



NATIONAL WATER AND SANITATION MASTER PLAN

VOLUME 3: **SCHEDULE OF ACTION** *Version 4.8*

**Ready for the Future
and Ahead of the Curve**

23 October 2018

WATER IS LIFE - SANITATION IS DIGNITY



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA



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List of Acronyms

Acronym	Description
ACIP	Accelerated Community Infrastructure Program
AIP	Alien Invasive Plants
AMCOW	African Ministers' Council on Water
AMD	Acid Mine Drainage
ARC	Agricultural Research Council
b/a	billion per annum
BBBEE	Broad-Based Black Economic Empowerment
bn	Billion= 1000 000 000
BRICS	Brazil, Russia, India, China and South Africa
CARA	Central Adoption Resource Authority
CHE	Council on Higher Education
CMA	Catchment Management Agency
CME	Compliance, Monitoring and Enforcement
CMF	Catchment Management Forum
CMS	Catchment Management Strategy
COP 17	17th Conference of the Parties
CRDP	Comprehensive Rural Development Program
CRU	Central Regulatory Impact Assessment Unit
CSI	Corporate Social Investment
CSIR	Council for Scientific and Industrial Research
CSO	Civil Society Organization
DAFF	Department of Agriculture, Forestry and Fisheries
DBE	Departments of Basic Education
DBSA	Development Bank of Southern Africa
DDT	Dichlorodiphenyltrichloroethane
DEA	Department of Environmental Affairs
DCoG	Department of Cooperative Governance
DHET	Department of Higher Education and Training
DM	District Municipality
DMR	Department of Mineral Resources
DOE	Department of Energy
DHS	Department of Human Settlements
DPE	Department of Public Enterprises
DPSA	Department of Public Service and Administration
DRD&LR	Department of Rural Development and Land Reform
DST	Department of Science and Technology
DTI	Department of Trade and Industry
DWA	Department of Water Affairs
DWAF	Department of Water Affairs & Forestry
DWM	Developmental Water Management
DWS	Department of Water and Sanitation
e.g.	for example
EU	European Union

ELU	Existing Lawful Use
etc.	etcetera; and so on
EWSETA	Energy and Water Sector Education and Training Authority
EXCO	Executive Committee
FAO	Food and Agriculture Organisation
FET	Further Education and Training
FETWater	Framework Programme for Research, Education and Training in Water, South Africa (UNESCO initiative)
G8	The Group of Eight (world's eight wealthiest western countries)
GA	General Authorisations
GCM	Global Circulation Models
GCIS	Government Communication Information System
GDP	Gross Domestic Product
GET	General Education and Training
GFETQSF	General and Further Education and Training Qualifications Sub-Framework
GG	Government Gazette
GGP	Gross Geographic Product
GIS	Geographical Information System
GLeWAP	Groot Letaba River Water Development Project
GN	Government Notice
GRIP	Groundwater Resource Information Project
HDI	Historically Disadvantaged Individuals
ha	Hectares
HE	Higher Education
HEI	Higher Education Institutes
HEQSF	Higher Education Qualifications Sub-framework
HRDS	Human Resources Development Strategy
HYDSTRA	Integrated Water Resources Management Software
IB	Irrigation Board
IBSA	The India-Brazil-South Africa Dialogue Forum
IDP	Integrated Development Plan
IDZ	Industrial Development Zone
i.e.	that is
IHP	International Hydrological Programme
IPAP3	Industrial Policy Action Plan 3
IPP	Independent Power Producers
IRP	Integrated Resource Plan
IRR	Institutional Reform and Realignment
IT	Information Technology
i.t.o.	in terms of
IUA	Integrated Units of Analysis
IWA	International Water Association
IWRM	Integrated Water Resource Management
IWWMP	Integrated Water and Waste Management Plan
IWTTSA	Industry Water Task Team of South Africa
JPTC	Joint Permanent Technical Committee
JSE	Johannesburg Stock Exchange

JWC	Joint Water Commission
KNP	Kruger National Park
KPI	Key Performance Indicator
LEDP	Local Economic Development Plan
LGSETA	Local Government Sector Education & Training Authority
LHDA	Lesotho Highlands Development Authority
LHWP	Lesotho Highlands Water Project
LRAD	Land Reform for Agricultural Development
LTAS	Long Term Adaptation Scenarios
LTBWSS	Lower Tugela Bulk Water Supply Scheme
LWC	Limpopo Watercourse Commission
m ³ /a	ubic meter per annum
mm/year	millimetres per year
mg/l	milligrams per litre
MI/day	Megalitres per day= 1 000 000 litres/day
M&E	Monitoring and Evaluation
MAR	Mean Annual Runoff
MDG	Millennium Development Goals
MFMA	Municipal Finance Management Act
MIG	Municipal Infrastructure Grant
MISA	Municipal Infrastructure Support Agency
MMTS2	Mooi-Mgeni Transfer Scheme Phase 2
MoU	Memorandum of Understanding
MTEF	Medium Term Expenditure Framework
MWIG	Municipal Water Infrastructure Grant
MW	Mega Watt
NATED	National Technical Education
NCBF	National Capacity Building Framework for Local Government
NDP	National Development Plan
NEMA	National Environmental Management Act
NFEPA	National Freshwater Ecosystem Priority Areas
NGA	National Groundwater Archive
NGP	New Growth Path
NGO	Non-government Organisation
NGS	National Groundwater Strategy
NMBMM	Nelson Mandela Bay Metropolitan Municipality
NPC	National Planning Commission
NPS	Non-point Source
NPSS	Non-Point Source Strategy
NQF	National Qualifications Framework
NRF	National Research Foundation
NRW	Non-Revenue Water
NSA	National Skills Accord
NSDP	National Spatial Development Perspective
NSDS	National Skills Development Strategy
NSI	National System of Innovation

NT	National Treasury
NWA	National Water Act (Act 36 of 1998)
NWAC	National Water Advisory Council
NW&SMP	National Water and Sanitation Master Plan
NWRI	National Water Resource Institute
NWRS	National Water Resource Strategy
NWRS1	National Water Resource Strategy (first edition, 2004)
NWRS2	National Water Resource Strategy (second edition 2013)
O&M	Operation and Maintenance
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
ORASECOM	Orange-Senqu (River Basin) Commission
ORWRDP	Olifants River Water Resource Development Project
OQSF	Occupational Qualifications Sub-Framework
OSD	Occupation Specific Dispensation
PALAMA	Public Administration Leadership and Management Academy
PES	Present Ecological State
Ph	Phase
PFMA	Public Finance Management Act
PGDP	Provincial Growth and Development Plan
PGDS	Provincial Growth and Development Strategy
PMU	Project Management Unit
PPP	Public Private Partnerships
P/S	Pump Station
PWC	Permanent Water Commission
QCTO	Quality Council for Trades and Occupations
R&D	Research and Development
R&I	Research and Innovation
RBIG	Regional Bulk Infrastructure Grant
RBO	River Basin Organizations
RDM	Resource Directed Measures
RDP	Reconstruction and Development Programme
REGIS	Software system developed in the Netherlands, currently under investigation for its application in South Africa
RIA	Regulatory Impact Assessment
RIDMP	Regional Infrastructure Development Master Plan
RISDP	Regional Indicative Strategic Development Plan
Rio+20	United Nations Conference on Sustainable Development, 2012
RPL	Recognition of Prior Learning
RQO	Resource Quality Objectives
RSA	Republic of South Africa
RSAPIII	Regional Strategic Action Plan III
RWH	Rainwater Harvesting
RWU	Regional Water Utility
RWQO	Receiving Water Quality Objective
SA	South Africa
SAAWU	South African Association of Water Utilities

SADC	Southern African Development Community
SAICE	South African Institution of Civil Engineering
SALGA	South African Local Government Association
SAWS	South African Weather Service
SDC	Source Directed Controls
SETA	Sector Education & Training Authority
SIP	Strategic Integrated Project
SIWI	Stockholm International Water Institute
SULP	Sustainable Utilization Plans
SWPN	Strategic Water Partnership Network
TAC	Technical Advisory Committee
TCTA	Trans Caledon Tunnel Authority
UDF	Urban Development Framework
UN	United Nations
UNCSD	United Nations Conference on Sustainable Development
UNEP	United Nations Environment Programme
GEMS	Global Environment Monitoring System
UNFCCC	United Nations Framework Convention on Climate Change
UNESCO	United Nations Educational, Scientific and Cultural Organization
VGG	Vaal Gamagara
WAR	Water Allocation Reform
WAS	Water Accounting System
WARMS	Water Registration Management System
WARS	Water Allocation Reform Strategy
WCWSS	Western Cape Water Supply System
WCWDM	Water Conservation and Water Demand Management
WDCS	Waste Discharge Charge System
WISA	Water Institute of Southern Africa
WMA	Water Management Area
WMP	Water Management Plan
WMS	Water Management System
WRA	Water Research Act
WRC	Water Research Commission
WRM	Water Resource Management
WRTC	Water Resources Technical Committee
WS	Water Services
WSA	Water Services Authority
WSAct	Water Services Act (Act 108 of 1997)
WSDP	Water Services Development Plans
WSLG	Water Sector Leadership Group
WSP	Water Services Provider
WMA	Water Management Area
WTW	water treatment works
WWC	World Water Council
WWTW	waste water treatment works
WUL	Water Use License

List of Standard Units

Description	Standard unit
Elevation	m.a.s.l.
Acceleration	m/s ²
Ampere	A, kA
Area	m ² , ha or km ²
Density	kg/m ³
Diameter	mm dia., m dia.
Dimension	mm, m
Discharge	m ³ /s
Distance	m, km
Electric power	kVA, kW, MW
Energy	kJ, MJ
Force, weight	N, kN, MN
Gradient (V:H)	%
Height	m
Mass	kg, ton
Mean annual runoff	million m ³ /a
Moment, torque	Nm, kNm, MNm
Power	kW, MW
Pressure	Pa, kPa, MPa
Slope (H:V) or (V:H)	1:5 (H:V) or 5:1 (V:H)
Velocity, speed	m/s, km/hr
Volt	V, kV
Volume (storage)	m ³ , million m ³ , MI
Yield	million m ³ /a, MI/day

1. VOLUME 3: SCHEDULE OF ACTIONS – ROADMAP

1.1 INTRODUCTION

The current National Water and Sanitation Master Plan (NW&SMP) is a plan of actions that needs to be implemented by the entire water sector in South Africa in order to achieve Government's goals and objectives. This version of the NW&SMP was drafted by the Department of Water and Sanitation (DWS), in consultation with, and considering the input from, the stakeholders in the entire water sector, and aims to provide the basis for further consultations before being finalized.

In general, the NW&SMP is intended to be a living document, and therefore even after its initial finalization, its content and the achievement of the set targets will be monitored and evaluated. Where necessary, be amended and updated annually based on the inputs from stakeholders and revised government targets and available budgets. This process will provide continuous opportunities for further inputs from all stakeholders.

The NW&SMP comprises of the following three (3) Volumes:

- Volume 1: Call to Action that serves as the Executive Summary of the NW&SMP, which outlines broadly the current challenges and proposed solutions. Only the overall strategic key actions and interventions are included in Volume 1.
- Volume 2: Plan to Action motivates in greater detail the challenges facing the water sector and the necessity of specific actions and interventions. It also outlines the key actions under each section and provides a summary of the key actions at the end.
- Volume 3: Schedule of Actions is the core deliverable of the NW&SMP. It includes substantially more details about all the actions / interventions, programmes and projects required to achieve the NW&SMP's purpose, which where applicable, are broken down to provincial or catchment level. It also provides additional details regarding the specific responsibilities of the relevant parties and a breakdown of deliverables and cost per time segment. This schedule is intended to be used for monitoring and evaluation of the achievements of the set targets, but should not be seen as a monitoring and evaluation tool.

National Water and Sanitation Master Plan



This Document serves as a guide explaining the purpose, the actual content of Volume 3 (Schedule of Actions), as well as explanatory notes on the format and functionality of Volume 3.

1.2 OUTLINE

The purpose of Volume 3 is to arrange and translate all actions and interventions identified within Volumes 1 and 2 of the NW&SMP into annual measurable outcomes inclusive of roles and responsibilities, time frames as well as associated estimated costs. Therefore Volume 3 aims to:

- Position each action according to its NW&SMP section and key element;
- Categorise each action according to its level of importance within Volume 3, since the key actions listed within Volume 1 have a higher impact value than the sub-ordinate actions indicated within Volume 2;
- Assign specific responsibilities, measurable targets and costs to each action;
- Illustrate interconnectivity between actions and responsibilities to allow sector buy-in as well as acceptance of sector responsibility sharing;
- Enable the prioritisation and scheduling of actions depending on the budgets available per fiscal year;
- Allow for regular reviews and amendments;
- Allow for proper monitoring and evaluation of achievements; and
- Allow for monitoring of the performance of responsible parties for each action.

The Schedule of Actions included in Volume 3 is presented in tabular format, with appropriate functionality allowing the user to conveniently navigate through the listed actions and drill down into the specific NW&SMP section, action level, province, catchment etc. Volume 3 is developed applying SMART principles, where SMART means:

- Specific (simple, sensible, significant).
- Measurable (meaningful, motivating).
- Achievable (agreed, attainable).
- Relevant (reasonable, realistic and resourced, results-based).
- Time bound (time-based, time limited, time/cost limited, timely, time-sensitive).

Volume 3 is presented within an Excel Spreadsheet that comprises a simplistic dashboard that allows the viewer to navigate between NW&SMP sections as well as supporting drivers / principles / information sources that were followed in preparing Volume 3.

The full content of Volume 3 is contained in Chapter 2 of this Document, followed by the underlying determinants (Chapter 3) and functionality / specifications of Volume 3 in Chapter 4.

The format of the table is presented under 4.2 Specifications:, followed by descriptive definitions of its requirements as well as the application thereof.

2. VOLUME 3: SCHEDULE OF ACTIONS

Menu

Click on theme

Draft Final
(23/10/2018)



- Supporting information
- Drivers
- Useful information
- Budget Cycle
- Acronyms & Units

Table with columns: Level 1: Key Actions, Level 2: Supporting Actions, Level 3: Regional Actions, Nat. Reg. & System (N/Prov. (P)/Local (L)), Baseline / Status Quo, Drivers, Major Measurable Deliverable, Target Date, Responsible Institutions, Present Value Cost (VAT excl.), Breakdown of deliverables per time segment (2018-2020, 2021-2025, 2026-2030), 2031-2050, Magnitude of impact if action does not occur, Priority, What level of impact will the investment generate?, What has prevented action from being completed to date?

1.1 Reducing water demand and increasing supply

Main data table for '1.1 Reducing water demand and increasing supply' with columns for various categories, regional breakdowns, and impact metrics. Includes sub-sections like 1.1.1 Reduce Non-Revenue Water, 1.1.2 Set cap on water use, 1.1.3 Reduce water demands, 1.1.4 Reduce water demand and increase water efficiencies.

Main data table with columns for Level 1: Key Actions, Level 2: Supporting Actions, Level 3: Regional Action, Baseline / Status Quo, Overall targets, Breakdown of deliverables per time segment (2018-2020, 2021-2025, 2026-2030), 2031-2050, Magnitude of impact if action does not occur, Is it a foundation action, What level of impact will the investment generate?, and What has prevented action from being completed to date?

1.2 Redistributing water for transformation table with columns for Level 1: Key Actions, Level 2: Supporting Actions, Level 3: Regional Action, Baseline / Status Quo, Overall targets, Breakdown of deliverables per time segment, 2031-2050, Magnitude of impact if action does not occur, Is it a foundation action, What level of impact will the investment generate?, and What has prevented action from being completed to date?

Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regional Action	Nat. Reg. & System (N/Prov. (P)/Local (L))	Baseline / Status Quo	Overall targets		Breakdown of deliverables per time segment												2031-2050 (beyond current MP horizon)			Priority																																																																																							
					Drivers Drivers / Goals	Major Measurable Deliverable	Target Date		Responsible Institutions		Present Value Cost (VAT excl.)		2018-2020		2021-2025		2026-2030 (current MP horizon, to vary in future)		Note	Magnitude of impact if action does not occur		Is it a foundation action:	What level of impact will the investment generate?	What has prevented action from being completed to date?																																																																																					
							Start date	Compl. Date	Lead	Support	R million (2018) (MP horizon)	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date		PV Cost R million	(1) Critical, (2) Serious, (3) Important (4) minor				(1) Other actions highly dependent; (2) Few direct dependencies (3) no direct dependencies	(1) Major benefit (>x10); (2) moderate benefit (>x2) (3) limited benefit																																																																																			
TOTAL Water and Sanitation Management: R 548 637																						TOTAL: R 145 815																						TOTAL: R 336 461																						TOTAL: R 66 360																						TOTAL: R 142 516																					
1.2.2	Identify where more water can be made available in government water schemes for development	National	N	Existing Water Allocation Reform (WAR) programme	A.1, B.1	Initial mapping by 2019, substantial transfers by 2023	2019	2023	DWS	CMAs, WBs, DAFF/PDAs	R	5	Identified schemes	2023	R	5	1/3	R	-	1/3	R	-	Cost estimate based on desktop study obtaining information from registered water use, V&Vs and reconciliation strategies	2	2	3																																																																																			
1.2.3	Implement the <u>Water Administration System</u> on all government irrigation schemes for transformation	National	N	WAS not implemented	A.1, B.1	Number of schemes where WAS implemented	2018		DWS	DAFF / PDAs	R	-	As per WMA	0	R	-	As per WMA	0	R	-	As per WMA	0	DWS to provide cost info																																																																																						
1.2.4	Implement pilot project on voluntary contributions from farmers for water reallocation in prioritised catchments	National	N	Existing Water Allocation Reform (WAR) programme	A.1, B.1	Identify pilot project implement pilot project Analyse and publish results	2018	2020	DWS	DAFF	R	10	Identify pilot project implement pilot project Analyse and publish results	2020	R	10							2	2	3																																																																																				
1.2.5	Identify areas where small dams or groundwater development can provide water for small scale black farmers	National	N	Existing Water Allocation Reform (WAR) programme	A.1, B.1	Initial mapping by 2019, substantial resources: small dams and groundwater	2018	Initial mapping by 2019	DWS	CMAs	R	5	Mapping of available resources: small dams and groundwater	2020	R	5	3	Water balance for available resources: small dams and groundwater	2023	R	3		Cost estimate based on desktop study obtaining information from registered water use, V&Vs and reconciliation strategies	2	2	3																																																																																			
1.2.6	Align water, land and agrarian reform programmes and link to the Irrigation Strategy	National	N	Existing Water Allocation Reform (WAR) programme	A.1, B.1	Coordinate water and agricultural and land distribution development plans on a regional level	2018	2030	DWS	CMAs, DAFF, DRDLR	R	-										DWS to provide cost info	2	2	3																																																																																				
1.2.7	Use General Authorisation to enable small scale water use by black farmers	National	N	Existing Water Allocation Reform (WAR) programme	A.1, B.1		2018	2019	DWS	DAFF	R	-										DWS to provide cost info	3	2	3																																																																																				
1.2.8	Investigate, revitalise, refurbish existing under-performing Black Dammed schemes	National	N	Existing Irrigation Scheme	A.1, B.1		2018	2020	DAFF	DWS	R	-										DWS to provide cost info	2	2	3																																																																																				
1.2.9	Define and implement process to allocate water (new/unused) to black applicants	National	N	Existing Water Allocation Reform (WAR) programme	A.1, B.1	Process/qualify for allocation to black applicants Implementation	2018	2030	DWS	DAFF	R	22	Process/qualify for allocation to black applicants	2020	R	22	2	Implementation	2025	R	10		DWS to provide cost info	2	2	3																																																																																			

1.3 Managing effective water and sanitation services

TOTAL Managing effective water and sanitation services: R 372 340 **TOTAL: R 125 013** **TOTAL: R 242 891** **TOTAL: R 4 436** **TOTAL: R 138 050**

1.3.1	Develop and implement a long term plan for the turn-around of water supply and sanitation services in the country based on a sector wide approach, that recognises DWS as regulator of W&S provision (20) that includes the development of operational programmes to obtain economies of scale and to ensure impact (e.g. driving municipal non-revenue water improvements, and assessing the cost effectiveness and appropriate systems for desalination)	National	N	No current national long term Turn Around Strategy (TAS) in place	A.1, A.2, B.11	National Turn Around Strategy (TAS) to be rolled out per WSA	2019	2020	DWS	COGTA, NT, SALGA	R	216	Approved TAS	2020	R	-						54				162	2	2	1	DWS role was minimised when WS provision was assigned to local government				
1.3.2	Plan for disaster management by implementing adequate flood protection and drought management on regional level	National	P, L	Gaps exist on system flows	A.4, A.5	Comprehensive flood protection & disaster management plan that includes gap analysis on larger system regarding plan	2021	0	DWS	CMAs, WWSA, WBs	R	116										58				58	2	2	2	DWS has a monitoring system in place but it has gaps that needs to be addressed				
1.3.3	Revit levels of service for water supply and sanitation against issues of affordability	National	N	Free Basic Minimum LOS Standards	A.4, A.5, B.11	Strategy outlining the new Minimum Standards for "Basic" LOS and Cost Requirement	2018	2020	DWS	COGTA, NT, SALGA	R	72										72					2	2	2	The minimum basic LOS has only recently been revised to yard connection during the revision of the national water and sanitation				
1.3.4	Investigate and promote alternative service delivery models such as BOT/ Build, operate, transfer, management contracts and concessions.	National	N	Successful programme was implemented in Regions between 1996 - 2000	A.1, A.2	Revive BOT programme to fast track service delivery. Develop and implement BOT guidelines and delivery plan with associated budgets	2018	2025	NT	DWS	R	189	Infrastructure BOT Business Model	2020	R	54							135					3	2	2				
1.3.5	Provide direct Water Services Development Planning support to WSA as part of a legal requirement and integration into Municipal IDPS	National	N	Base zero	A.4, A.5, B.11	144 Credible and Council approved WSDP	2019	2025	DWS	COGTA, NT, SALGA, 27 DMs	R	324		144	2020	R	66		144	2025	R	165				144	2030	R	165	Budget = R 3 mill per annum per	1	1	1	NDF 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2019
		Eastern Cape	DM	Base zero	A.4, A.5, B.11		2019	2025	WSAs	DWS, COGTA, SALGA, NT	R	36		36	2020	R	6		36	2025	R	15				36	2030	R	15	Budget = R 3 mill per annum per	1	1	1	NDF 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2019
		Free State	DM	Base zero	A.4, A.5, B.11		2019	2025	WSAs	DWS, COGTA, SALGA, NT	R	36		36	2020	R	6		36	2025	R	15				36	2030	R	15	Budget = R 3 mill per annum per	1	1	1	NDF 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2019
		Gauteng	DM	Base zero	A.4, A.5, B.11		2019	2025	WSAs	DWS, COGTA, SALGA, NT	R	36		36	2020	R	6		36	2025	R	15				36	2030	R	15	Budget = R 3 mill per annum per	1	1	1	NDF 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2019
		KwaZulu Natal	DM	Base zero	A.4, A.5, B.11		2019	2025	WSAs	DWS, COGTA, SALGA, NT	R	36		36	2020	R	6		36	2025	R	15				36	2030	R	15	Budget = R 3 mill per annum per	1	1	1	NDF 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2019

Main data table with columns for Level 1: Key Actions, Level 2: Supporting Actions, Level 3: Regional Actions, Overall targets, Breakdown of deliverables per time segment, and Priority. Includes sub-sections like Water services planning, Water services infrastructure, and Water services Operation and management.

Table with 13 columns: Level 1: Key Actions, Level 2: Supporting Actions, Level 3: Regional Actions, Nat. Reg. R/ System N/ Prov. (P/ Local L), Baseline / Status Quo, Drivers, Major Measurable Deliverable, Target Date, Responsible Institutions, Present Value Cost (VAT excl.), Breakdown of deliverables per time segment (2018-2020, 2021-2025, 2026-2030), 2031-2050, Magnitude of impact if action does not occur, Priority, What level of impact will the investment generate?, What has prevented action from being completed to date?

TOTAL Water and Sanitation Management: R 548 637. TOTAL: R 145 815. TOTAL: R 336 461. TOTAL: R 66 360. TOTAL: R 142 516.

1.4 Regulating the water and sanitation sector

Main body of the table containing detailed action items for regulating water and sanitation, including sections for water efficiency, water quality, and water resource management across various provinces.

Table with 20 columns: Level 1: Key Actions, Level 2: Supporting Actions, Level 3: Regional Actions, Nat. Reg. & System (N/P/Local), Baseline / Status Quo, Drivers, Major Measurable Deliverable, Target Date, Responsible Institutions, Present Value Cost (VAT excl.), Breakdown of deliverables per time segment (2018-2020, 2021-2025, 2026-2030), Note, 2031-2050 (beyond current MP horizon), Magnitude of impact if action does not occur, Is it a foundation action, What level of impact will the investment generate?, What has prevented action from being completed to date?

1.5 Improving raw water quality

Table with 20 columns: Level 1: Key Actions, Level 2: Supporting Actions, Level 3: Regional Actions, Nat. Reg. & System (N/P/Local), Baseline / Status Quo, Drivers, Major Measurable Deliverable, Target Date, Responsible Institutions, Present Value Cost (VAT excl.), Breakdown of deliverables per time segment (2018-2020, 2021-2025, 2026-2030), Note, 2031-2050 (beyond current MP horizon), Magnitude of impact if action does not occur, Is it a foundation action, What level of impact will the investment generate?, What has prevented action from being completed to date?

Main table for 'TOTAL Water and Sanitation Management' with columns for Overall targets, Breakdown of deliverables per time segment (2018-2020, 2021-2025, 2026-2030), Note, and Priority. Includes sub-tables for 'TOTAL Water and Sanitation Management' and 'TOTAL: R 548 637'.

1.6 Protecting and restoring ecological infrastructure

Table for '1.6 Protecting and restoring ecological infrastructure' with columns for Overall targets, Breakdown of deliverables per time segment, Note, and Priority. Includes sub-tables for 'TOTAL Protecting and restoring ecological Infrastructure: R 444' and 'TOTAL: R 201'.

Please hover on cell headings to obtain definitions

Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regional Actions	Nat., Reg. & System (N)/ Prov. (P)/ Local (L)	Baseline / Status Quo	Overall targets		Breakdown of deliverables per time segment												2031-2050 (beyond current MP horizon)			Priority										
					Drivers	Major Measurable Deliverable	Target Date		Responsible Institutions		Present Value Cost (VAT excl.)		2018-2020			2021-2025			2026-2030 (current MP horizon, to vary in future)			Note	Magnitude of impact if action does not occur			Is it a foundation action: (1) Other actions highly dependent; (2) Few direct dependencies (3) no direct dependencies	What level of impact will the investment generate? (1) Major benefit (>=10); (2) moderate benefit (>2) (3) limited benefit	What has prevented action from being completed to date?				
							Start date	Compl. Date	Lead	Support	R million (2018) (MP horizon)	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	(1) Critical, (2) Serious, (3) important (4) minor											
TOTAL Enabling Environment:					R	21 868	TOTAL:	R	13 113	TOTAL:	R	8 357	TOTAL:	R	398	TOTAL:	R	298														
2.1 Creating effective water sector institutions					TOTAL Creating effective water sector institutions:		R	828	TOTAL:	R	826	TOTAL:	R	3	TOTAL:	R	-	TOTAL:	R	-												
Creating effective water sector institutions	2.1.1 Establish a business case for streamlined institutional arrangements in the water and sanitation sector	N	None	A.7; A.8	Development of Business Case to work towards streamline institutions	2018	2020	DWS				4	Signed off Business Case ready for implementation	2020	R	4	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	2	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA
	2.1.2 Establish a Municipal Intervention Unit for Water and Sanitation in DWS, staffed with highly competent experts to drive a national programme of intervention at the municipal level	N	None	A.7; A.8	Functional PMU Unit Well staffed skilled Start with core group	2019	2022	DWS				4	Functional PMU Unit	2020	R	2	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	1	1	1	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA
	2.1.3 Establish financially sustainable CMAs across the country, and transfer staff and budget and delegated functions, including licensing of water use and monitoring and evaluation of water resources	N	2 Proto Type CMAs	A.8	9 Functional Prototype CMAs	2018	2020	DWS				70	9 CMAs	2020	R	70	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	2	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA
	Berg-Olifants	p	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS				9	Berg-Olifants CMA	2020	R	9	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	2	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA
	Breede-Gouritz	p	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS				6	Breede-Gouritz CMA	2020	R	6	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	2	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA
	Inkomati-Usothu	p	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS				10	Inkomati-Usothu CMA	2020	R	10	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	2	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA
	Limpopo	p	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS				9	Limpopo CMA	2020	R	9	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	2	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA
	Mzimvubu-Tsitsikamma	p	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS				8	Mzimvubu-Tsitsikamma CMA	2020	R	8	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	2	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA
	Olifants	p	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS				6	Olifants CMA	2020	R	6	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	2	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA
	Orange	p	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS				6	Orange CMA	2020	R	6	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	2	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA
	Pongola_Mzimkulu	p	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS				6	Pongola_Mzimkulu CMA	2020	R	6	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	2	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA
	Vaal	p	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS				10	Vaal CMA	2020	R	10	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	2	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA
	2.1.4 Establish the National Water Resources and Services Authority (NWWSA)	N	None	A.8	Established National Water Resources and Services Regulator Agree modification in Treaty and arrangements for TCTA. Integrate the Water Trading Entity and the Water Infrastructure Branch into the NWWSA. Transfer all regional staff/components that manage regional clusters No duplication of authority or mandate to remain within DWS Provincial/Regional office.	2018	2020	DWS	NT			100	Established National Water Resources and Services Regulator	2020	R	100	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	2	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA
	2.1.5 Determine the optimal configuration of water boards to manage regional bulk water supply, assist municipalities to perform their primary water and sanitation services mandate where necessary, manage regional water resources infrastructure, manage regional bulk WTWs and WWTWs	N	None	A.8	Fully Functional Water Boards	2018	2020	DWS	WBSs			630	Established National Water Resources and Services Regulator	2020	R	630	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	1	2	2	
	Rand Water	WMA	Existing Water Board(s)	A.8	Fully Functional Water Boards	2018	2020	DWS	Water Boards			105	Fully Functional Water Boards	2020	R	105	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	1	2	2	
	Kwazulu-Natal	WMA	Existing Water Board(s)	A.8	Fully Functional Water Boards	2018	2020	DWS	Water Boards			105	Fully Functional Water Boards	2020	R	105	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	1	2	2	
	Sedibeng	WMA	Existing Water Board(s)	A.8	Fully Functional Water Boards	2018	2020	DWS	WBSs			105	Fully Functional Water Boards	2020	R	105	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	1	2	2	
	Magalies	WMA	Existing Water Board(s)	A.8	Fully Functional Water Boards	2018	2020	DWS	WBSs			105	Fully Functional Water Boards	2020	R	105	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	1	2	2	
	Lepelle	WMA	Existing Water Board(s)	A.8	Fully Functional Water Boards	2018	2020	DWS	WBSs			105	Fully Functional Water Boards	2020	R	105	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	1	2	2	
	Bloem	WMA	Existing Water Board(s)	A.8	Fully Functional Water Boards	2018	2020	DWS	WBSs			105	Fully Functional Water Boards	2020	R	105	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	1	2	2	
	2.1.6 Establish the National Water Resources and Services Regulator (NWRSR)	N	Revise DWS regulatory	A.8	a - Create enabling legislation giving mandate and approach to funding of Regulator b - Establish Regulator. Transfer DWS Regulatory staff c - Shareholder compact with Minister.	2018	2023	DWS	NT			20		2020	R	20	n/a	n/a	R	-	n/a	n/a	R	-	n/a	n/a	R	-	2	2	1	

Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regional Actions	Nat., Reg. & System (N)/ Prov. (P)/ Local (L)	Baseline / Status Quo	Overall targets		Breakdown of deliverables per time segment														2031-2050 (beyond current MP horizon)			Priority										
					Drivers	Major Measurable Deliverable	Target Date		Responsible Institutions		Present Value Cost (VAT excl.)		2018-2020			2021-2025			2026-2030 (current MP horizon, to vary in future)			Note	2031-2050 (beyond current MP horizon)			Magnitude of impact if action does not occur		Is it a foundation action:		What level of impact will the investment generate?		What has prevented action from being completed to date?		
							Start date	Compl. Date	Lead	Support	R million (2018) (MP horizon)	R million (2020)	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million		Deliverable	Date	PV Cost R million	(1) Critical, (2) Serious, (3) important (4) minor	(1) Other actions highly dependent; (2) Few direct dependencies (3) no direct dependencies	(1) Major benefit (>=10); (2) moderate benefit (>2) (3) limited benefit						
2.3.4	Develop and implement a mandatory, modular hands-on qualification for municipal water managers (technical manager) to be run over 18 months and accredited by EWSETA to include aspects such as asset management, tariffs, and revenue management, drought management, stakeholder engagement and customer	National & Provincial	N,P	Limited qualification requirements	Creating a stable, learning and developing water sector	- Develop programme - Obtain EWSETA accreditation - Obtain hand-on-qualification/ municipality - Place a senior retired municipal engineer as mentor	2019	First course to be run in 2020/21 and beyond	DWS	EWSETA; Institutions of Higher Learning	R 10 000	10 000	Develop programme	2020	R 10 000	10 000	Obtain EWSETA accreditation & develop implementation plan	2024		10 000	Implementation of plan	Ongoing				Implementation of plan	Ongoing				1	2	2	It was not considered as a priority
2.3.5	Partner with institutions to fund training of water sector practitioners in the curatorial, management and use of data as well as the associated technologies	National		Few sector partnerships	Develop suite of supportive partnerships to strengthen capacity of the water sector	Key partnerships developed and formalised	2021	Ongoing	DWS	EWSETA	R 28	28	Identify key partnerships and develop plan	2020	R 6	6	Engage and formalise key partnerships	2025	R 10	10	Ongoing development and adjustment of partnerships	Ongoing				Ongoing development and adjustment of partnerships	Ongoing			2	2	1	Coordinated leadership required	
2.3.6	Initiate a focused research capability initiative in water sector economics to address the existing skills gap	National		Some assessments can provide indicative information	Strategic and structured approach to develop skills across the sector	Strategy developed and implementation initiated	2025	Ongoing	DWS	NRF, WRC, DST	R 37	37	Development of strategic framework	2020	R 7	7	Develop strategy and implementation plan	2025	R 10	10	Implementation of plan	Ongoing				Implementation of plan	Ongoing			2	2	1	Lack of adequate or prioritised leadership	
2.3.7	Continue to develop high end skills (post graduate) to ensure a future science, technology and innovation capability in South Africa			n/a	A.7	Masters and PhD enrolments	2018/19	Ongoing	DWS	DST, NRF, WRC, DTI (THRIP), Private	R 144	144	Support students	2020	R 48	48	Support students	2025	R 48	48	Support students	2030	R 48	48					2	2	2			
2.3.8	Continue to support programmes that enable development of critical skills and exposure to emerging innovations (e.g. Young Engineers Programme)			n/a	A.7	Programme contracts	2018/19	Ongoing	SALGA	DST, WRC, DWS, COGTA, MISA	R 21	21	Link students to innovation sites	2020	R 7	7	Link students to innovation sites	2025	R 7	7	Link students to innovation sites	2030	R 7	7					2	2	2			
TOTAL Ensuring Financial Sustainability: R 10 012											TOTAL: R 2 008			TOTAL: R 8 004			TOTAL: R -			TOTAL: R -														

