is as follows:</p> $y\% = x/y \times 100$
Means of verification	<p>The document verification includes:</p> <ul style="list-style-type: none"> <li>• The approved Annual Communications, Stakeholder Management and Partnership programme</li> <li>• Annually reports on the implementation of the Annual Communications, Stakeholder Management and Partnership Programme</li> </ul>
Assumptions	<ul style="list-style-type: none"> <li>• The assumption is that Public Participation Programmes will contribute to changing the communities’ perception about service delivery by the department.</li> <li>• The assumption is that Public Education Programmes will encourage behavioural change with regard to water conservation and water demand management as well as proper practices on health and hygiene.</li> <li>• The assumption is that stakeholder engagement will improve the relationship between government/the department and stakeholders (communities, business, other government departments)</li> <li>• The assumption is that social facilitation will ensure that communities at grassroots levels are well informed and empowered to participate in government departmental programmes and projects.</li> <li>• The assumption is that when engaging affected councillors and local government around departmental projects, they have the best interest of the community at heart.</li> <li>• The assumption is that internal activations will bring a change in staff perception and understanding of Government Programme of Action as well as achieving a buy in and their transformation into Departmental ambassadors. Adoption and willingness to implement departmental policies by staff.</li> <li>• A clear understanding of Departmental Corporate ID and programmes by members of the public through branding and marketing.</li> <li>• The assumption of media briefings and media products is that communities will be empowered and in turn change their views about government which is often perceived as corrupt and not delivering services to the public.</li> <li>• The assumption is that partnerships will be sustained to the benefit of our communities and all stakeholders.</li> </ul>

Indicator Title	Percentage implementation of the 2020/2021 Annual Communications, Stakeholder Management, and Partnership Programme
Disaggregation of Beneficiaries (where applicable)	Not applicable
Spatial Transformation ( where applicable)	Not applicable
Calculation type	Cumulative (Year-End)
Reporting cycle	Annually,
Desired performance	98%
Indicator responsibility	Deputy Director-General: Corporate Services

### Targeted procurement supporting SMMEs

Indicator title	Targeted procurement supporting SMMEs
Definition	<p>The extent in which the Department empowers exempted micro enterprises (EME) and qualifying small enterprises (QSE) through the procurement of goods and services in line with the department BBBEE policy.</p> <p>The Broad-Based Black Economic Empowerment Act defines:</p> <p><b>Exempted Micro Enterprises (EME)</b> – any enterprise with annual total revenue of R10 million or less.</p> <p><b>Qualifying Small Enterprises (QSE)</b> – any enterprise with an annual total revenue of between R10 million and R50 million.</p>
Source of data	Contract Register and Central Supplier Database
Method of calculation/ assessment	<p>If the total procurement from EME and QSE is given the value “x” and the total procurement budget is given the value “y” the formula is as follows</p> $SMME \text{ procurement} = x/y \times 100$
Means of verification	Purchase orders
Assumptions	The specifications will incorporate targets for designated groups (i.e. women, youth and people with disabilities)
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• 50% for women</li> <li>• 30% for youth</li> <li>• 2% for people with disabilities</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Reflect on contribution to spatial transformation priorities: N/A</li> <li>• Reflect on the spatial impact area: N/A</li> </ul>
Calculation type	Cumulative
Reporting cycle	Annually
Desired performance	Achieve 30% for targeted procurement supporting SMMEs
Indicator responsibility	Chief Financial Officer

## Programme 2: Water Planning and Information Management

### Number of river systems with water resource classes and determined resource quality objectives

Indicator title	Number of river systems with water resource classes and determined resource quality objectives
Definition	<p>The definitions are as follows:</p> <p><b>A river system:</b> a number of rivers which consists of one main river, which drains into a lake or into the ocean, with all its tributaries</p> <p><b>A water resource:</b> water bodies such as rivers, streams, wetlands, estuaries and groundwater.</p> <p><b>A water resource class:</b> guidelines and procedures on acceptable and unacceptable impacts on the water resources</p> <p><b>A resource quality objective:</b> the establishment of clear goals relating to the quality of the relevant water resource. In determining resource quality objectives a balance must be sought between the need to protect and sustain water resources on the one hand, and the need to develop and use them on the other</p>
Source of data	List of river systems
Method of calculation/ assessment	Actual number of river systems
Means of verification	Gazette(s) on the river systems with water resource classes and determined resource quality objectives
Assumptions	The gazette(s) on the river systems with water resource classes and determined resource quality objectives will be signed off by the Executive Authority
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Reflect on contribution to spatial transformation priorities: N/A</li> <li>• Reflect on the spatial impact area: N/A</li> </ul>
Calculation type	Cumulative
Reporting cycle	Annually
Desired performance	6 river systems with water resource classes and determined resource quality objectives
Indicator responsibility	Deputy Director-General: Water Planning and Information Management