2.4 Ensuring Financial Sustainability																																
Ensuring Financial Sustainability																																
2.4.1	Develop and implement institutional arrangement that recognise the diversity of circumstances across South Africa, the legacy of Apartheid and allow for regional cross subsidisation.	National			Implemented Business Plan	2019	2021	NT	DWS	R 5	5	Business plan		R 1	1	Implementation		R 4	4										2	2	1	A one size fits all approach in legislation and a fragmentation of the value chain which does not allow for benefits to be derived from economy of scale. Preservation of the status quo with respect to bias to urban areas and irrigation schemes.
2.4.2	Implement accurate billing and effective revenue management systems in all entities in the water value chain with a strict "No payment = no water" approach to agriculture/industrial/commercial users and restricted supply to domestic users.	National, Provincial & Local			Metrics to be developed on accuracy of billing. Metric on number of estimated invoices as % of invoices issued.	2019	2024	WSA	Water Boards, DWS, AGSA	R 5 000	5 000	This will be done per institution	R 1 000	1 000		R 4 000	4 000											1	2	1	Lack of understanding of the impact of inaccurate billing on customer relations and revenue stream. Lack of political will to restrict or stop water for non-payment.	
2.4.3	All conditional grants to be dependent on meeting of current payments to the next entity in the value chain, improvements to Blue Drop, Green Drop and No Drop Scores to meeting targets and audit outcome. Allow conditional grants to be used for operational costs.	National			Grants withheld due to no compliance	2019	2023	NT	AGSA, DWS	R 1	1	Policy		R 1	1													1	2	1	Focus by politicians, consultants and contractors on new infrastructure.	
2.4.4	Develop regulations in terms of Section 139 (8) of the Constitution, which allows for a national entity to take over the water service functions, including revenue and billing, in a municipality if service deliver criteria are not met.	National			Regulation approved by Parliament	2019	2022	DWS	CoGTA	R 1	1	Regulations		R 1	1													2	2	1	Political will	
2.4.5	Ensure that sufficient revenue is received through tariffs and grants, to operate, maintain and improve the water supply and sanitation system. The tariff structure must allow for cross subsidisation for the indigent and building of a reserve for periods of drought.	National & Local			Improved Blue, Green and No Drop scores as well as Audit Outcomes	2019	2024	WSA	Water Boards, DWS, NT, AGSA	R 5 000	5 000	This will be done per institution	R 1 000	1 000		R 4 000	4 000											1	2	1	Lack of value attached to water and service provision by business and households due to a failure to understand the impact if the system fails	
2.4.6	In all entities put in place mechanisms to deal with accumulated debt	National, Provincial & Local			Implemented Policy	2019	2020	WSA	Water Boards, DWS, NT, AGSA	R -	-																1	2	1	Part of billing and revenue collection		
2.4.7	Roll out of ring-fenced institutional models to increase private sector investment	National			Increase in loans to the sector	2019	2021	DWS	NT, CoGTA	R 5	5	Workshopping of model		R 5	5													2	2	1	Models exist and have been operational for many years in South Africa but there has been no wide scale roll out.	
2.4.8	National Treasury – linkage to Medium Term Sector Expenditure Framework (MTSEF)																										1	1	1			
TOTAL Legislation: R 55											TOTAL: R 26			TOTAL: R 29			TOTAL: R -			TOTAL: R -												

2.5 Legislation																															
Sustainable legislation, policies and strategies																															
2.5.1	Gazette the National Water Amendment Bill, Water Services Amendment Bill and Water Research Amendment Bill	National	N	Both bills in draft format	A.1 - A.8; B.1 - B.8; C.1 - C.17	Gazetted National Water and Sanitation Bill and Water Research Amendment Bill	2018	2019	DWS	Portfolio Committee, Standing Committee	R 2	2	Gazette bills	2019	R 2	2												3	1	3	• Lack of responsibility and capacity to proceed with bills • Supply chain issues • Insufficient budget
2.5.2	Hold public consultation on National Water Amendment Bill, Water Services Amendment Bill and Water Research Amendment Bill	National	N	Both bills in draft format		Public consultation on both bills, per Province, per National Sector Departments, Private Sector and Professional Bodies, and other	2018	2020	DWS	Portfolio Committee, Standing Committee	R 4	4	Minutes of public consultations	2020	R 4	4												3	1	3	
2.5.3	Revise and promulgate the National Water Amendment Bill, Water Services Amendment Bill, and the Water Research Amendment Act	National	N	Both bills in draft format		Published acts	2018	2022	DWS	Portfolio Committee, Standing Committee	R 4	4	n/a	n/a	R 4	4	Updated and promulgated acts	2022	R 4	4								3	1	3	
2.5.4	Review the Municipal Financial Management Act (MFMA) and the Municipal Systems Act (specifically chapter 8) to ensure that they provide an enabling environment for the provision of reliable water and sanitation services	National	N	Current Municipal Systems Act and MFA		Acts to facilitate sustainable water services	2018	2020	NT	DWS, CoGTA, SALGA	R 10	10	Updated MFMA & MSA	2020	R 10	10												3	1	3	
2.5.5	Develop new policies and strategies on matters not previously addressed, in consultation with all stakeholders, to facilitate the sustainability of various water sector programmes	National	N	Policies developed in 2017		Policies defined below	2018	2025	DWS		R 35	35	Policies defined below	2020	R 10	10	Policies defined below	2025	R 25	25								3	2	2	
		Mine Water Management Policy (2017)	N	Developed (2017), under review		Mine Water Management Policy	2018	2019	DWS	DMR	R 5	5	Mine Water Management Policy	2019	R 5	5												3	2	2	
		Integrated Water Quality Management Policy (2017)	N	Developed (2017), under review		Integrated Water Quality Management Policy	2019	2020	DWS		R 5	5	Integrated Water Quality Management Policy	2020	R 5	5												3	2	2	
		Water for Development: Sustainable Livelihoods (2017)		Developed (2017), under review		Water for Development: Sustainable Livelihoods	2020	2021	DWS		R 5	5	Water for Development: Sustainable Livelihoods	2021	R 5	5												3	2	2	
		Water Stewardship Policy (2017): Mechanisms for Partnerships in the Water and Sanitation Sector		Developed (2017), under review		Water Stewardship Policy: Mechanisms for Partnerships in the Water and Sanitation Sector	2021	2022	DWS		R 5	5	Water Stewardship Policy: Mechanisms for Partnerships in the Water and Sanitation Sector	2022	R 5	5												3	2	2	
		Infrastructure Ownership and Management Policy (2017)		Under development		Infrastructure Ownership and Management Policy	2022	2023	DWS		R 5	5	Infrastructure Ownership and Management Policy	2023	R 5	5												3	2	2	
		Wetland Policy (2017)		Under development		Wetland Policy	2023	2024	DWS		R 5	5	Wetland Policy	2024	R 5	5												3	2	2	
		Sustainable Hydropower Development Policy (2017)		Under development		Sustainable Hydropower Development Policy	2024	2025	DWS		R 5	5	Sustainable Hydropower Development Policy	2025	R 5	5												3	2	2	

Please hover on cell headings to obtain definitions

Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regional Actions	Nat., Reg. & System (N)/ Prov. (P)/ Local (L)	Baseline / Status Quo	Overall targets		Target Date		Responsible Institutions		Present Value Cost (VAT excl.) R million (2018) (MP horizon)	Breakdown of deliverables per time segment									2031-2050 (beyond current MP horizon)			Priority			
					Drivers / Goals	Major Measurable Deliverable	Start date	Compl. Date	Lead	Support		2018-2020			2021-2025			2026-2030 (current MP horizon, to vary in future)			Note	Magnitude of impact if action does not occur			Is it a foundation action:	What level of impact will the investment generate?	What has prevented action from being completed to date?
											Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable		Date	PV Cost R million	(1) Critical, (2) Serious, (3) important (4) minor			
	2.7.4 Monitor, review, evaluate, report on and update NW&SMP	National	N, P, L	Draft NW&SMP (2018)	A.8, B.12	- Establish a monitoring, evaluation, learning and reporting system for implementation of the NW&SMP - Include reporting in KPIs of Senior management for all affected National Departments, public entities, and other institutions identified in the NW&SMP - Annual updating and reporting	2018	Annual report to Parliament	DPME	DWS	R 68	Establish a monitoring, evaluation, learning and reporting system for implementation of the NW&SMP - Include reporting in KPIs of Senior management for all affected National Departments, public entities, and other institutions identified in the NW&SMP	2020	R 8	Annual updating and reporting	2025	R 30	Annual updating and reporting	2030	R 30	- Annual updating and reporting	2050	R 120	2	1	1	

End of list

Item	Category	Sub-category	Objective	Indicator	Target	Responsible	Start	End	Current Status	Progress	Notes	Impact	Priority	Score	Color	Comments
1.4.1	National	Water	Replace all Existing Useful Use (EUU) with licenses with enforceable water use conditions	100% of EUUs replaced	2020	DWS	2018	2020	100%	100%	Initial process to assess the non-compliant abstraction, then Scorpions will take over	100%	100%	100%	100%	The value of the EUUs underestimated
1.4.5	National	Water	Develop regulations, amend the incomplete V&V and verification (V&V) of EUU and registration (V&V) of EUU and unregistered water users	2018-2020	DWS	2018	2020	100%	100%	2018	2020	100%	100%	100%	100%	Importance to water use licensing
1.4.6	National	Water	Develop and implement the MoU between the DWS and Water Industries	2018-2020	DWS	2018	2020	100%	100%	2018	2020	100%	100%	100%	100%	Lack of quality water resource management
1.4.7	National	Water	Develop and implement municipal by-laws to protect water quality	2018-2020	DWS	2018	2020	100%	100%	2018	2020	100%	100%	100%	100%	Lack of quality water resource management
1.4.8	National	Water	Identify and prosecute big polluters across the country (including municipalities), with a national communication campaign to accompany the action	2018-2020	DWS	2018	2020	100%	100%	2018	2020	100%	100%	100%	100%	Lack of quality water resource management
1.4.9	National	Water	Establish a mechanism for supplying administrative penalties	2018-2020	DWS	2018	2020	100%	100%	2018	2020	100%	100%	100%	100%	Lack of quality water resource management
1.4.10	National	Water	Review and gazette mandatory national waste discharge standards	2018-2020	DWS	2018	2020	100%	100%	2018	2020	100%	100%	100%	100%	Lack of quality water resource management
1.4.11	National	Water	Develop and implement an action plan to strengthen water use authorization processes (SAG, SAG, SAG, SAG, SAG)	2018-2020	DWS	2018	2020	100%	100%	2018	2020	100%	100%	100%	100%	Lack of quality water resource management
1.4.12	National	Water	Implement measures to ensure that water users use and discharge water responsibly and adhere to regulatory requirements	2018-2020	DWS	2018	2020	100%	100%	2018	2020	100%	100%	100%	100%	Lack of quality water resource management

1.5 Improving raw water quality

Item	Category	Sub-category	Objective	Indicator	Target	Responsible	Start	End	Current Status	Progress	Notes	Impact	Priority	Score	Color	Comments
1.5.1	National	Water	Develop national RWQDS	100% of RWQDS developed	2020	DWS	2018	2020	100%	100%	Updated national RWQDS	100%	100%	100%	100%	Capacity, budgetary constraints
1.5.2	National	Water	Review and update RWQDS	100% of RWQDS reviewed and updated	2020	DWS	2018	2020	100%	100%	Updated national RWQDS	100%	100%	100%	100%	Capacity, budgetary constraints
1.5.3	National	Water	Strengthen and integrate existing license protocols	100% of license protocols strengthened and integrated	2020	DWS	2018	2020	100%	100%	Updated national RWQDS	100%	100%	100%	100%	Capacity, budgetary constraints
1.5.4	National	Water	Implement measures to ensure that water users use and discharge water responsibly and adhere to regulatory requirements	100% of measures implemented	2020	DWS	2018	2020	100%	100%	Updated national RWQDS	100%	100%	100%	100%	Capacity, budgetary constraints

Support the development of an innovation-based drinking water industry

2.6.11	Scan and sort the innovation sector for solutions that are ready for application and invest in their implementation	National	N/A		tech scan report	2018/19	2020/21	WRC	DST, DWS	R	2	Scan and sort	2020	R	2									1	1	2				
2.6.14	Develop and Demonstrate solutions that allow for the use of alternative sources of water for safe household consumption and water security				Text bed visits, tech validation reports	2018/19	Ongoing	DWS	WRC, Municipalities, utilities	R	40			2020	R	20	initiate demos	2021	R	20					1	2	1			
2.6.12	Continue to invest in understanding emerging contaminants (detection and treatment) in order to improve our transition to reuse, recirculation and recycling of water				Research reports and results	2018/19	Ongoing	DWS	WRC, Municipalities, utilities	R	20	initiate projects	2020	R	6	initiate projects	2021	R	6	initiate projects	2020	R	6		2	2	2			
2.6.16	Improve raw water quality investment in Communities of Practice that bring together built and ecological infrastructure experts and solutions	National		N/A	CoP Coordinator contract and reporting	2018/19	Ongoing	DWS	SEA, SANBI, WRC, DST, WRC	R	18	initiate CoP	2020	R	3	Sustain CoP	2021	R	6	Sustain CoP	2020	R	6		2	2	2			
2.6.17	Link the Global Environment Fund's project on Water Pricing and Ecosystems to Water Master Plan implementation and position DWS to be closely involved in this process	National			GEF Steering Committee Reporting	2018/19	2021/24	DWS	SEA, SANBI, WRC	R		Join GEF 6 processes	2020	R	-	Sustain engagement with GEF 6	2021	R							2	2	2			
2.6.18	Continue to do research on land use impact on water linked ecosystems				Project deliverables	2018/19	Ongoing	WRC	SEA, DWS, DAFF, WRC, utilities	R	27	Projects initiated	2020	R	9	Projects initiated	2021	R	9	Projects initiated	2020	R	9		2	2	2			
2.6.19	Ongoing research, modelling and planning around climate change and its impacts on water security and water infrastructure needs to be conducted				Project deliverables	2018/19	Ongoing	DWS	SEA, DST, WRC, Utilities	R	27	Projects initiated	2020	R	9	Projects initiated	2021	R	9	Projects initiated	2020	R	9		2	2	2			
2.6.20	Initiate a hydrological monitoring centre for South Africa in order to re-establish robust data, monitoring and information capability for more effective water resource planning and climate change forecasting in future	National		N/A	Business plan, centre performance agreement	2018/19	2021 to get the plan in place thereafter implementation	DWS	SEA, DAC, DAFF, WRC, DST, SANBI, ANC, COA, SETA-SA	R	14	initiate TRC scoping and feasibility	2020	R	2	Continue feasibility and scoping	2021	R	2	initiate centre	2020	R	30	4 mt on establishment and feasibility, 40 mt on centre set up (later TRC in feasibility) For 2026-2030: 30 (estimate, TRC in scoping)	1	3	2			
2.6.21	Test a suite of ICT and citizen science tools for data monitoring			N/A	ICT demo	2018/19	Ongoing	WRC	DWS, WRC, DST, DOSTA, SANBI, DST, DAFF municipalities, utilities	R	9	Run demo through water	2020	R	3	Run demo through water	2021	R	3	Run demo through water	2020	R	3		3	3	3			
2.6.22	Partner with institutions to build training of water sector practitioners in the capture, management and use of data as well as the associated technologies			N/A	Training role out	2021	Ongoing	DWS	SARICA	R	15								Scope programme and initiate training	2020	R	15		2	2	2				
2.6.23	Review of relevant guidelines and R&D products to understand what training modules need to be developed around new knowledge	National		N/A	Desktop study	2022		DWS	WRC, SETA, WISA, WWT	R	3	initiate study	2022	R	3									2	2	2				
2.7 Implementation of NWSMP																														
Implementation of NWSMP																														
2.7.1	Finalize on water and sanitation legislation	National	N, P	[as Phasix on Master Plan to be	A, B, E, F, G, I, J	2018	2019	DWS	DPME	R	141	National Phasix	2018	R	40									3	2	2				
2.7.2	Determine cost required to implement NWSMP and identify where re-prioritisation or cost savings can be used to address the NWSMP priorities	National	N, P, L	Draft NWSMP (2018)	A, B, E, I, J	2018	2019	DWS	NSA	R	1	Cost per activity Prioritized activities	2018	R	1									1	1	1				
2.7.3	Support PMU Management, Technical and Programme Manager staff for Delivery Unit	National		Draft NWSMP (2018)	A, B, E, I, J	2018	2020	DWS		R	12	Define PMU engagement Identify relevant management, technical and programme manager resources Appoint resources	2020	R	2	Define job descriptions for relevant resources Appoint resources	2021	R	8	Build capacity in PMU	2020	R	5	Skilled resources with sufficient capacity will be responsible for the successful implementation		3	3	3		
2.7.4	Monitor, review, evaluate, report on and update NWSMP	National	N, P, L	Draft NWSMP (2018)	A, B, E, I, J	2018	Annual report by Parliament	DPME	DWS	R	68	Establish a monitoring, evaluation, learning and reporting system for implementation of the NWSMP (includes reporting in % of donor management for all affected National Departments, public entities, and other institutions identified in the NWSMP Annual updating and reporting	2020	R	8	Annual updating and reporting	2021	R	30	Annual updating and reporting	2020	R	30	Annual updating and reporting	2020	R	120	2	3	3

End of Record

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List of DWS water resources development projects

Surface water ↔

Desalination ↔

Re-use ↔

Project Name	Project Description	Province	Metro or District Municipality	Local Municipality	Water Management Area (WMA)	Catchment	Incremental Yield (million m ³ /a)	Procurement	Project Cost (R million)		Start Date	End Date	Coordinates		
									Fiscus	Off-budget			Latitude (South)	Longitude (East)	
									TOTAL (all)	R 73 581	R 57 000				
Surface Water									R 73 012	R 52 600					
Lesotho Highlands Water Project - Phase 2	The construction of the Polihali Dam, a tunnel and associated works to augment the Vaal River System, which supplies water to Gauteng and surrounding areas.	N/A	Cape Town (City of) Metropolitan Municipality	N/A	Orange	Senqu River Catchment (Lesotho)	470	Design	N/A	23 000	2020	2030			
Western Cape Water Supply System Augmentation Project	Voelvlei Dam Supplement Scheme, including abstraction and bulk water conveyance infrastructure to augment the water supply to the City of Cape Town and the surrounding areas.	Western Cape	Cape Town (City of) Metropolitan Municipality		Berg_Olifants	Voelvlei River Catchment	20	Financing	400			2024	33°20'14.56"	19°02'1.25"	
Western Cape Water Supply System Desalination Plant and/or Water Re-use	Large Scale Desalination Plant and/or Water Re-use Plant that will require government assistance with funding.	Western Cape			Berg_Olifants		49	Concept and Viability		4 800		2025	33°55'32.41"	18°25'25.57"	
uMkhomazi Water Project: Phase 1 Raw Water	The construction of the Smithfield Dam, a balancing dam, tunnel and pipeline to augment the Mgeni Water Supply System (WSS) that supplies eThekweni, uMgungundlovu and the surrounding areas. The Mgeni WSS is already in deficit.	KwaZulu Natal		Ingwe Local Municipality (KZ5a1)	Pongola_Mzimkulu	uMkhomazi River Catchment	215	Concept and Viability		23 800	2023	2028	29°46'33.36"	29°56'26.62"	
Acid Mine Drainage (AMD) - Phase 2 Western Basin	The implementation of the long-term solution in the Witwatersrand Gold Fields Areas. The construction of water treatment plants, pipelines, and waste disposal facilities to address the AMD associated with the Eastern, Central and Western Basins, by desalination of the AMD to industrial and/or potable	Gauteng	Ekurhuleni Metropolitan Municipality	Randfontein Local Municipality (GT412)	Vaal	Middle Vaal River Catchment	220	Financing	10 000			2019	2 021	26°08'03.06"	27°42'58.37"
Acid Mine Drainage (AMD) - Phase 2 Central Basin			Ekurhuleni Metropolitan Municipality											26°13'01.71"	28°10'57.49"
Acid Mine Drainage (AMD) - Phase 2 Eastern Basin			uThungulu District Municipality											26°14'59.47"	28°29'17.64"
Thukela - Goedertrouw Emergency Water Transfer Scheme	Emergency scheme to transfer water from the Tugela River to the Goedertrouw Dam.	KwaZulu Natal	eThekweni Metropolitan Municipality	Umlazi Local Municipality (KZ284)	Pongola_Mzimkulu	Mhlatuze River Catchment	26	Design	420		2018	2021	28°46'29.86"	31°27'55.67"	
Lower uMkhomazi Bulk Water Supply Scheme or South Coast Desalination at Illovo	Construction of the Ngwadini Off-channel Storage Dam and bulk water conveyance infrastructure, or the construction of the Illovo Desalination Plant, for augmentation of supply to the South Coast Water Supply Scheme.	KwaZulu Natal	Ugu District Municipality		Pongola_Mzimkulu	uMkhomazi River Catchment	36	Concept and Viability	3 600		2019	2023	30°06'06.89"	30°49'30.08"	

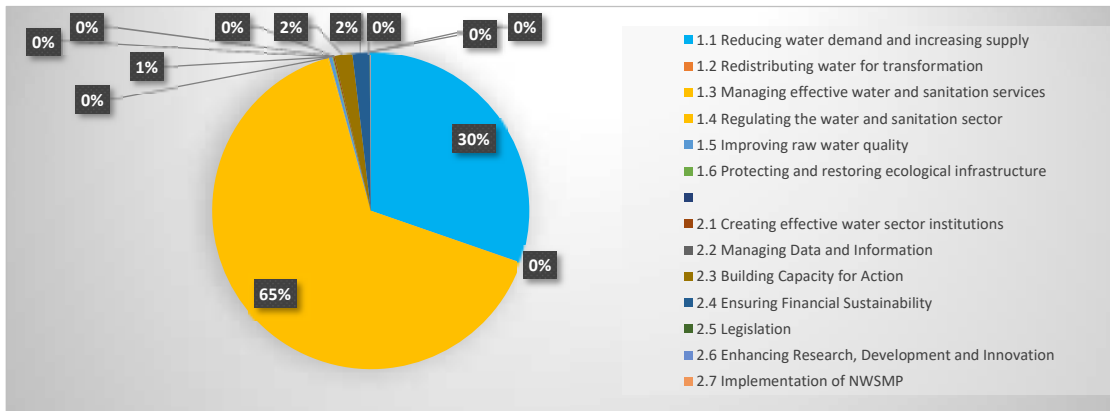
Mzimvubu Water Project	Construction of the Ntabelanga Dam and the Lalini Dam on the Itsitsa River, a water treatment plant and bulk water conveyance infrastructure for multi-purpose development of, inter alia, irrigation, hydropower stations and possible inter basin transfers for domestic and industrial use.	Eastern Cape	OR Tambo District Municipality	Mhlotlo Local Municipality (EC156)	Mzimvubu_Tsitsikama	Mzimvubu River Catchment	60	Financing	20 000			2019 (too early)	31°07'01.40"	28°40'20.45"
Algoa Water Supply System - Re-use	Large-scale Water Re-use Plant that will require government funding assistance.	Eastern Cape	Sarah Baartman District Municipality		Mzimvubu_Tsitsikama		18	Design	800			2025	33°56'27.88"	25°33'57.51"
Kouga River Development	Raising of the Kouga Dam or a new dam on the Kouga River at Guernakop.	Eastern Cape	Sarah Baartman District Municipality	Kouga Local Municipality (EC108)	Mzimvubu_Tsitsikama	Kouga River Catchment		Pre-Feasibility	To be determined		To be determined	To be determined	33°41'48.95"	24°30'4.38"
Lusikisiki Regional Water Supply Scheme	Construction of the Zalu Dam on the Xura River, a water treatment plant, bulk water conveyance infrastructure, reservoirs and groundwater development to secure water supply for domestic and small-scale irrigation in Lusikisiki and surrounding areas.	Eastern Cape	OR Tambo District Municipality	Ngqushwa Local Municipality (EC126)	Mzimvubu_Tsitsikama	Msikaba River Catchment	7	Financing	2 100			2022	31°22'6.06"	29°34'7.54"
Orange-Fish-Sundays River Government Water Scheme	Construction of a balancing dam and pipeline to, with the aim to provide additional storage for Nelson Mandela Bay Municipality's water allocation from the Orange River.	Eastern Cape	Sarah Baartman District Municipality		Mzimvubu_Tsitsikama			Feasibility	To be determined		To be determined	To be determined	33°56'27.88"	25°33'57.51"
Koonap River Development	The construction of the Foxwood Dam, a water treatment works and bulk water conveyance infrastructure to secure water supply for domestic use and small-scale irrigation in Adelaide and surrounding areas.	Eastern Cape	Amatole District Municipality	Nxuba Local Municipality (EC128)	Mzimvubu_Tsitsikama	Koonap River Catchment	17	Financing	3 100			2024	32°42'25.72"	26°17'42.86"
Clanwilliam Dam Raising and Weir	Raising of the Clanwilliam Dam and the construction of a weir, extension of the bulk water conveyance infrastructure to augment agricultural and domestic water supplies to meet increasing demands.	Western Cape	Cape Winelands District Municipality	Cederberg Local Municipality (WC012)	Berg_Olifants	Olifants River Catchment (Western Cape)		Concept and Viability	1 800			2023	32°11'4.84"	18°52'28.43"
Greater Brandvlei Scheme Upgrading - Phase 1	Increase the yield of the scheme with 33 million m ³ /a through a small incremental raising of the freeboard (height of canal to prevent overtopping) of the gravity-fed canal.	Western Cape	Cape Winelands District Municipality	Breedee Valley Local Municipality (WC025)	Berg_Olifants	Breedee River Catchment		Identification	7,2		To be determined	To be determined	33°45'53.76"	19°28'20.24"
Greater Brandvlei Scheme Upgrading - Phase 2	Increase the yield of the scheme with a further 51 million m ³ /a through increasing the pump station capacity from 7 to 30 m ³ /s.	Western Cape	Cape Winelands District Municipality	Breedee Valley Local Municipality (WC025)	Berg_Olifants	Breedee River Catchment		Identification	To be determined		To be determined	To be determined	33°45'53.76"	19°28'20.24"

Mvoti Water Project	Dam developments on the Mvoti River, bulk water conveyance infrastructure and groundwater development to secure water supply for the domestic and industrial users in the Greytown and KwaDukuza (Stanger) Areas, increased water availability in the Mvoti River Catchment and for supply to the KZN North Coast Areas.	KwaZulu Natal	Ugu District Municipality	Maphumulo Local Municipality (KZ294)	Pongola_Mzimkulu	Mvoti River Catchment	To be reviewed	Definition	To be determined	To be determined	To be determined	To be determined	29°15'0.00"	31°00'30.00"
Mzimkulu River: Ncwabeni Off-channel Storage Dam	Construction of a Off-channel Storage Dam, weir, pump station and pipeline to ensure a reliable water supply to the Northern Part of the Lower KZN South Coast during dry periods.	KwaZulu Natal	Ugu District Municipality	Umzumbe Local Municipality (KZ213)	Pongola_Mzimkulu	uMzimkhulu River Catchment	12	Concept and Viability	1 000		2020	2028	30°36'27.60"	30°14'21.64"
Mfolozi River: Regional Water Supply Scheme	Raising of the Klipfontein Dam and the construction of two new off-channel storage dams, and/or water transfer from the Thugela River, Phase 3, to meet the medium and long-term water requirements of the Mfolozi River Catchment as well as for Ulundi, Mtubatuba and Richards Bay.	KwaZulu Natal	Amajuba District Municipality	Abaqulusi Local Municipality	Pongola_Mzimkulu	White Mfolozi River Catchment	To be determined	Definition	To be determined	To be determined	To be determined	To be determined	27°50'15.14"	30°48'50.34"
Buffalo River System Water Resource Development Project	The construction of dams, off-channel storage dams, bulk water conveyance infrastructure and groundwater development to meet the medium and long-term water requirements of the Newcastle, Durnaco, Utrecht, Dundee/Glencoe, Nqutu, Nondweni, Pomeroy and Sampofu Water Supply Schemes.	KwaZulu Natal	Amajuba District Municipality	Newcastle Local Municipality (KZ252)	Pongola_Mzimkulu	Buffalo River Catchment	To be determined	Identification	To be determined	To be determined	To be determined	To be determined	27°44'39.83"	29°56'13.25"
LTBWSS – Phase 2	Doubling the capacity of Phase 1 of the LTBWSS to further augment water supply to Umgeni Water for treatment to the KZN North Coast (Mdloti to Thukela Areas).	KwaZulu Natal	iLembe District Municipality	KwaDukuza Local Municipality (KZ292)	Pongola_Mzimkulu	Tugela River Catchment	20	Design	To be determined		To be determined	2021	29°10'05.81"	31°22'36.73"
KwaZulu Natal North Coast Water Re-use Scheme	Upgrading of the North Coast Waste Water Treatment Plants and planning for direct re-use of treated waste water.	KwaZulu Natal	iLembe District Municipality		Pongola_Mzimkulu	Mdloti River Catchment		Design	To be determined		To be determined	From 2017 to 2020		
The Stephen Dlamini Dam	Construction of a dam on the Luhane River for supply to the Harry Gwala District Municipality Regional Bulk Water Supply Scheme.	KwaZulu Natal	Harry Gwala District Municipality	Ingwe Local Municipality (KZ5a1)	Pongola_Mzimkulu	Luhane River Catchment	3	Financing	510		2019	2024	29°50'22.39"	29°44'20.50"
Crocodile East Water Project	Construction of a dam and bulk water conveyance infrastructure to meet the long-term water requirements of the Crocodile East River catchment, including Mbombela (Nelspruit) and surrounding areas.	Mpumalanga	Ehlanzeni District Municipality	Mbombela Local Municipality (MP322)	Inkomathi_Usuthu	Crocodile River East Catchment	To be determined	Definition	To be determined	To be determined	To be determined	2027	25°36'45.00"	31°16'15.00"

Lower Orange River - Vioolsdrift Dam	The construction a dam on the Orange River, which is jointly undertaken with Namibia, to increase the yield of the Orange River to cater for increasing demand in the area.	Northern Cape	Namakwa District Municipality	Nama Khoi Local Municipality (NC062)	Orange	Lower Orange River Catchment	80	Feasibility	650	1000	2021	2024	28°45'28.59"	17°36'47.11"
Greater Mangaung Water Augmentation Project.	The construction of the Gariep Pipeline, abstraction works and pump stations to augment supply to Bloem Water Board's Supply Area.	Free State	Mangaung	Pixley Ka Seme Local Municipality (MP304)	Orange	Middle Orange River Catchment	To be determined	Pre-Feasibility and Feasibility	5200	Unknown	To be determined	To be determined	30°37'24.18"	25°30'24.36"
ORWRDP - Phases 2B to 2H	Bulk Distribution and Sub Phase 2C. Under Phase 2B a pipeline from Flag Boshielo Dam to Mokopane, (Phase 2C) will be constructed. The pipeline from the De Hoop Dam to Steelpoort will link Phase 2D and a second pipeline from Steelpoort to Mooihoek, (Phases 2E to 2H) are under consideration. Balancing dams, operational infrastructure and appurtenant works will also be constructed.	Limpopo	Mopani District Municipality	Groblerdsdal (Greater) Local Municipality (NP03a5)	Olifants	Olifants River Catchment		Construction	2 800			2017	24°46'50.06"	29°25'32.66"
Groot Letaba Water Augmentation Project (GLEWAP) - Phase1	The Tzaneen Dam Raising and the construction of a water treatment plant, pipelines and reservoirs to meet the projected growing domestic water supply requirements to the year 2025 and to improve the water availability for the riverine ecosystem.	Limpopo	Mopani District Municipality	Tzaneen (Greater) Local Municipality (NP333)	Olifants	Groot Letaba River Catchment		Construction	125			2019	23°47'57.34"	30°9'58.43"
GLEWAP - Phase 2.	The construction of the Nwamitwa Dam in the Groot Letaba River, a water treatment plant, pipelines and reservoirs to meet the projected growing domestic water requirements to the year 2025, to improve the water availability for the riverine ecosystem and to make provision for new resource poor farmers.	Limpopo	Mopani District Municipality	Tzaneen (Greater) Local Municipality (NP333)	Olifants	Groot Letaba River Catchment		Procurement	1 700			2022	23°45'14.68"	30°29'28.89"
Mokolo/Crocodile West Water Augmentation Project - Phase 1	The construction of a pump station, pipelines and balancing dams to augment domestic and industrial water supplies to the new Eskom/IPP power station/s, extension of associated mining activities and fast-growing population in the Lephalele Area.	Limpopo	Waterberg District Municipality	Lephalele Local Municipality (NP362)	Limpopo	Crocodile River West Catchment		Construction	2 100			2023	24°36'02.76"	27°15'57.40"
Mokolo/Crocodile West Water Augmentation Project - Phase 2	The construction of bulk water conveyance infrastructure to augment domestic and industrial water supplies to the new Eskom/IPP power station/s, extension of associated mining activities and fast growing population in the Lephalele Area and river management system.	Limpopo	Waterberg District Municipality	Lephalele Local Municipality (NP362)	Limpopo	Crocodile River West Catchment		Feasibility	13 900			2019	24°36'02.76"	27°15'57.40"

Dam Safety Rehabilitation Programme	The rehabilitation of water related assets and dam safety work – continuous projects.				Various		Construction	2 800			Ongoing		
Desalination								R	- R	4 400			
Mhlatuze desalination plant Phase 1		Kwazulu-Natal	King Cetswayo District	Mhlatuze Local Municipality							2017	Feb 17	
Mhlatuze desalination plant Phase 2		Kwazulu-Natal	King Cetswayo District Municipality	Mhlatuze Local Municipality		4.4 (12 Mℓ/d)					2038		
Tongaat/Ilovo		Kwazulu-Natal	iLembe District Municipality	KwaDukuza Local Municipality		55 (150 Mℓ/d)		4200			2022		
Mossel Bay Desal Plant		Western Cape	Eden District Municipality	Mossel Bay Local Municipality		5.5 (15 Mℓ/d)		200			2011		
Sedgefield Desal Plant		Western Cape	Eden District Municipality	George Local Municipality		0.7 (2 Mℓ/d)					2011		
Knysna Desal Plant		Western Cape	Eden District Municipality	Knysna Local Municipality		0.7 (2 Mℓ/d)					2012		
Plettenberg Bay Desal Plant		Western Cape	Eden District Municipality	Bitou Local Municipality		0.7 (2 Mℓ/d)					2012		
Lamberts bay Desal Plant		Western Cape	West Coast District Municipality	Cederberg Local Municipality		4.3 (Ph 1: 1.7 Mℓ/d)					2016		
Southern Namaqualand GWS (Desal Plant)		Northern Cape	Namakwa District Municipality			1.8 (Final 5 Mℓ/d)					1983		
Bushman's River Mouth Desal Plant		Western Cape	Eden District Municipality	Knysna Local Municipality		0,292							
Port Alfred		Eastern Cape	Sarah Baartman District Municipality	Ndlambe Local Municipality		0,66							
Desal Plant						0.7 (2 Mℓ/d)							
Re-use								R	569 R	-			
Beaufort West	Western Cape	Western Cape				1.8 (5 Mℓ/d)							
Garden route dam	Eastern Cape	Eastern Cape				1.8 (5 Mℓ/d)							
Fishwater Flats Re-use	Eastern Cape	Eastern Cape	Cape Town (City of) Metropolitan Municipality			10							
City of Cape Town	Western Cape	Western Cape	uThungulu District Municipality			10							
Arboretum Effluent	KwaZulu Natal	KwaZulu Natal	iLembe District Municipality			10,95		569			2036		
Siza Water	KwaZulu Natal	KwaZulu Natal	iLembe District Municipality			0.18 (500 kℓ/d)					2015		
End of record													

	2018-2020	2021-2025	2026-2030	Present Value Cost (VAT excl.) (MP horizon)		
				%	R million (2018)	
1. Water and Sanitation Management	145 815	336 461	66 360			548 637
1.1 Reducing water demand and increasing supply	19 795	92 486	60 760	30,33%	173 041	32%
1.2 Redistributing water for transformation	22	13	10	0,01%	45	0,0%
1.3 Managing effective water and sanitation services	125 013	242 891	4 436	65,27%	372 340	68%
1.4 Regulating the water and sanitation sector	443	231	145	0,14%	819	0,1%
1.5 Improving raw water quality	341	705	901	0,34%	1 947	0,4%
1.6 Protecting and restoring ecological infrastructure	201	135	108	0,08%	444	0,1%
2. Enabling Environment	13 113	8 357	398			21 868
2.1 Creating effective water sector institutions	826	3	-	0,15%	828	4%
2.2 Managing Data and Information	24	24	22	0,01%	70	0,3%
2.3 Building Capacity for Action	10 091	90	108	1,80%	10 289	47%
2.4 Ensuring Financial Sustainability	2 008	8 004	-	1,75%	10 012	46%
2.5 Legislation	26	29	-	0,01%	55	0,3%
2.6 Enhancing Research, Development and Innovation	68	173	233	0,08%	473	2%
2.7 Implementation of NWSMP	71	35	35	0,02%	141	1%
TOTAL	158 928	344 818	66 758			570 504