## Number of water conservation and water demand management strategies updated

Indicator Title	Number of water conservation and water demand management strategies updated
Definition	The Water Conservation and Water Demand Management Strategy (ies) is a fundamental step in promoting water use efficiency. This is consistent with both the National Water Act 36 of 1998 and Water Services Act, Act 107 of 1997 which emphasize effective management of our water resources and conservation
Source of data	This indicator ensures that the WC/WDM strategies are updated to reflect the latest developments on WC/WDM
Method of Calculation/ Assessment	Information will be collected from literature review including the existing strategies, consultation with various water users and relevant Departments.
Means of verification	Coordination and consolidation of inputs from various water use sectors, attendance register of all the consultation
Assumptions	<ul style="list-style-type: none"> <li>• Minutes and attendance registers</li> <li>• Progress reports,</li> <li>• Updated WC/WDM Strategies</li> <li>• Development of the comments register and response matrix</li> </ul>
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial Transformation (where applicable)	<ul style="list-style-type: none"> <li>• Reflect on contribution to spatial transformation priorities: N/A</li> <li>• Reflect on the spatial impact area: N/A</li> </ul>
Calculation type	Non-Cumulative
Reporting Cycle	Annually
Desired performance	4
Indicator responsibility	Deputy Director-General: Water Planning and Information Management

## Gauging stations developed, maintained and refurbished to improve management decisions on water quantity and quality

Indicator title	Gauging stations developed, maintained and refurbished to improve management decisions on water quantity and quality
Definition	<p>The definitions are as follows:</p> <ol style="list-style-type: none"> <li><b>Gauging station:</b> site on a stream, canal, lake, or reservoir where systematic observations of gauge height (water level) or discharge are obtained. From the continuous records obtained at these stations, hydrologists make predictions and decisions concerning water level, flood activity and control, navigation.<sup>8</sup></li> <li><b>Water quantity:</b> pattern, timing, water level and assurance of instream flow</li> <li><b>Water quality:</b> chemical, physical, and biological characteristics of water bodies (i.e. rivers, dams, lakes, wetlands, estuaries and ground water)</li> </ol>
Source of data	HYDSTRA database
Method of calculation/assessment	Actual number of gauging stations
Means of verification	Completion certificate
Assumptions	Funding availability
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>Target for women: N/A</li> <li>Target for youth: N/A</li> <li>Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>Reflect on contribution to spatial transformation priorities: N/A</li> <li>Reflect on the spatial impact area: N/A</li> </ul>
Calculation type	Non-cumulative
Reporting cycle	Annually
Desired performance	2 new gauging stations developed and 1 existing gauging station maintained and refurbished
Indicator responsibility	Deputy Director-General: Water Planning and Information Management

<sup>8</sup>Source: <https://www.britannica.com/science/gauging-station>

## Annual MuSSA reports on water services authorities performance in providing water and sanitation services

Indicator title	Annual MuSSA reports on water services authorities performance in providing water and sanitation services
Definition	<p>The definitions are as follows:</p> <ol style="list-style-type: none"> <li><b>1) Municipal Strategic Self-Assessment:</b> is a tool used to assess the overall business health (e.g. financial management, water conservation / water demand management; operations and maintenance of assets, drinking water safety and blue drop status etc.) of water service authorities in the provision of water and sanitation services</li> <li><b>2) Water Service Authority:</b> Any municipality, including a district or rural council as defined in the Local Government Transition Act, 1993 (Act No. 209 of 1993) responsible for ensuring access to water services</li> </ol>
Source of data	Questionnaires sent to municipalities
Method of calculation/ assessment	A report containing the results of participating water service authorities
Means of verification	A signed-off Municipal Strategic Self-Assessment (MuSSA) report
Assumptions	Individual Municipal Strategic Self-Assessment (MuSSA) reports for participating water service authorities would be accessible on the Department's website.
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Reflect on contribution to spatial transformation priorities: N/A</li> <li>• Reflect on the spatial impact area: N/A</li> </ul>
Calculation type	Non-cumulative
Reporting cycle	Annually
Desired performance	5 National Municipal Strategic Self-Assessment (MuSSA) reports
Indicator responsibility	Deputy Director-General: Water Planning and Information Management