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Budget (2018/19 to 2020/21)

MTSF

Available budget/funds

	MTEF			
	2018/19 (R million)	2019/20 (R million)	2020/21 (R million)	3 year total (R million)
Budget Vote 36				
Programme 1 Administration	R 1 715	R 1 808	R 1 922	R 5 445
Programme 2 Water Planning and Information Management	R 862	R 965	R 1 030	R 2 857
Programme 3 Water Infrastructure Development	R 12 496	R 13 233	R 13 959	R 39 687
Programme 4 Water Sector Regulation	R 499	R 461	R 499	R 1 459
DWS Total	R 15 572	R 16 467	R 17 409	R 49 447
DORA infrastructure transfers related to water				
Direct transfers				
<i>Municipal infrastructure grant</i>	<i>R 15 288</i>	<i>R 15 734</i>	<i>R 16 599</i>	<i>R 47 621</i>
Water component of MIG (50%)	R 7 644	R 7 867	R 8 300	R 23 811
Water Services Infrastructure	R 3 481	R 3 669	R 3 871	R 11 021
Regional bulk infrastructure	R 1 957	R 2 066	R 2 180	R 6 203
Indirect transfers				R 0
Regional bulk infrastructure	R 2 881	R 3 037	R 3 204	R 9 122
Water Services Infrastructure	R 608	R 642	R 678	R 1 928
				R 0
Municipal revenue	R 72 000	R 76 320	R 80 899	R 229 219
Equitable share	R 62 731	R 68 973	R 75 683	R 207 387
Equitable share for water and sanitation (10%)	R 6 273	R 6 897	R 7 568	R 20 739

DRIVERS: SETTING THE TARGETS

No	Sub-Section	Description	Reference (page where found)	Target definition and initial target date
A	Sustainable Development Goals (SDGs) (United Nations, 2015)			
A.1	SDG 6.1	Equitable access to safe and affordable drinking water		2030
A.2	SDG 6.2	Equitable access to adequate sanitation		2030
A.3	SDG 6.3	Improve WQ and reduce pollution		2030
A.4	SDG 6.4	Increase water use efficiency		2030
A.5	SDG 6.5	Implement integrated water resource management		2030
A.6	SDG 6.6	Protect and restore water eco systems		2030
A.7	SDG 6.a	Expand international cooperation and capacity-building support		2030
A.8	SDG 6.b	Stakeholder participation to improve water and sanitation management		2030
B	National Development Plan, Vision 2030 (National Planning Commission, 2012)			
B.1	Enabling milestones	Ensure access to clean running water in all homes	Enabling milestones	
B.2	Critical actions	Finance through tariffs, taxes and loans	Critical actions	
B.3	Critical actions	Ensure environmental sustainability and resilience	Critical actions	
B.4	Critical actions	New spatial norms and standards	Critical actions	
B.5	Economic Infra: Obj.	Ensure access to clean, potable water and enough water for agriculture and industry, recognising trade-offs in use of water	Economic Infrastructure: Objectives	
B.6	Economic Infra: Obj.	Reduce water demand in urban areas to 15% below business as usual scenario	Economic Infrastructure: Objectives	15% below current by 2030
B.7	Economic Infra.: Act.	Comprehensive management strategy including Investment programme for water resource development, bulk water supply and wastewater management	Economic Infrastructure: Actions	For Major centres, by 2012 Review every 5 years
B.8	Economic Infra.: Act.	Timely development of several new water schemes to supply urban and industrial centres and National water conservation programme to improve water use and efficiency	Economic Infrastructure: Actions	
B.9	Economic Infra.: Act.	Create regional water and wastewater utilities and expand mandates of existing water boards	Economic Infrastructure: Actions	Between 2012 and 2017
B.10	Water resources/ services	Reliable water supply to meet their needs, while increasingly efficient agricultural water use will support productive rural communities	Water resources and services	All main urban and industrial centres by 2030
B.11	Water resources/ services	Local governments will retain responsibility for ensuring service provision in their areas and, in many cases, will continue to manage the services directly.	Water resources and services	Before 2030
B.12	Managing water resources	Managing, monitoring and protecting South Africa's water resources in a sustainable way while allowing for economic growth: Effective administration, regular review, prioritisation	Managing water resources	
C	Medium Term Strategic Framework 2014 -2019 (MTSF) (NPC, 2014)			
	Outcome 6	An efficient, competitive and responsive economic infrastructure network		
		Sub-Outcomes (SO),		
		Strategic Infrastructure Project (SIP)		
	SO 1	Regulation, funding and investment improved		
C.1	Action 3	Consider establishing an economic regulator for water, independent from the department	Sub-outcome 1 pg. 12	Memorandum to Cabinet: By July 2014
	SO 4	Maintenance and supply availability of our bulk water resources ensured		
C.2	SIP 3	South Eastern node & corridor development: Mzimvubu project	Sub-outcome 4 pg. 25	Construction commencement by 2014
C.3	SIP 5	Saldanha- Northern Cape development corridor: Vaal-Gamagara Bulk water supply scheme	Sub-outcome 4 pg. 25	Phase 1 commencement in 2014
C.4	SIP 5	Saldanha- Northern Cape development corridor: Clanwilliam dam project	Sub-outcome 4 pg. 25	Construction complete by 2019
C.5	SIP 7	Integrated Urban Space : Mooi Mgeni Transfer Scheme	Sub-outcome 4 pg. 25	Complete by March 2016
C.6	SIP 7	Integrated Urban Space : Acid mine drainage	Sub-outcome 4 pg. 25	Complete short term by June 2015
C.7	SIP 17	Regional integration for African cooperation: Lesotho Highlands Phase 2: On-budget and scheduled delivery	Sub-outcome 4 pg. 28	100%
C.8	SIP 18	Water and Sanitation Infrastructure Master Plan: SIP projects implemented	Sub-outcome 4 pg. 26	90%
C.9	SIP 18	Water and Sanitation Infrastructure Master Plan: Establish National water resources infrastructure agency	Sub-outcome 4 pg. 26	Dec 16
C.10	SIP 18	Water and Sanitation Infrastructure Master Plan: Develop comprehensive investment programme	Sub-outcome 4 pg. 26	Plan implementation 100%
C.11	SIP 18	Water and Sanitation Infrastructure Master Plan: Finalise future institutional arrangements: Submit Institutional Review to Cabinet	Sub-outcome 4 pg. 27	100% institutions established by 2017
C.12	SIP 18	Water and Sanitation Infrastructure Master Plan: Establish regional water and waste water utilities	Sub-outcome 4 pg. 27	100% of Municipalities by 2019
C.13	SIP 18	Water and Sanitation Infrastructure Master Plan: Review existing water allocations	Sub-outcome 4 pg. 27	100% implementation, review by Dec 2014
C.14	SIP 18	Water and Sanitation Infrastructure Master Plan: Review water and sanitation norms and standards and financial provisions	Sub-outcome 4 pg. 27	100% implementation, review by Oct 2014
C.15	SIP 18	Water and Sanitation Infrastructure Master Plan: Additional water supply to Lephalale area	Sub-outcome 4 pg. 27	100% completion, Mar 2015
C.16	SIP 18	Water and Sanitation Infrastructure Master Plan: Investigate and implement water re-use and desalination: Memorandum on research findings to Cabinet	Sub-outcome 4 pg. 28	June 2015
C.17	SIP 18	Water and Sanitation Infrastructure Master Plan: Establish a dedicated national programme to reduce water demand and improve water-use efficiency in Agricultural sector	Sub-outcome 4 pg. 28	Approval by June 2015
	Outcome 7	Vibrant, equitable, sustainable rural communities contributing towards food security for all		
C.18	SO 1	Develop and implement spatial development plans: National Rural Spatial development plan approved	Sub-outcome 1 pg. 3	75% of municipalities, by Mar 2016
C.19	SO 3	Develop under-utilised land in communal areas	Sub-outcome 3 pg. 6	1 million ha, by Mar 2019
C.20	SO 4	Expand land under irrigation	Sub-outcome 4 pg. 7	Additional 1250 ha , by Mar 2019

C.21	SO 4	Support to smallholder producers to ensure production efficiencies	Sub-outcome 4 pg. 8	Additional 80 000 smallholder producers, by Mar 2019
C.22	SO 5	Eradicate infrastructure backlog in rural schools	Sub-outcome 5 pg. 8	100% of rural schools, Mar 2019
C.23	SO 5	Provide access to sanitation services in rural areas	Sub-outcome 5 pg. 9	90% of Households, Mar 2019
C.24	SO 5	Bucket system eradicated in rural areas	Sub-outcome 5 pg. 10	Zero bucket system, Mar 2019
	Outcome 9	Revised Chapter 9: Responsive, accountable, effective and efficient developmental local government system		
C.25		Members of society have sustainable and reliable access to basic services : Water	Revised Chapter 9 MTSF	90%, 5,2 million additional HH by 2019
C.26		Members of society have sustainable and reliable access to basic services : Sanitation	Revised Chapter 9 MTSF	90%, 2,5 million additional HH, by 2019
C.27		Members of society have sustainable and reliable access to basic services : Bucket sanitation in formal areas	Revised Chapter 9 MTSF	0% by 2019
	Outcome 10	Protect and enhance our environmental assets and natural resources		
C.28	SO 1	Implement strategies for water conservation and demand management: Reduction of projected demand for 8 large water supply systems	Sub-outcome 1 pg. 5	20% by 2019
C.29	SO 1	Water resource protection: Water use license applications processed	Sub-outcome 1 pg. 5	80% annually
C.30	SO 1	Number of water resources classified	Sub-outcome 1 pg. 5	10
C.31	SO 1	Number of sites with river health programme implemented	Sub-outcome 1 pg. 5	550 sites
C.32	SO 1	Maintain or improve watershed services: Number of significant, integrated water related ecological infrastructure maintenance or improvement interventions	Sub-outcome 1 pg. 5	20 Integrated interventions, Mar 2019
C.33	SO 1	Implement environmental regulations: Number of environmentally significant areas identified and published for restriction for mining activities	Sub-outcome 1 pg. 7	1 by 2016
C.34	SO 1	Implement environmental regulations: Number of catchments identified for Acid mine drainage	Sub-outcome 1 pg. 7	6
C.35	SO 1	Implement environmental regulations: Number of mines monitored for non-compliance in accordance with water license conditions	Sub-outcome 1 pg. 7	450
C.36	SO 2	Development and implementation of sector adaptation strategies/plans: Number of sector adaptation strategies/plans completed	Sub-outcome 2 pg. 10	5 Sectors by 2019
C.37	SO 2	Research in Climate services	Sub-outcome 2 pg. 10	2 reports by 2019
C.38	SO 4	Enhance compliance monitoring and enforcement capacity within the sector: Compliance inspections/criminal investigations/enforcement notices	Sub-outcome 4 pg. 14	14 750/1605/3150 by 2019

Menu

Useful information

Water loss (DWS No Drop Report) (2018)

Province	Population	System Input Volume (SIV) (m ³ /annum)	NRW (m ³ /annum)	% Non-Revenue Water	% Water Losses (WL)	l/c/d	Infrastructure Leakage Index (ILI)
EC	4 477 918	332 151 376	158 647 165	47,8%	45,0%	200	4,8
FS	2 723 028	207 835 805	106 908 574	51,4%	46,6%	209	4,8
GT	12 978 281	1 473 100 700	528 839 540	35,9%	27,4%	305	5,8
KZN	8 491 508	697 751 184	327 444 107	46,9%	43,0%	225	6,2
LIM	4 225 967	281 235 907	155 016 679	55,1%	55,1%	182	5
MP	3 622 506	270 990 713	129 852 490	47,9%	43,9%	205	4,3
NC	1 085 944	94 205 305	45 418 308	48,2%	45,5%	238	7,1
NW	3 039 995	206 496 825	105 577 898	51,1%	51,1%	186	4,7
WC	6 108 993	482 695 411	102 720 237	21,3%	16,7%	201	2,4
National	46 754 140	4 046 463 225	1 659 588 711	41,0%	35,9%	233	5,3

Green Drop Certification Summaries

Province	Number of WSA's (2003)	Number of WSAs with Certified Systems (2016)	Number of Works (2016)	Number of Certified Works	No of 27 Priority DMs (2012)	No of DMs
Eastern Cape	14	1	196	1	5	8
Free State	19	1	120	1	1	5
Gauteng	9	2	103	7	1	5
KwaZulu-Natal	14	5	298	19	10	11
Limpopo	10	1	144	1	5	5
Mpumalanga	17	2	184	3	1	3
North West	10	0	92	0	3	4
Northern Cape	26	1	146	1	1	5
Western Cape	25	8	207	26	0	6
Totals:	144	21	1490	59	27	

National Standards for Drinking Water quality

● Microbiological Compliance [%]	95.5 %
● Chemical Compliance [%]	98.1 %
● Physical Compliance [%]	98,0%
● Operational Compliance [%]	87.2 %
● Compliance Comparison	94.7 %

Municipal Water Services Projects - Total Perspective (March 2018)

Province	Project Main Category	Total no of Water Project	Total Project Cost	Total 3 year MTEF	3 year Total Fund Allocation
Eastern Cape	Water	1006	R48 161 8 41 050	581	R17 895 7 47 114
Free State	Water	458	R14 281 2 38 925	291	R3 772 4 62 107
Gauteng	Water	372	R9 151 3 76 634	176	R4 800 5 15 376
KwaZulu-Natal	Water	626	R61 014 3 26 371	444	R21 934 6 96 388
Limpopo	Water	1495	R67 934 1 03 166	820	R21 667 0 35 378
Mpumalanga	Water	776	R17 541 3 02 276	407	R7 619 3 97 804
North West	Water	401	R14 647 2 34 233	236	R5 287 3 90 182
Northern Cape	Water	679	R22 991 3 67 805	288	R5 640 6 62 104
Western Cape	Water	880	R17 037 1 26 279	241	R2 054 8 52 231
TOTAL			R272 759 9 16 738		R90 672 7 58 684
Province	Project Main Category	Total No of Sanitation projects	Total Project Cost	Total 3 year MTEF	3 year Total Fund Allocation
Eastern Cape	Sanitation	549	R18 432 0 71 778	282	R8 809 4 62 276
Free State	Sanitation	438	R8 606 6 36 876	347	R5 535 9 69 913
Gauteng	Sanitation	330	R21 188 0 91 434	143	R6 196 9 22 812
KwaZulu-Natal	Sanitation	81	R3 600 9 05 963	63	R1 346 5 01 793
Limpopo	Sanitation	171	R9 439 6 00 184	104	R3 529 2 82 324
Mpumalanga	Sanitation	203	R3 268 1 27 911	68	R661 9 03 539
North West	Sanitation	143	R3 460 7 32 675	77	R1 795 1 82 669
Northern Cape	Sanitation	274	R9 556 1 67 959	86	R1 293 2 23 284
Western Cape	Sanitation	779	R9 872 7 49 926	230	R3 000 8 41 697
TOTAL			R87 425 0 84 705		R32 169 2 90 308

Province	District Municipality	Local Municipality	Water Services Authority	WMAs	Responsible Institutions	27 Priority DMs
Western Cape	Ehlanzeni	City of Mbombela Local Municipality	Western Cape	Bitou Local Municipality		
Mpumalanga	Ehlanzeni	Nkomazi Local Municipality	Western Cape	George Local Municipality		
Mpumalanga	Ehlanzeni	Thaba Chweu Local Municipality	Western Cape	Hessequa Local Municipality		
Mpumalanga	Gert Sibande	Chief Albert Luthuli Local Municipality	Western Cape	Kannaland Local Municipality		
Mpumalanga	Gert Sibande	Dipaleseng Local Municipality	Western Cape	Krysta Local Municipality		
Mpumalanga	Gert Sibande	Dr Pixley Ka Isaka Seme Local Municipality	Western Cape	Mossel Bay Local Municipality		
Mpumalanga	Gert Sibande	Govan Mbeki Local Municipality	Western Cape	Oudtshoorn Local Municipality		
Mpumalanga	Gert Sibande	Lekwa Local Municipality	Western Cape	Cape Agulhas Local Municipality		
Mpumalanga	Gert Sibande	Mkhondo Local Municipality	Western Cape	Overstrand Local Municipality		
Mpumalanga	Gert Sibande	Msukaliqwa Local Municipality	Western Cape	Swellendam Local Municipality		
Mpumalanga	Nkangala	Dr JS Moroka Local Municipality	Western Cape	Theewaterskloof Local Municipality		
Mpumalanga	Nkangala	Emakhazeni Local Municipality	Western Cape	Bergervier Local Municipality		
Mpumalanga	Nkangala	Emalaheni Local Municipality	Western Cape	Cederberg Local Municipality		
Mpumalanga	Nkangala	Steve Tshwete Local Municipality	Western Cape	Matzikama Local Municipality		
Mpumalanga	Nkangala	Thembisile Hani Local Municipality	Western Cape	Saldanha Bay Local Municipality		
Mpumalanga	Nkangala	Victor Khanye Local Municipality	Western Cape	Swartland Local Municipality		
North West	Bojanala	Kgetlengrivier Local Municipality				
North West	Bojanala	Local Municipality of Madibeng				
North West	Bojanala	Moretele Local Municipality				
North West	Bojanala	Moses Kotane Local Municipality				
North West	Bojanala	Rustenburg Local Municipality				
North West	Dr Kenneth Kaunda	City of Matlosana Local Municipality				
North West	Dr Kenneth Kaunda	Maquassi Hills Local Municipality				
North West	Dr Kenneth Kaunda	Tlokwe/Ventersdorp Local Municipality				
North West	Dr Ruth Segomotsi Mompati	Greater Taung Local Municipality				
North West	Dr Ruth Segomotsi Mompati	Kagisano/Molopo Local Municipality				
North West	Dr Ruth Segomotsi Mompati	Lekwa-Teemane Local Municipality				
North West	Dr Ruth Segomotsi Mompati	Mamusu Local Municipality				
North West	Dr Ruth Segomotsi Mompati	Naledi Local Municipality				
North West	Ngaka Modiri Molema	Ditsobotla Local Municipality				
North West	Ngaka Modiri Molema	Mahikeng Local Municipality				
North West	Ngaka Modiri Molema	Ramotshere Molloa Local Municipality				
North West	Ngaka Modiri Molema	Ratou Local Municipality				
North West	Ngaka Modiri Molema	Tswaing Local Municipality				
Northern Cape	Frances Baard	Dikgatlong Local Municipality				
Northern Cape	Frances Baard	Magareng Local Municipality				
Northern Cape	Frances Baard	Phokwane Local Municipality				
Northern Cape	Frances Baard	Sol Plaatjie Local Municipality				
Northern Cape	John Taolo Gaetsewe	Gamagara Local Municipality				
Northern Cape	John Taolo Gaetsewe	Ga-Segonyana Local Municipality				
Northern Cape	John Taolo Gaetsewe	Joe Morolong Local Municipality				
Northern Cape	Namakwa	Hantam Local Municipality				
Northern Cape	Namakwa	Kariesberg Local Municipality				
Northern Cape	Namakwa	Karoo Hoogland Local Municipality				
Northern Cape	Namakwa	Khâi-Ma Local Municipality				
Northern Cape	Namakwa	Nama Khoi Local Municipality				
Northern Cape	Namakwa	Richtersveld Local Municipality				
Northern Cape	Pixley ka Seme	Emthanjeni Local Municipality				
Northern Cape	Pixley ka Seme	Kareeberg Local Municipality				
Northern Cape	Pixley ka Seme	Renosterberg Local Municipality				
Northern Cape	Pixley ka Seme	Siyancuma Local Municipality				
Northern Cape	Pixley ka Seme	Siyathemba Local Municipality				
Northern Cape	Pixley ka Seme	Thembelihle Local Municipality				
Northern Cape	Pixley ka Seme	Ubuntu Local Municipality				
Northern Cape	Pixley ka Seme	Umsobomvu Local Municipality				
Northern Cape	Z F Mgcawu	IKheis Local Municipality				
Northern Cape	Z F Mgcawu	Dawid Kruiper Local Municipality				
Northern Cape	Z F Mgcawu	Kai !Garib Local Municipality				
Northern Cape	Z F Mgcawu	Kgatelopele Local Municipality				
Northern Cape	Z F Mgcawu	Tsantsabane Local Municipality				
Western Cape	Cape Winelands	Breede Valley Local Municipality				
Western Cape	Cape Winelands	Drakenstein Local Municipality				
Western Cape	Cape Winelands	Langeberg Local Municipality				
Western Cape	Cape Winelands	Stellenbosch Local Municipality				
Western Cape	Cape Winelands	Witzenberg Local Municipality				
Western Cape	Central Karoo	Beaufort West Local Municipality				
Western Cape	Central Karoo	Laingsburg Local Municipality				
Western Cape	Central Karoo	Prince Albert Local Municipality				
Western Cape	City of Cape Town	City of Cape Town Local Municipality				
Western Cape	Eden	Bitou Local Municipality				
Western Cape	Eden	George Local Municipality				
Western Cape	Eden	Hessequa Local Municipality				
Western Cape	Eden	Kannaland Local Municipality				
Western Cape	Eden	Krysta Local Municipality				
Western Cape	Eden	Mossel Bay Local Municipality				
Western Cape	Eden	Oudtshoorn Local Municipality				
Western Cape	Overberg	Cape Agulhas Local Municipality				
Western Cape	Overberg	Overstrand Local Municipality				
Western Cape	Overberg	Swellendam Local Municipality				
Western Cape	Overberg	Theewaterskloof Local Municipality				
Western Cape	West Coast	Bergervier Local Municipality				
Western Cape	West Coast	Cederberg Local Municipality				
Western Cape	West Coast	Matzikama Local Municipality				
Western Cape	West Coast	Saldanha Bay Local Municipality				
Western Cape	West Coast	Swartland Local Municipality				

Acronym	Description
ACIP	Accelerated Community Infrastructure Program
AIP	Alien Invasive Plants
AMCOW	African Ministers' Council on Water
AMD	Acid Mine Drainage
ARC	Agricultural Research Council
b/a	billion per annum
BBBEE	Broad-Based Black Economic Empowerment
bn	Billion= 1000 000 000
BRICS	Brazil, Russia, India, China and South Africa
CARA	Central Adoption Resource Authority
CHE	Council on Higher Education
CMA	Catchment Management Agency
CME	Compliance, Monitoring and Enforcement
CMF	Catchment Management Forum
CMS	Catchment Management Strategy
COP 17	17th Conference of the Parties
CRDP	Comprehensive Rural Development Program
CRU	Central RIA Unit
CSI	Corporate Social Investment
CSIR	Council for Scientific and Industrial Research
CSO	Civil Society Organization
DAFF	Department of Agriculture, Forestry and Fisheries
DBE	Departments of Basic Education
DBSA	Development Bank of Southern Africa
DDT	Dichlorodiphenyltrichloroethane
DEA	Department of Environmental Affairs
DCoG	Department of Cooperative Governance
DHET	Department of Higher Education and Training
DM	District Municipality
DMR	Department of Mineral Resources
DOE	Department of Energy
DHS	Department of Human Settlements
DPE	Department of Public Enterprises
DPSA	Department of Public Service & Administration
DRD&LR	Department of Rural Development & Land Reform
DST	Department of Science and Technology
DTI	Department of Trade and Industry
DWA	Department of Water Affairs
DWAF	Department of Water Affairs & Forestry
DWM	Developmental Water Management
e.g.	for example
EU	European Union
ELU	Existing Lawful Use
etc.	etcetera; and so on
EWSETA	Energy and Water Sector Education and Training Authority
EXCO	Executive Committee
FAO	Food and Agriculture Organisation
FET	Further Education and Training
FETWater	Framework Programme for Research, Education and Training in Water, South Africa (UNESCO initiative)
G8	The Group of Eight (world's eight wealthiest western countries)
GA	General Authorisations
GCM	Global Circulation Models
GCIS	Government Communication Information System
GDP	Gross Domestic Product
GET	General Education and Training
GFETQSF	General and Further Education and Training Qualifications Sub-Framework
GG	Government Gazette
GGP	Gross Geographic Product
GIS	Geographical Information System
GLeWAP	Groot Letaba River Water Development Project
GN	Government Notice
GRIP	Groundwater Resource Information Project
HDI	Historically disadvantaged individuals
ha	Hectares
HE	Higher Education
HEI	Higher Education Institutes
HEQSF	Higher Education Qualifications Sub-framework
HRDS	Human Resources Development Strategy
HYDSTRA	Integrated water resources management software
IB	Irrigation board
IBSA	The India-Brazil-South Africa Dialogue Forum
IDP	Integrated Development Plan
IDZ	Industrial Development Zone
i.e.	that is
IHP	International Hydrological Programme
IPAP3	Industrial Policy Action Plan 3
IPP	Independent Power Producers
IRP	Integrated Resource Plan
IRR	Institutional Reform and Realignment
IT	Information technology
i.t.o.	in terms of
IUA	Integrated Units of Analysis
IWA	International Water Association
IWRM	Integrated Water Resource Management
IWWMP	Integrated Water and Waste Management Plan
IWTTSA	Industry Water Task Team of South Africa
JPTC	Joint Permanent Technical Committee
JSE	Johannesburg Stock Exchange
JWC	Joint Water Commission
KNP	Kruger National Park
KPI	Key performance indicator
LEDP	Local Economic Development Plan
LGSETA	Local Government Sector Education & Training Authority
LHDA	Lesotho Highlands Development Authority
LHWP	Lesotho Highlands Water Project
LRAD	Land Reform for Agricultural Development
LTAS	Long Term Adaptation Scenarios
LWC	Limpopo Watercourse Commission
m ³ /a	cubic meter per annum
mm/year	millimetres per year
mg/l	milligrams per litre
Ml/day	megalitres per day= 1 000 000 litres/day
MAR	mean annual runoff

Description	Standard unit
Elevation	m.a.s.l.
Acceleration	m/s ²
Ampere	A, kA
Area	m ² , ha or km ²
Density	kg/m ³
Diameter	mm dia., m dia.
Dimension	mm, m
Discharge	m ³ /s
Distance	m, km
Electric power	kVA, kW, MW
Energy	kJ, MJ
Force, weight	N, kN, MN
Gradient (V:H)	%
Height	m
Mass	kg, ton
Mean annual runoff	million m ³ /a
Moment, torque	Nm, kNm, MNm
Power	kW, MW
Pressure	Pa, kPa, MPa
Slope (H:V) or (V:H)	1:5 (H:V) or 5:1 (V:H)
Velocity, speed	m/s, km/hr
Volt	V, kV
Volume (storage)	m ³ , million m ³ , Ml/day
Yield	million m ³ /a

MDG	Millennium Development Goals
MFMA	Municipal Finance Management Act
MIG	Municipal Infrastructure Grant
MISA	Municipal Infrastructure Support Agency
MMTS2	Mooi-Mgeni Transfer Scheme Phase 2
MoU	Memorandum of Understanding
MTEF	Medium Term Expenditure Framework
MWIG	Municipal Water Infrastructure Grant
MW	Megawatts
NATED	National Technical Education
NCBF	National Capacity Building Framework for Local Government
NDP	National Development Plan
NEMA	National Environmental Management Act
NFEPA	National Freshwater Ecosystem Priority Areas
NGA	National Groundwater Archive
NGP	New Growth Path
NGO	Non-government organisation
NGS	National Groundwater Strategy
NMBMM	Nelson Mandela Bay Metropolitan Municipality
NPC	National Planning Commission
NPS	Non-point source
NPSS	Non-Point Source Strategy
NOF	National Qualifications Framework
NRF	National Research Foundation
NRW	Non-Revenue Water
NSA	National Skills Accord
NSDP	National Spatial Development Perspective
NSDS	National Skills Development Strategy
NSI	National System of Innovation
NT	National Treasury
NWA	National Water Act (Act 36 of 1998)
NWAC	National Water Advisory Council
NWRI	National Water Resource Institute
NWRS	National Water Resource Strategy
NWRS1	National Water Resource Strategy (first edition, 2004)
NWRS2	National Water Resource Strategy (second edition 2013)
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
ORASECOM	Orange-Senqu (River Basin) Commission
ORWRDP	Olifants River Water Resource Development Project
OQSF	Occupational Qualifications Sub-Framework
OSD	Occupation Specific Dispensation
PALAMA	Public Administration Leadership and Management Academy
PES	Present Ecological State
Ph	Phase
PFMA	Public Finance Management Act
PGDP	Provincial Growth and Development Plan
PGDS	Provincial Growth and Development Strategy
PMU	Project Management Unit
PPP	Public Private Partnerships
P/S	pump station
PWC	Permanent Water Commission
QCTO	Quality Council for Trades and Occupations
R&D	Research and Development
R&I	Research and Innovation
RBIG	Regional Bulk Infrastructure Grant
RBO	River Basin Organizations
RDM	Resource Directed Measures
RDP	Reconstruction and Development Programme
REGIS	Software system developed in the Netherlands, currently under investigation for its application in South Africa
RIA	Regulatory Impact Assessment
RIDMP	Regional Infrastructure Development Master Plan
RISDP	Regional Indicative Strategic Development Plan
Rio+20	United Nations Conference on Sustainable Development, 2012
RPL	Recognition of Prior Learning
RQO	Resource Quality Objectives
RSA	Republic of South Africa
RSAPIII	Regional Strategic Action Plan III
RWH	Rainwater harvesting
RWU	Regional Water Utility
RWQO	Receiving Water Quality Objective
SA	South Africa
SAAWU	South African Association of Water Utilities
SADC	Southern African Development Community
SAICE	South African Institution of Civil Engineering
SALGA	South African Local Government Association
SAWS	South African Weather Service
SDC	Source Directed Controls
SETA	Sector Education & Training Authority
SIP	Strategic Integrated Project
SIWI	Stockholm International Water Institute
SULP	Sustainable Utilization Plans
SWPN	Strategic Water Partnership Network
TAC	Technical Advisory Committee
TCTA	Trans Caledon Tunnel Authority
UDF	Urban Development Framework
UN	United Nations
UNCSD	United Nations Conference on Sustainable Development
UNEP	United Nations Environment Programme
GEMS	Global Environment Monitoring System
UNFCCC	United Nations Framework Convention on Climate Change
UNESCO	United Nations Educational, Scientific and Cultural Organization
VGG	Vaal Gamagara
WAR	Water Allocation Reform
WAS	Water Accounting System
WARMS	Water Registration Management System
WARS	Water Allocation Reform Strategy
WCWSS	Western Cape Water Supply System
WCWDM	Water Conservation and Water Demand Management
WDCS	Waste Discharge Charge System
WISA	Water Institute of Southern Africa
WMA	Water Management Area
WMP	Water Management Plan
WMS	Water Management System
WRA	Water Research Act
WRC	Water Research Commission
WRM	Water Resource Management
WRTC	Water Resources Technical Committee

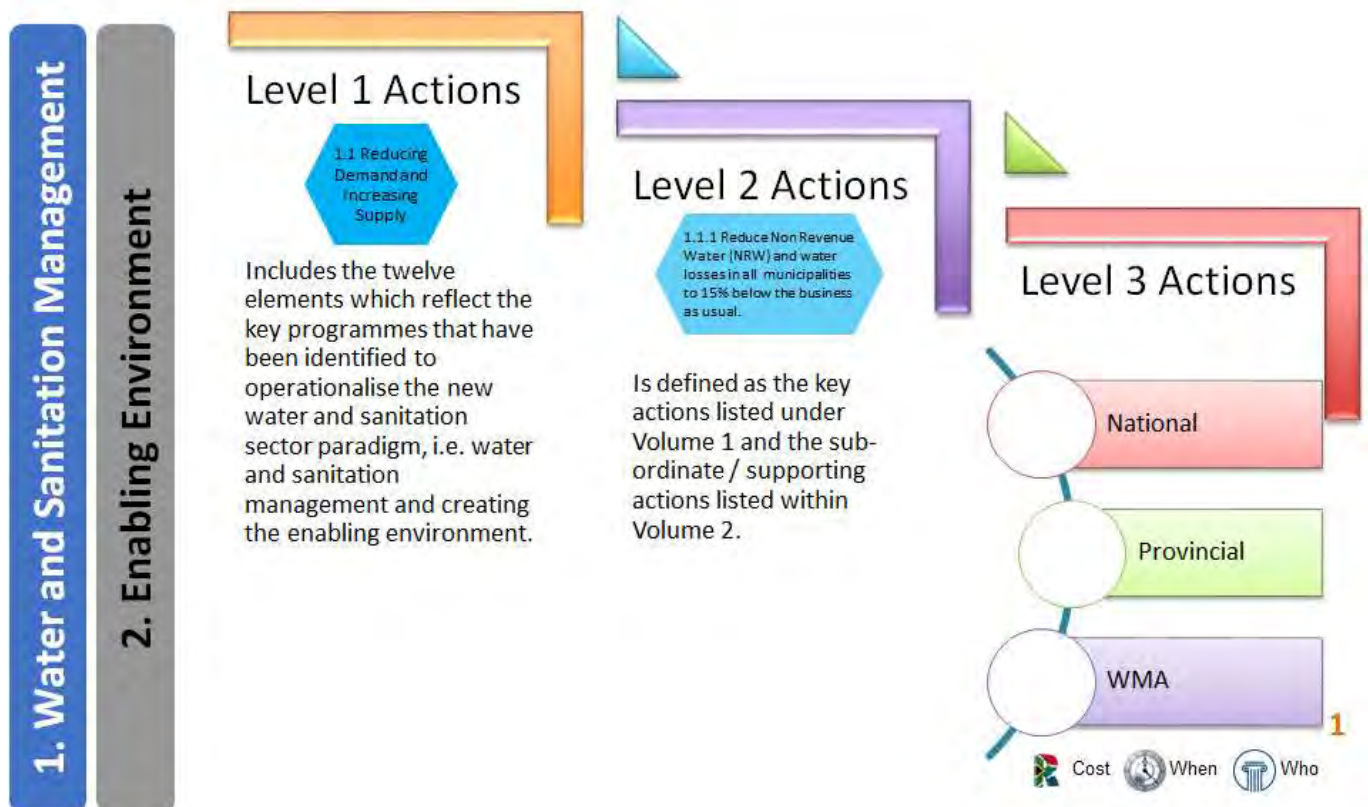
WS	Water Services
WSA	Water Services Authority
WS Act	Water Services Act (Act 108 of 1997)
WSDP	Water Services Development Plans
WSLG	Water Sector Leadership Group
WSP	Water Services Provider
WMA	Water Management Area
WTW	water treatment works
WWC	World Water Council
WWTW	waste water treatment works
WUL	Water Use License



3. DETERMINANTS

The following determinants were applied when the content of Volume 3 was developed and are illustrated in **Figure 3-1** below:

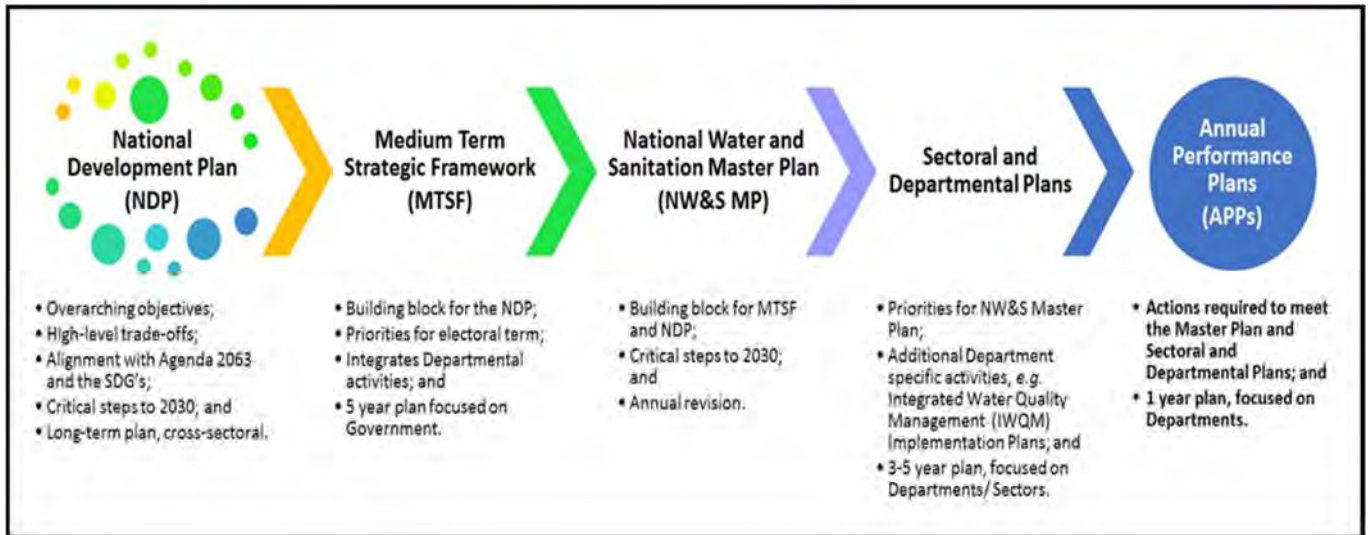
Figure 3-1: Content of Volume 3



- Each action is associated with levels of detail, which are as follows:
 - Level 1 includes the twelve elements that reflect the key identified programmes to operationalise the new water and sanitation sector paradigm, i.e. water and sanitation management and creating the enabling environment.
 - Level 2 is defined as the key actions listed under Volume 1 and the sub-ordinate / supporting actions listed within Volume 2.
 - Level 3 is defined as the area level on which the action much be achieved and breaks down to a maximum of provincial or systems level. Not all the actions will be drilled down to provincial or catchment level as this detailed breakdown is impractical for a NW&SMP.
- All the actions within Volume 3 are cross referenced back to Volume 1 and Volume 2. Furthermore, the same numbering format that is used in Volumes 1 and 2 is also used in Volume 3.
- Clear cognisance should be taken of the fact that the NW&SMP, and specifically Volume 3, do not intend to replace the existing planning processes at local level, but rather to agree with all stakeholders on the set targets at provincial and catchment levels. The provincial and local authorities should align

their local master planning in a manner that will result in achieving these set targets as illustrated within **Figure 3-2** below.