## Programme 3: Water Infrastructure Development

### Water resource mix diversified

Indicator title	Water resource mix diversified
Definition	Diversification of water mix can be defined as combination of water resources mix of conventional and unconventional water sources (including increased groundwater use, desalination, re-use and artificial recharge) to ensure water security
Source of data	Reconciliation strategies
Method of calculation/ assessment	Reports for surface and ground water; return flows, desalination and mine drainage
Means of verification	Report on water mix over the medium term
Assumptions	National water resources planning provide an analysis indicating the shifts in the water mix.
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Reflect on contribution to spatial transformation priorities: N/A</li> <li>• Reflect on the spatial impact area: N/A</li> </ul>
Calculation type	Non-cumulative
Reporting cycle	Annual
Desired performance	<ul style="list-style-type: none"> <li>• Water resource mix diversified as follows:</li> <li>• 70% surface water</li> <li>• 10% ground water</li> <li>• 16% return flows</li> <li>• 3% desalination</li> <li>• 1% acid mine drainage</li> </ul>
Indicator responsibility	Deputy Director-General: Water Infrastructure Development

## Programme 4: Water Sector Regulation

### Green Drop report on wastewater systems' compliance with regulatory requirements

Indicator title	Green Drop report on wastewater systems' compliance with regulatory requirements
Definition	<p>The definitions are as follows:</p> <p><b>Green Drop:</b> a certification incentive based regulation that seeks to identify and develop the required core competencies that if strengthened will gradually and sustainably improve the level of wastewater management in South Africa.</p> <p><b>Wastewater system:</b> A system composed of gravity pipes, manholes, tanks, lift stations, control structures, and force mains that gather used water from residential and non-residential customers and convey the flow to the wastewater treatment plant.</p>
Source of data	Water services databases, water service authorities databases, accredited laboratories
Method of calculation/assessment	A report containing the results of participating wastewater treatment systems
Means of verification	A signed-off Green Drop report
Assumptions	Individual Green Drop reports for participating wastewater treatment systems would be accessible on the Department's website.
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Reflect on contribution to spatial transformation priorities: N/A</li> <li>• Reflect on the spatial impact area: N/A</li> </ul>
Calculation type	Non-cumulative
Reporting cycle	Annually
Desired performance	2 Green Drop reports
Indicator responsibility	Deputy Director-General: Water Sector Regulation

## Blue Drop report on water supply systems' compliance with regulatory requirements

Indicator title	Blue Drop report on water supply systems' compliance with regulatory requirements
Definition	<p>The definitions are as follows:</p> <p><b>Blue Drop:</b> a certification incentive-based regulation that seeks to safeguard the tap water quality management in South Africa.</p> <p><b>Water supply system:</b> infrastructure for the collection, transmission, treatment, storage, and distribution of water for homes, commercial establishments, industry, and irrigation, as well as for such public needs.</p>
Source of data	Water services databases, water service authorities databases, accredited laboratories
Method of calculation/assessment	A report containing the results of participating water supply systems
Means of verification	A signed-off Blue Drop report
Assumptions	Individual Blue Drop reports for participating water supply systems would be accessible on the Department's website.
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Reflect on contribution to spatial transformation priorities: N/A</li> <li>• Reflect on the spatial impact area: N/A</li> </ul>
Calculation type	Non-cumulative
Reporting cycle	Annually
Desired performance	1 Blue Drop reports
Indicator responsibility	Deputy Director-General: Water Sector Regulation

## Waste Discharge Charge System (WDCS) finalised for priority water management areas

Indicator title	Waste Discharge Charge System (WDCS) finalised for priority water management areas
Definition	<p>The definitions are as follows:</p> <ol style="list-style-type: none"> <li><b>1) Waste discharge charge system:</b> a fiscal-linked (tax or levy) incentive / disincentive on water users related to waste discharge into water resources</li> <li><b>2) Water management area:</b> Is an area established as a management unit in the national water resource strategy within which a Catchment Management Agency will conduct the protection, use, development, conservation, management and control of water resources</li> </ol>
Source of data	WMS and WARMS
Method of calculation/ assessment	This will be the actual number of priority water management areas
Means of verification	Gazette(s) on finalised Waste Discharge Charge System
Assumptions	The gazette(s) on the Waste Discharge Charge System will be signed off by the Executive Authority
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Reflect on contribution to spatial transformation priorities: N/A</li> <li>• Reflect on the spatial impact area: N/A</li> </ul>
Calculation type	Non-cumulative
Reporting cycle	Annually
Desired performance	Waste Discharge Charge System (WDCS) finalised for 3 priority water management areas
Indicator responsibility	Deputy Director-General: Water Sector Regulation