Figure 3-2: Alignment of National Planning Process with Sectorial & Departmental Planning Process



- The NW&SMP sets out the framework for how South Africa will manage its water resources and implement water and sanitation programmes to achieve targets set in Government’s National Development Plan, Medium Term Strategic Framework (MTSF) and Medium-Term Expenditure Framework (MTEF). Furthermore, the NW&SMP also addresses the global and African agendas outlined in the Sustainable Development Goals (SDGs) and the African Union’s (AU) Agenda 2063. Each action within Volume 3 will be justified for its position in relation to the set targets to be achieved by Government.

3.1 INTERNAL LINKAGES OF ACTIONS

Actions identified under the twelve master plan elements cannot be separated from each other.

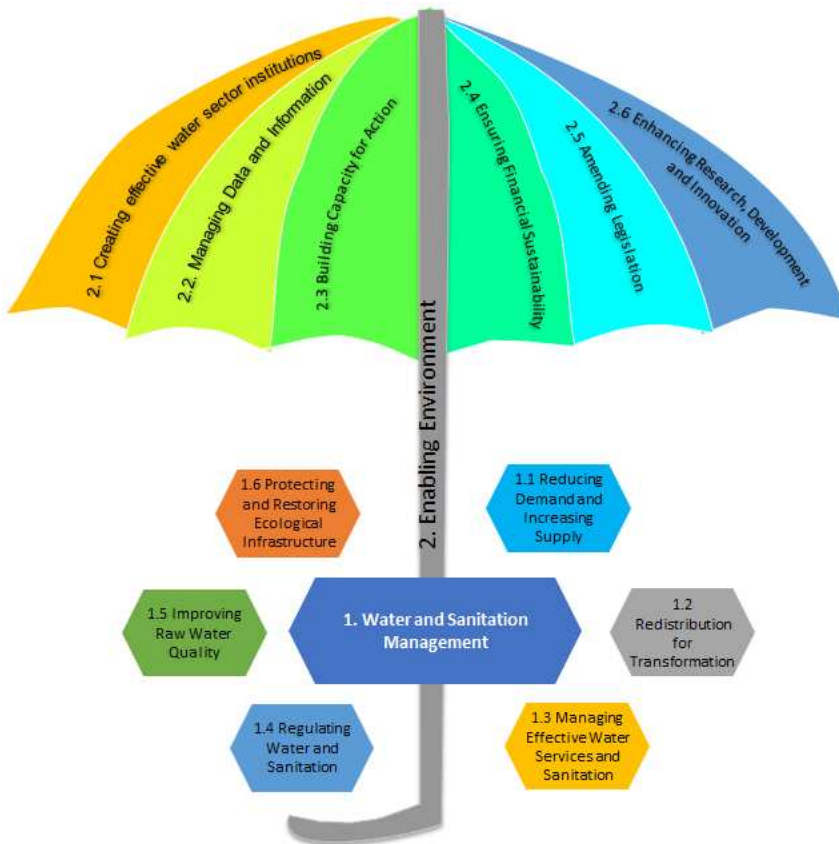


Figure 3-3: Linkages between Actions

The prioritisation approach is an iterative process in dealing with the sequence of key actions and supporting actions as certain actions must happen before others that would have a bigger impact on business as usual, which should also consider the following:

- Importance and consequences of delayed implementation;
- Value for money/low lying fruits;
- Committed funds and projects underway;
- Government priorities, international obligations, drivers; and
- Ascertain available funding and practicalities. If not met, shift actions into the future.

3.3 ASSUMPTIONS/CRITERIA/PRINCIPLES USED FOR DETERMINATION OF COSTS

In order to ensure that the NW&SMP remains a ‘living’ document, it is important that all assumptions pertaining to determining the cost requirement are properly documented per action. The following first order assumptions were made:

- The associated cost to implement an action represents a present day value and is the year when the NW&SMP was developed, i.e. 2018.

Actions under the Enabling Environment should be seen as “umbrella” actions that simultaneously support / guide a number of elements or groups under Water and Sanitation Management

3.2 PROPOSED ACTION PRIORITISATION APPROACH

Volume 3 is the Implementation Plan of the NW&SMP and constitutes a breakdown of activities that should be executed in a logical and prioritised order to achieve the national targets. It is foreseen that priorities will be assigned to Level 2 and Level 3 actions, i.e. where an action is only detailed up to Level 2, a priority will be assigned. The reader should also note that this is a first order prioritisation approach that could be further optimised and re-applied during the Phakisa.

- The NW&SMP includes action costs until 2030 and beyond and no escalation has been considered for now. However, the following could be used as a guideline of elements that will lead to escalation for inclusion in determining on how it will be dealt with in future:
 - Present value costs reflect a high level cost estimate before the detailed design was completed;
 - Infrastructure projects of similar size and nature currently underway were considered that would also result in an underestimation of material and labour cost;
 - Possible solutions to actions were costed that needs to be negotiated and approved during future implementation;
 - DWS / Municipalities, etc. operational cost excluded, as well as Operation and Maintenance (O&M) cost are excluded;
 - The site location of projects and local conditions affect labour and material;
 - Changes in the global market affects construction costs; and
 - Regulatory changes could result in changing the design standards.
- A record of assumptions and pricing per action are kept for auditing and future amendments;
- All cost estimates exclude VAT of 15%; and
- Cost estimates excludes salary costs for governmental staff.

3.4 FUTURE INCLUSIONS TO BE CONSIDERED UNDER VOLUME 3

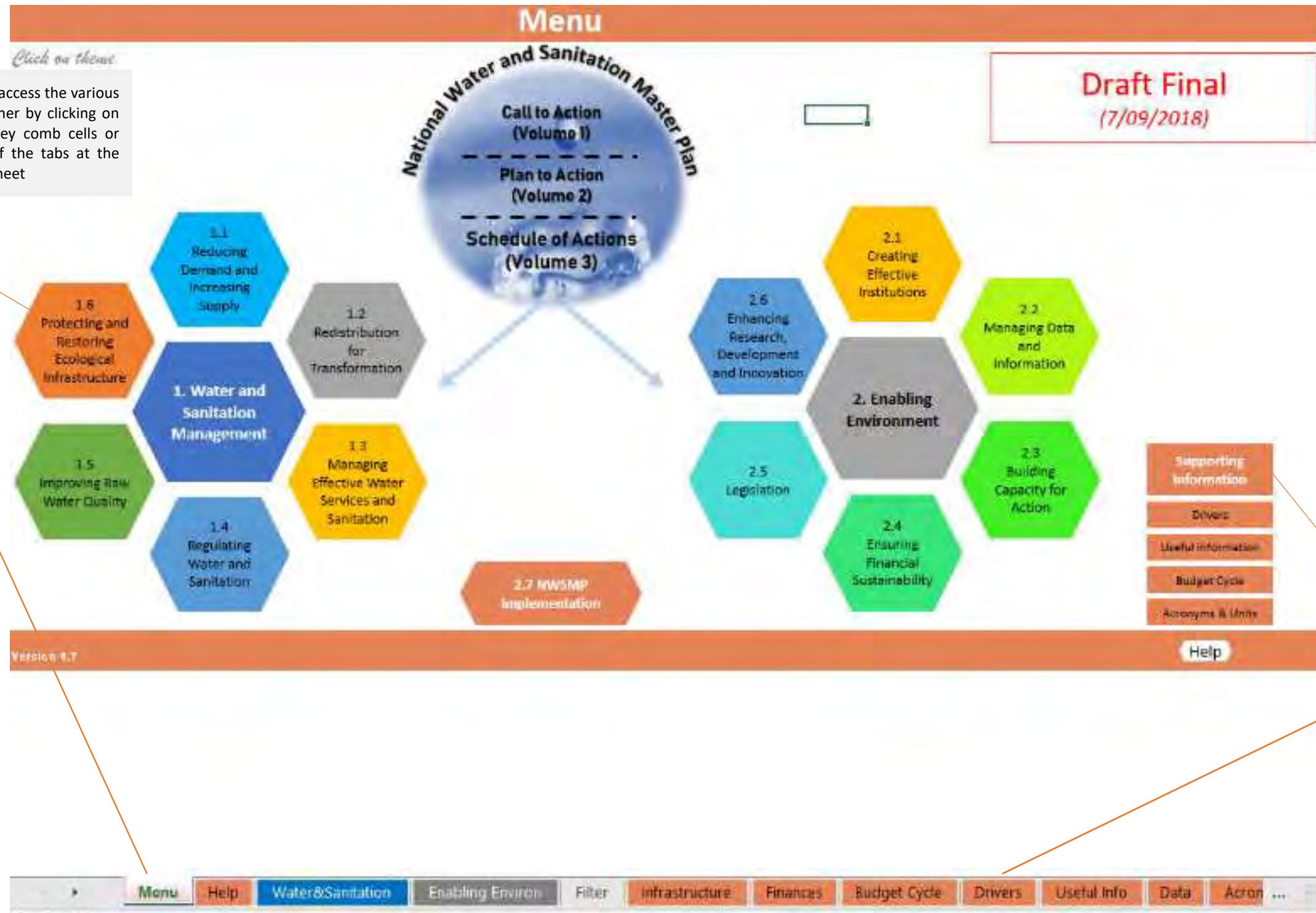
The reader must take note that Volume 3 is currently still under development, its full functionality and interactivensness is therefore currently work in progress. As Volume 3 is communicated to the Water Sector, additional functionalities that could be incorporated in future, are the following:

- Schedule of Actions to be area specific, i.e. extracting the actions that is only relevant to the Limpopo province. It must be noted that it should also include the higher order actions that would also have an impact on the manner in which the province implements the NW&SMP;
- Include a search facility;
- Consider the spatial representation of actions;
- Consider the further development, application and roll-out of the NW&SMP within a web enabled database environment;
- Consider the inclusion of Monitoring and Evaluation (M&E) functionality as part of Volume 3 to enable real-time progress with the implementation of the NW&SMP;
- User rights to be assigned to ensure that the content Volume 3 is protected and user rights must be determined during the final stages of development; and
- Interconnectivity between actions should be included.

4. FUNCTIONALITY:

Information on how to navigate within Volume 3 spreadsheet is described in the call out buttons. The basic navigation principles between the various sheets are the same.

Figure 4-1: Volume 3 Dashboard-Home page



The Viewer can access the various MP sections either by clicking on any of the honey comb cells or selecting one of the tabs at the bottom of the sheet

Useful information sheet is contained within the "Other sheets"-button and can be accessed by clicking on the button or selecting one of the tabs at the bottom of the sheet i.e.:

- A list of specific major Infrastructure projects
- Drivers of the NW&SMP
- Financial Information related to the MTEF can be found under Budgets
- The total budget requirement of the NW&SMP can be found under Finances
- Useful Info and Data tabs provide baseline / status quo information relevant to the various actions of the NW&SMP

Once the viewer clicked on a NW&SMP Section, it will jump to that sheet.

The Viewer can return to the Home Screen by clicking on Menu

The Viewer can access definitions of the spreadsheet by clicking on the Help Button

The Viewer can also access definitions of the spreadsheet by placing their cursor on a cell heading and a definition of the heading will appear

The Viewer can click on the + buttons to access the detailed actions under that NW&SMP section

The screenshot displays the 'NW&SMP ACTION PLAN' interface for '1. Water and Sanitation Management'. The main view shows a hierarchical structure of sections: Level 1: Key Actions, Level 2: Supporting Actions, Level 3: Regional Actions, Nat., Reg. & System (N)/Prov. (P)/Local (L), Baseline / Status Quo, and Drivers / Goals. A 'Drivers' button is visible in the top right. A 'Please hover on cell headings to obtain definitions' callout points to the 'Drivers' button. A 'Menu' button is located in the top left. A 'Help' button is located in the top right. A 'Level 1: Key Actions' callout points to the 'Level 1: Key Actions' section. A '+ buttons' callout points to the expand/collapse buttons on the left side of the section list. A 'Detailed actions' callout points to the expanded view of '1.1 Reducing water demand and increasing supply', which shows a table of actions across various provinces and national targets.

Section	Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regional Actions	Nat., Reg. & System (N)/Prov. (P)/Local (L)	Baseline / Status Quo	Drivers / Goals	Major Measurable Deliverable	Target Date	Responsibility
1.1 Reducing water demand and increasing supply	1.1.1 Reducing Water Demand	1.1.2 Increasing Supply	1.1.3 Infrastructure	1.1.4 Reducing water demand	1.1.5 Redistributing water	1.1.6 Managing effective water and sanitation services	1.1.7 Regulating the water and sanitation sector	1.1.8 Improving raw water quality	1.1.9 Protecting and restoring ecological infrastructure
1.2 Redistributing water for transformation									
1.3 Managing effective water and sanitation services									
1.4 Regulating the water and sanitation sector									
1.5 Improving raw water quality									
1.6 Protecting and restoring ecological infrastructure									

Level 1 Key Actions
 MP Main sections:
 "1. W&S management"
 "2. Enabling environment"
 Level 1 is linked to the 6 MP sub sections:
 1.1 Reducing water demand and increasing supply
 1.1.1 Reducing Water Demand
 1.1.2 Increasing Supply
 1.1.3 Infrastructure
 1.2 Redistributing water for transformation
 1.3 Managing effective water and sanitation services
 1.4 Regulating the water and sanitation sector
 1.5 Improving raw water quality
 1.6 Protecting and restoring ecological infrastructure
 2. 1 Creating effective water sector institutions
 2.2 Managing data and information
 2.3 Building Capacity for action
 2.4 Ensuring financial sustainability
 2.5 Amending the legislation
 2.6 Enhancing Research, development and innovation
 Strategic action
 Driven by Government objectives and goals
 Broad deliverable and no prioritisation required on this level
 Timeframes determined by Government objectives and goals – roll-up of timeframes from level 2 and level 3
 Only the lead responsibility to be indicated
 Budget to be rolled up from level 2 and level 3
 Outcome actions that support the level 1: Strategic Action in
 Actions to be listed in order of execution to meet Strategic action
 Should set the sub goal to be achieved under Level 3 action
 Timeframes determined by level 3 but still within overall target set by Level 1
 Budgets to be rolled up from level 3

4.1 CONTENTS OF THE VARIOUS TABS

Infrastructure

List of DWS water resources development projects								
Project Name	Project Description	Province	Metro or District Municipality	Local Municipality	Water Management Area (WMA)	Catchment	Incremental Yield (million m ³ /a)	Procurement
TOTAL								
Surface Water								
Lesotho Highlands Water Project - Phase 2	The construction of the Polihale Dam, a tunnel and associated works to augment the Vaal River System, which supplies water to Gauteng and surrounding areas.	N/A	Cape Town (City of Metropolitan Municipality)	N/A	Orange	Senqu River Catchment (Lesotho)	470	Design
Western Cape Water Supply System Augmentation Project	Voelvlei Dam Supplement Scheme, including abstraction and bulk water conveyance infrastructure to augment the water supply to the City of Cape Town and the surrounding areas.	Western Cape	Cape Town (City of Metropolitan Municipality)		Berg_Olifants	Voelvlei River Catchment	20	Financing
Western Cape Water Supply System Desalination Plant and/or Water Re-use	Large Scale Desalination Plant and/or Water Re-use Plant that will require government assistance with funding.	Western Cape			Berg_Olifants		49	Concept and Viability
uMkhomazi Water Project: Phase 1 Raw Water	The construction of the Smithfield Dam, a balancing dam, tunnel and pipeline to augment the Mgeni Water Supply System (WSS) that supplies eThekweni, uMgungundlovu and the surrounding areas. The Mgeni WSS is already in deficit.	KwaZulu Natal		Ingwu Local Municipality (KZSA1)	Pongola_Mzimkulu	uMkhomazi River Catchment	215	Concept and Viability
Acid Mine Drainage (AMD) - Phase 2 Western Basin	The implementation of the long-term solution in the Witwatersrand Gold Fields Areas.	Gauteng	Ekurhuleni Metropolitan Municipality	Randfontein Local Municipality	Vaal	Middle Vaal River Catchment	220	Financing
Acid Mine Drainage (AMD) - Phase 2 Central	The construction of water treatment plants, pipelines, and		Ekurhuleni Metropolitan					

This sheet lists the special Infrastructure related projects to be implemented by DWS. These infrastructure projects are subdivided into the following:

- Surface water
- Desalination
- Re-use

The viewer can click on any of the text boxes to navigate between the various types of infrastructure projects.