## Number of river systems monitored for the implementation of resource directed measures

Indicator title	Number of river systems monitored for the implementation of resource directed measures
Definition	This monitors the river systems in which resource directed measures have been implemented
Source of data	Data will be obtained from the various monitoring systems in place of which the water management system will be the main source
Method of calculation/ assessment	The river systems in which RDMs are implemented will be monitored and assessed against the desired water quality outcomes of the individual systems
Means of verification	Information obtained from the various monitoring programs will be compared
Assumptions	The budget from Head and Regional Offices as allocated will remain stable; manageable staff turn-over and stable climate conditions
Disaggregation of beneficiaries (where applicable)	<ul style="list-style-type: none"> <li>• Target for women: N/A</li> <li>• Target for youth: N/A</li> <li>• Target for people with disabilities: N/A</li> </ul>
Spatial transformation (where applicable)	<ul style="list-style-type: none"> <li>• Reflect on contribution to spatial transformation priorities: N/A</li> <li>• Reflect on the spatial impact area: N/A</li> </ul>
Calculation type	Non-cumulative
Reporting cycle	Annually
Desired performance	10
Indicator responsibility	Deputy Director-General: Water Sector Regulation

### Number of rivers systems in which the River Eco-status Monitoring Programme is implemented

Indicator Title	Number of rivers in which the River Eco-status Monitoring Programme is implemented
Definition	This monitors the number of river systems in which the system's ecological health is measured through the implementation of the River Eco-status Monitoring Programme
Source of data	A database of river eco-status indicators is maintained.
Method of Calculation/ Assessment	This will be the number of river systems as specified
Means of verification	Forms filled in, in the field when conducting monitoring of the river systems.
Assumptions	Head office and regional budgets as allocated will remain stable, manageable staff turnover, stable climatic conditions
Disaggregation of Beneficiaries (where applicable)	Not applicable
Spatial Transformation (where applicable)	Not applicable
Calculation type	Non-Cumulative
Reporting cycle	Annually
Desired performance	83 river systems in which the River Eco-status Monitoring Programme is implemented
Indicator responsibility	Deputy Director-General: Water Planning and Information Management

## Number of strategies developed for AMD mitigation

Indicator Title	Number of strategies developed for AMD mitigation
Definition	This monitors the development of mitigation strategies for WMAs in which potential AMD has been identified.
Source of data	Site inspections conducted by the regional offices or catchment management agencies within a WMA
Method of calculation / Assessment	Mitigation strategy for the Orange and Mzimvubu-Tsitsikama WMAs (total of 2 reports)
Means of verification	Site visits reports and desktop assessment (GIS)
Assumption	Updated records of mines per WMA/ province
Disaggregation of beneficiaries (where applicable)	Target for women: N/A Target for youth: N/A Target for people with disabilities: N/A
Spatial Transformation (where applicable)	Reflect on contribution to spatial transformation priorities: N/A Reflect on the spatial impact area: N/A
Calculation type	Non- Cumulative
Reporting cycle	Annually
Desired performance	2 Orange and Mzimvubu-Tsitsikama WMAs
Indicator responsibility	Deputy Director-General: Water Sector Regulation

### Mine water/ waste water management plans implemented

Indicator Title	Mine water/ waste water management plans implemented
Definition	This monitors the implementation of interventions for remediating the impacts of mine water and/ other waste water discharges into the environment
Source of data	Catchment water quality data and remediation strategy (implementation plan)
Method of calculation / Assessment	Vaal River mine water / wastewater management plan
Means of verification	Site visit reports and desktop assessment (GIS)
Assumption	Functional water management system (water data archived and readily accessible)
Disaggregation of beneficiaries (where applicable)	Not applicable
Spatial Transformation (where applicable)	Not applicable
Calculation type	Non-Cumulative
Reporting cycle	Annually
Desired performance	3
Indicator responsibility	Deputy Director-General: Water Sector Regulation

## Timeframe for processing water use license applications reduced to 90 days

Indicator title	Timeframe for processing water use license applications reduced to 90 days
Definition	<p>The reduction of the turnaround time to finalise applications for water authorisations.</p> <p>A water use authorisation may be one of the following:</p> <p><b>Schedule 1 use</b> – small volumes of water for household use only. No application for a licence needs to be made.</p> <p><b>General Authorisations</b> – larger volumes of water may be generally authorised for a specific type of water use or category of water user. These users need to register their use but do not need a licence.</p> <p><b>Existing Lawful Use</b> – this allows water use that was lawfully used before the NWA came into effect to continue until it can be converted into a licence using compulsory licensing.</p> <p><b>Licensed Water Use</b> – Licences are issued under the NWA, and require approval of an application by the Department of Water and Sanitation.</p>
Source of data	A database of finalised water use authorisations
Method of calculation/ assessment	Actual gazetted regulations
Means of verification	Gazette on revised regulations for water use licence applications
Assumptions	The revised regulations would be recommended by Cabinet
Disaggregation of beneficiaries (where applicable)	<p>Target for women: N/A</p> <p>Target for youth: N/A</p> <p>Target for people with disabilities: N/A</p>
Spatial transformation (where applicable)	<p>Reflect on contribution to spatial transformation priorities: N/A</p> <p>Reflect on the spatial impact area: N/A</p>
Calculation type	Non-cumulative
Reporting cycle	Annually
Desired performance	Revised regulations for water use licence applications
Indicator responsibility	Deputy Director-General: Water Sector Regulation

## Effective and efficient institutions established

Indicator title	Effective and efficient institutions established
Definition	<p>The categories of institutions are defined as follows:</p> <p><b>Catchment management agency:</b> established in terms of Chapter 7 of the National Water Act responsible for managing water resources at catchment level in collaboration with local stakeholders (with a specific focus on involving local communities in the decision making) regarding the basic human needs, promoting equitable access to water and facilitating social and economic development.</p> <p><b>Regional water utility:</b> realignment of existing water boards operational areas to cover wall-to-wall</p> <p><b>Water user association:</b> a statutory body of water users who cooperate in undertaking water related activities at the local level for their mutual benefit.</p>
Source of data	A list of institutions
Method of calculation/ assessment	Number of institutions in the list
Means of verification	A gazette for establishing institutions
Assumptions	The establishment of institutions would be recommended by Cabinet
Disaggregation of beneficiaries (where applicable)	<p>Target for women: N/A</p> <p>Target for youth: N/A</p> <p>Target for people with disabilities: N/A</p>
Spatial transformation (where applicable)	<p>Reflect on contribution to spatial transformation priorities: N/A</p> <p>Reflect on the spatial impact area: N/A</p>
Calculation type	Non-cumulative
Reporting cycle	Annually
Desired performance	7 catchment management agencies, 3 regional water utilities and 41 water user associations established
Indicator responsibility	Deputy Director-General: Water Sector Regulation

# PART E:

## DISTRICT DEVELOPMENT MODEL

## OR Tambo DM Infrastructure projects and systems assessment

No.	Project Name	Location	Status
1	Lusikisiki regional water supply scheme: Zalu Dam on the Xura River	O R Tambo DM, Eastern Cape	RID
2	OR Tambo Mthatha King Sabata Dalindyebo district municipality bulk water supply	OR Tambo DM, Eastern Cape	Construction
3	Ingquza Hill bulk water supply	O R Tambo DM, Eastern Cape	Completed
4	Mbizana regional bulk water supply	O R Tambo DM, Eastern Cape	Completed
5	Coffee bay water treatment works	O R Tambo DM, Eastern Cape	Feasibility
6	Bizana	O R Tambo DM, Eastern Cape	System assessment
7	Flagstaff	O R Tambo DM, Eastern Cape	System assessment
8	Lusikisiki	O R Tambo DM, Eastern Cape	System assessment
9	Mqanduli	O R Tambo DM, Eastern Cape	System assessment
10	Mthatha	O R Tambo DM, Eastern Cape	System assessment
11	Ngqeleni	O R Tambo DM, Eastern Cape	System assessment
12	Ntabankulu	O R Tambo DM, Eastern Cape	System assessment
13	Port St Johns	O R Tambo DM, Eastern Cape	System assessment
14	Qumbu	O R Tambo DM, Eastern Cape	System assessment
15	Tsolo	O R Tambo DM, Eastern Cape	System assessment

## Alfred Nzo DM Infrastructure projects and systems assessment

No.	Project Name	Location	Status
16	Matatiela Bulk Water Supply	Alfred Nzo DM, Eastern Cape	Construction
17	Greater Bizana Water Supply	Alfred Nzo DM, Eastern Cape	Construction
18	Ntabankulu bulk water supply	Alfred Nzo DM, Eastern Cape	Construction
19	Mount Ayliff bulk peri-urban water supply	Alfred Nzo DM, Eastern Cape	Implementation
20	Mzimvubu Water Supply	Alfred Nzo DM, Eastern Cape	Implementation
21	Bizana	Alfred Nzo DM, Eastern Cape	System assessment
22	Cedarville	Alfred Nzo DM, Eastern Cape	System assessment
23	Matatiele	Alfred Nzo DM, Eastern Cape	System assessment
24	Mount Ayliff	Alfred Nzo DM, Eastern Cape	System assessment
25	Mount Frere	Alfred Nzo DM, Eastern Cape	System assessment
26	Ntabankulu	Alfred Nzo DM, Eastern Cape	System assessment

## Waterberg Infrastructure projects and systems assessment

No.	Project Name	Location	Status
27	Mokolo and Crocodile water Augmentation Project (MCWAP) Phases 2A	Waterberg DM, Limpopo	EIA
28	Magalies water supply to Waterberg (Klipvoor)	Waterberg DM, Limpopo	Feasibility
29	Mogalakwena bulk water supply phase 2	Waterberg DM, Limpopo	Construction
30	Lephalale/ Eskom: Bulk water augmentation	Waterberg DM, Limpopo	Feasibility
31	Pienaarsrivier waste water supply system	Waterberg DM, Limpopo	System assessment
32	Radium waste water supply system	Waterberg DM, Limpopo	System assessment
33	Witpoort	Waterberg DM, Limpopo	System assessment
34	Zongesien	Waterberg DM, Limpopo	System assessment
35	Modimolle	Waterberg DM, Limpopo	System assessment
36	Vaalwater	Waterberg DM, Limpopo	System assessment
37	Mokopane old & New	Waterberg DM, Limpopo	System assessment
38	Rebone	Waterberg DM, Limpopo	System assessment
39	Naboomspruit	Waterberg DM, Limpopo	System assessment
40	Seshego	Waterberg DM, Limpopo	System assessment
41	Northam	Waterberg DM, Limpopo	System assessment
42	Rooiberg	Waterberg DM, Limpopo	System assessment

### EtheKwini Infrastructure project and systems assessment

No.	Project Name	Location	Status
43	Mdloti River development project: Raising of Hazelmere Dam	iLembe DM, KwaZulu-Natal	Construction
44	Amanzimtoti	eThekweni Metropolitan Municipality	System assessment
45	Cato Ridge	eThekweni Metropolitan Municipality	System assessment
46	Central	eThekweni Metropolitan Municipality	System assessment
47	Craigieburn	eThekweni Metropolitan Municipality	System assessment
48	Dassenhoek	eThekweni Metropolitan Municipality	System assessment
49	Fredville	eThekweni Metropolitan Municipality	System assessment
50	Fredville	eThekweni Metropolitan Municipality	System assessment
51	Genazzano	eThekweni Metropolitan Municipality	System assessment
52	Glenwood Road	eThekweni Metropolitan Municipality	System assessment
53	Hammarsdale	eThekweni Metropolitan Municipality	System assessment
54	Hillcrest	eThekweni Metropolitan Municipality	System assessment
55	Isipingo	eThekweni Metropolitan Municipality	System assessment
56	Kingsburgh	eThekweni Metropolitan Municipality	System assessment
57	KwaMashu	eThekweni Metropolitan Municipality	System assessment
58	KwaNdengezi	eThekweni Metropolitan Municipality	System assessment
59	Magabeni	eThekweni Metropolitan Municipality	System assessment
60	Mpumalanga	eThekweni Metropolitan Municipality	System assessment
61	New Germany	eThekweni Metropolitan Municipality	System assessment
62	Northern Works	eThekweni Metropolitan Municipality	System assessment
63	Phoenix	eThekweni Metropolitan Municipality	System assessment
64	Southern	eThekweni Metropolitan Municipality	System assessment
65	Tongaat Central	eThekweni Metropolitan Municipality	System assessment
66	Umbilo	eThekweni Metropolitan Municipality	System assessment
67	Umdloti	eThekweni Metropolitan Municipality	System assessment
68	Umhlanga	eThekweni Metropolitan Municipality	System assessment
69	Umhlatuzana	eThekweni Metropolitan Municipality	System assessment
70	Umkomaas	eThekweni Metropolitan Municipality	System assessment
71	Verulam	eThekweni Metropolitan Municipality	System assessment



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