Finances

	2018-2020	2021-2025	2026-2030	Present Value Cost (VAT excl.) (MP horizon)		check
				%	R million (2018)	
1. Water and Sanitation Management	143 545	308 943	34 514			487 003
1.1 Reducing water demand and increasing supply	17 525	64 968	28 914	21.89%	111 407	23%
1.2 Redistributing water for transformation	22	18	10	0.01%	45	0.0%
1.3 Managing effective water and sanitation services	125 013	242 891	4 436	73.17%	372 340	76%
1.4 Regulating the water and sanitation sector	443	231	145	0.16%	819	0.2%
1.5 Improving raw water quality	941	705	901	0.38%	1 947	0.4%
1.6 Protecting and restoring ecological infrastructure	201	135	108	0.09%	444	0.1%
2. Enabling Environment	13 043	8 322	363			21 868
2.1 Creating effective water sector institutions	826	3	-	0.16%	828	4%
2.2 Managing Data and Information	24	24	22	0.01%	70	0.3%
2.3 Building Capacity for Action	10 091	90	108	2.02%	10 289	47%
2.4 Ensuring Financial Sustainability	2 008	8 004	-	1.97%	10 012	46%
2.5 Legislation	26	29	-	0.01%	55	0.3%
2.6 Enhancing Research, Development and Innovation	68	173	233	0.09%	473	2%
2.7 Implementation of NWSMP	71	35	35	0.03%	141	1%

This sheet provides a summary of the total budget requirements for the NW&SMP, split into NW&SMP Section, sub section and into allocations per time period.

The viewer should take note that the majority of the funding requirement falls under the NW&SMP Sub section, Managing effective water and sanitation services (72%). At least two thirds of this amount can be ascribed to the inclusion of the water services projects earmarked for implementation by the Municipalities / Water Services Authorities.

The total requirement should also be compared with the funding available within the next three-year MTEF cycle indicated under the Budget Cycle-tab.

Budget cycle

Menu Budget (2018/19 to 2020/21)				
Available budget/funds	MTEF			
	2018/19 (R million)	2019/20 (R million)	2020/21 (R million)	3 year total (R million)
Budget Vote 36				
Programme 1 Administration	R 1 715	R 1 808	R 1 922	R 5 445
Programme 2 Water Planning and Information Management	R 862	R 965	R 1 030	R 2 857
Programme 3 Water Infrastructure Development	R 12 496	R 13 233	R 13 959	R 39 688
Programme 4 Water Sector Regulation	R 499	R 461	R 499	R 1 459
DWS Total	R 15 572	R 16 467	R 17 409	R 49 448
DORA infrastructure transfers related to water				
Direct transfers				
Municipal infrastructure grant	R 15 288	R 15 734	R 16 599	R 47 621
Water component of MIG (50%)	R 7 644	R 7 867	R 8 300	R 23 811
Water Services Infrastructure	R 3 481	R 3 669	R 3 871	R 11 021
Regional bulk infrastructure	R 1 957	R 2 066	R 2 180	R 6 203
Indirect transfers				
Regional bulk infrastructure	R 2 881	R 3 037	R 3 204	R 9 122
Water Services Infrastructure	R 608	R 642	R 678	R 1 928
Municipal revenue	R 72 000	R 76 320	R 80 899	R 229 219
Equitable share	R 62 731	R 68 973	R 75 683	R 207 387
Equitable share for water and sanitation (10%)	R 6 273	R 6 897	R 7 568	R 20 738

This sheet provides information on the available funding for water services in the next three- year MTEF cycle.

The available budget for the next three years for the DWS and Municipalities is R 97 068 billion. This is substantially less than the total budget required under the Finances tab until 2020 that shows at least R 155 billion is required.

Drivers

DRIVERS: SETTING THE TARGETS				
No	Sub-Section	Description	Reference (page where found)	Target definition and initial target date
A Sustainable Development Goals (SDGs) (United Nations, 2015)				
A.1	SDG 6.1	Equitable access to safe and affordable drinking water		2030
A.2	SDG 6.2	Equitable access to adequate sanitation		2030
A.3	SDG 6.3	Improve WQ and reduce pollution		2030
A.4	SDG 6.4	Increase water use efficiency		2030
A.5	SDG 6.5	Implement integrated water resource management		2030
A.6	SDG 6.6	Protect and restore water eco systems		2030
A.7	SDG 6.a	Expand international cooperation and capacity-building support		2030
A.8	SDG 6.b	Stakeholder participation to improve water and sanitation management		2030
B National Development Plan, Vision 2030 (National Planning Commission, 2012)				
B.1	Enabling milestones	Ensure access to clean running water in all homes	Enabling milestones	
B.2	Critical actions	Finance through tariffs, taxes and loans	Critical actions	
B.3	Critical actions	Ensure environmental sustainability and resilience	Critical actions	
B.4	Critical actions	New spatial norms and standards	Critical actions	
B.5	Economic Infra: Obj.	Ensure access to clean, potable water and enough water for agriculture and industry, recognising trade-offs in use of water	Economic Infrastructure: Objectives	
B.6	Economic Infra: Obj.	Reduce water demand in urban areas to 15% below business as usual scenario	Economic Infrastructure: Objectives	15% below current by 2030
B.7	Economic Infra.: Act.	Comprehensive management strategy including Investment programme for water resource development, bulk water supply and wastewater management	Economic Infrastructure: Actions	For Major centres, by 2012 Review every 5 years

This sheet provides the detailed information on the various National Drivers of the NW&SMP. The Drivers are linked to each one of the NW&SMP actions. It only shows the linkage using the No. and Sub section as the reference number.

NW&SMP ACTION PLAN 1. Water and Sanitation Management						
Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regional Actions	Nat., Reg. & System (N)/Prov. (P)/Local (L)	Baseline / Status Quo	Drivers / Goals	Major Measurable Deliverable
1.1 Reducing water demand and increasing supply						
Reduce water demand	1.1.1 Reduce Non Revenue Water (NRFV) and water losses in all municipalities to 15% below the business as usual.	National Eastern Cape Free State Gauteng KwaZulu-Natal Limpopo Mpumalanga	Local W/SA W/SA W/SA W/SA W/SA W/SA	41% Non-revenue water 46.3% Non-revenue water 42.3% Non-revenue water 34.7% Non-revenue water 45% Non-revenue water 50.3% Non-revenue water 46.2% Non-revenue water	A.4, B.6	28% Non-revenue water 31.3% Non-revenue water 27.3% Non-revenue water 20% Non-revenue water 30% Non-revenue water 35.3% Non-revenue water 31.2% Non-revenue water

Useful info

Useful information							
Define accronyms							
Water loss (DWS No Drop Report) 2017							
Province	Population	SIV (m ³ /annum)	% Non-Revenue Water	% WL	I/e/d	ILI	
EC	4 477 918	332 151 376	47.80%	45.00%	200	4.8	
FS	2 723 028	207 835 805	51.40%	46.60%	209	4.8	
GT	12 978 281	1 473 100 700	35.90%	27.40%	305	5.8	
KZN	8 491 508	697 751 184	46.90%	43.00%	225	6.2	
LIM	4 225 967	281 235 907	55.10%	55.10%	182	5	
MP	3 622 506	270 990 713	47.90%	43.90%	205	4.3	
NC	1 085 944	94 205 305	48.20%	45.50%	238	7.1	
NW	3 039 995	206 496 825	51.10%	51.10%	186	4.7	
WC	6 108 993	482 695 411	21.30%	16.70%	201	2.4	
National	46 754 140	4 046 463 225	41.00%	35.90%	233	5.3	
Green Drop Certification Summaries							
Province	Number of WSA's (2016)	Number of WSAs with Certified Systems (2016)	Number of Works (2016)	Number of Certified Works	No of 27 Priority DMs (2012)	No of DMs	
Eastern Cape	14	1	196	1	5	8	
Free State	19	1	120	1	1	5	
Gauteng	9	2	103	7	1	5	
KwaZulu-Natal	14	5	298	19	10	11	
Limpopo	10	1	144	1	5	5	
Mpumalanga	17	2	184	3	1	3	
North West	10	0	92	0	3	4	
Northern Cape	26	1	146	1	1	5	
Western Cape	25	8	207	26	0	6	
Totals:	144	21	1490	59	27		
National Standards for Drinking Water quality							

Useful information provides the base line / status quo information as at 2018. The NW&SMP actions then derived the minimum target the action would like to achieve over a certain period.

This information would enable the DWS to monitor progress in the implementation of the NW&SMP.

NW&SMP ACTION PLAN 1. Water and Sanitation Management						
Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regional Actions	Nat., Reg. & System (N)/Prov. (P)/Local (L)	Baseline / Status Quo	Drivers / Goals	Major Measurable Deliverable
1.1 Reducing water demand and increasing supply						
Reduce water demand	1.1.1 Reduce Non Revenue Water (NRFV) and water losses in all municipalities to 15% below the business as usual.	National Eastern Cape Free State Gauteng KwaZulu-Natal Limpopo Mpumalanga	Local W/SA W/SA W/SA W/SA W/SA W/SA	41% Non-revenue water 46.3% Non-revenue water 42.3% Non-revenue water 34.7% Non-revenue water 45% Non-revenue water 50.3% Non-revenue water 46.2% Non-revenue water	A.4, B.6	28% Non-revenue water 31.3% Non-revenue water 27.3% Non-revenue water 20% Non-revenue water 30% Non-revenue water 35.3% Non-revenue water 31.2% Non-revenue water

Geographical and other place names									
Province	District Municipality	Local Municipality	Water Services Authority	WMAs	Responsible Institution	27 Priority DMs			
Eastern Cape	Alfred Nzo	Matatiele Local Municipality	Eastern Cape	Alfred Nzo	Berg Olifants	DWS	Eastern Cape	Alfred Nzo	DC4
Eastern Cape	Alfred Nzo	Mbizana Local Municipality	Eastern Cape	Amathole	Breeders Goutz	CoGTA	Eastern Cape	Amathole	DC1
Eastern Cape	Alfred Nzo	Ntabankulu Local Municipality	Eastern Cape	Buffalo City	Inkomathu Usuthu	WASAs	Eastern Cape	Chris Ham	DC1
Eastern Cape	Alfred Nzo	Umzimvubu Local Municipality	Eastern Cape	Chris Ham	Limpopo	DMR	Eastern Cape	O.R. Tambo	DC1
Eastern Cape	Amathole	Amahlathi Local Municipality	Eastern Cape	Joe Gqabi	Mzimvubu Tsitsikama	SALGA	Eastern Cape	Joe Gqabi	DC1
Eastern Cape	Amathole	Great Kei Local Municipality	Eastern Cape	Nelson Mandela Bay	Olifants	LM	Free State	Xhariep	DC1
Eastern Cape	Amathole	Mbhashe Local Municipality	Eastern Cape	O.R.Tambo	Orange	CMA	Gauteng	West Rand DM	DC4
Eastern Cape	Amathole	Mnquma Local Municipality	Eastern Cape	Blue Crane Route Local Municipality	Pongola Mzimkulu		KwaZulu-Natal	iLembe	DC2
Eastern Cape	Amathole	Ngqushwa Local Municipality	Eastern Cape	Dr Beyers Naudé Local Municipality	Vaal		KwaZulu-Natal	Ugu	DC2
Eastern Cape	Amathole	Raymond Mhlaba Local Municipality	Eastern Cape	Kouga Local Municipality			KwaZulu-Natal	uMgungundlovu	DC2
Eastern Cape	Buffalo City	Buffalo City Local Municipality	Eastern Cape	Kou-Kamma Local Municipality			KwaZulu-Natal	uMkhanyakude	DC2
Eastern Cape	Chris Ham	Emalaheni Local Municipality	Eastern Cape	Makana Local Municipality			KwaZulu-Natal	uMzinyathi	DC2
Eastern Cape	Chris Ham	Engcobo Local Municipality	Eastern Cape	Ndlambe Local Municipality			KwaZulu-Natal	uThukela	DC2
Eastern Cape	Chris Ham	Enoch Mgijima Local Municipality	Eastern Cape	Sundays River Valley Local Municipality			KwaZulu-Natal	uThungulu	DC2
Eastern Cape	Chris Ham	Intsika Yethu Local Municipality	Free State	Mafube Local Municipality			KwaZulu-Natal	Zululand	DC2
Eastern Cape	Chris Ham	Inxuba Yethemba Local Municipality	Free State	Metimaholo Local Municipality			KwaZulu-Natal	Amajuba	DC2
Eastern Cape	Chris Ham	Sakhisizwe Local Municipality	Free State	Moghaka Local Municipality			KwaZulu-Natal	Sisonke	DC4
Eastern Cape	Joe Gqabi	Elundini Local Municipality	Free State	Ngwathe Local Municipality			Limpopo	Capricorn	DC3
Eastern Cape	Joe Gqabi	Senqu Local Municipality	Free State	Masilonyana Local Municipality			Limpopo	Mopani	DC3
Eastern Cape	Joe Gqabi	Walter Sisulu Local Municipality	Free State	Matjhabeng Local Municipality			Limpopo	Sekhukhune	DC4
Eastern Cape	Nelson Mandela Bay	Nelson Mandela Bay Local Municipality	Free State	Nala Local Municipality			Limpopo	Vhembe	DC3
Eastern Cape	O.R.Tambo	King Sabata Dalindyebo Local Municipality	Free State	Tokologo Local Municipality			Limpopo	Waterberg	DC3
Eastern Cape	O.R.Tambo	Mhlontlo Local Municipality	Free State	Tswelopele Local Municipality			Mpumalanga	Ehlanzeni	DC3
Eastern Cape	O.R.Tambo	Ngqaza Hill Local Municipality	Free State	Manguang			North West	Bojanala Platinum	DC3
Eastern Cape	O.R.Tambo	Nyandeni Local Municipality	Free State	Dihlabeng Local Municipality			North West	Dr Ruth Segomotsi Mompati	DC3
Eastern Cape	O.R.Tambo	Port St Johns Local Municipality	Free State	Maluti a Phofung Local Municipality			North West	Ngaka Modiri Molema	DC3
Eastern Cape	Sarah Baartman	Blue Crane Route Local Municipality	Free State	Mantsopa Local Municipality			Northern Cape	John Taolo Gaetsewe	DC4
Eastern Cape	Sarah Baartman	Dr Beyers Naudé Local Municipality	Free State	Nikeotsana Local Municipality					
Eastern Cape	Sarah Baartman	Kouga Local Municipality	Free State	Phumelela Local Municipality					
Eastern Cape	Sarah Baartman	Kou-Kamma Local Municipality	Free State	Setsoho Local Municipality					
Eastern Cape	Sarah Baartman	Makana Local Municipality	Free State	Kopanong Local Municipality					
Eastern Cape	Sarah Baartman	Ndlambe Local Municipality	Free State	Letsemeng Local Municipality					

The sheet provides the viewer the levels of detail the NW&SMP action should be implemented e.g. Provincial, Municipal, WMA levels to name only a few.

It also lists the names of the District Municipalities, Local Municipalities as well as the 27 Priority District Municipalities.

4.2 SPECIFICATIONS:

Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regional Actions	Nat., Reg. & System (N)/Prov. (P)/Local (L)	Baseline / Status Quo	Overall targets						Breakdown of deliverables per time segment												Priority				
					Drivers	Major Measurable Deliverable	Target Date		Responsible Institutions	Present Value Cost (VAT excl.) R million (2018)	2018-2020			2021-2025			2026-2030 (current NW&SMP horizon, to vary in future)			2031-2050 (beyond current NW&SMP horizon)			Note	Magnitude of impact if action does not occur	Is it a foundation action?	What level of impact will the investment generate?	What has prevented action from being completed to date?
							Start	Compl.			Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million					
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB

Definition		Example
A	Level 1 Key Action	<p>W&S Management</p> <p>Reduce water demand</p>

NW&SMP Main sections:

- W&S management
- Enabling environment

Level 1 is linked to the 6 NW&SMP sub sections:

- Reducing water demand and increasing supply
 - Reducing Water Demand
 - Increasing Supply
 - Infrastructure
- Redistributing water for transformation
- Managing effective water and sanitation services
- Regulating the water and sanitation sector
- Improving raw water quality
- Protecting and restoring ecological infrastructure

- 1 Creating effective water sector institutions
- 2 Managing data and information
- 3 Building Capacity for action
- 4 Ensuring financial sustainability
- 5 Amending the legislation
- 6 Enhancing Research, development and innovation

Strategic action

Driven by Government objectives and goals

Broad deliverable and no prioritisation required on this level

Timeframes determined by Government objectives and goals – roll-up of timeframes from level 2 and level 3

Only the lead responsibility to be indicated

Budget to be rolled up from level 2 and level 3

Outcome actions that support the level 1: Strategic Action in

Actions to be listed in order of execution to meet Strategic action

Should set the sub goal to be achieved under Level 3 action

Timeframes determined by level 3 but still within overall target set by Level 1

Definition			Example	
			Budgets to be rolled up from level 3	
B	Level 2: Supporting Action		<p>Include supporting action(s) ordered chronologically to meet sub goal</p> <p>Outcome actions that support the level 1: Strategic Action in</p> <p>Actions to be listed in order of execution to meet Strategic action</p> <p>Should set the sub goal to be achieved under Level 3 action</p> <p>Timeframes determined by level 3 but still within overall target set by Level 1</p> <p>Budgets to be rolled up from level 3</p>	Reduce Non-Revenue Water (NRW) and water losses in all municipalities to 15% below the business as usual.
C	Level 3: Regional Action		<p>Detailed action(s) required to meet sub-goal set under Level 2</p> <p>Actions to be listed in order of execution to meet sub goal (propose "bottom to top" approach)</p> <p>Timeframes will depend on current SQ specific to the level (N, P, L, WB, System) but must be within target set at Level 1</p> <p>Budgets to be level specific</p>	List per province: No of WSAs per provinces / NRW target
D	Level (N, P, L)	Nat , Reg. & System (N)/Prov. (P)/Local (WSA)	<p>Level to meet the target could be;</p> <p>National(N), Provincial (P), Local (WSA), Water Board (WB)</p>	P
E	Baseline / Status Quo	Status Quo	<p>Current Status Quo</p> <p>Current baseline in 2018</p>	46.3
F	Overall targets	Drivers	<p>Each action shall be linked to National Strategic Drivers, e.g. Service Delivery Goals(SDGs), the National Development Plan 2030 (NDP 2030); Strategic Intervention Project</p> <p>These Drivers are listed under the Drivers tab within the spreadsheet</p>	A.3, B11
G		Major Measurable Deliverable	Overall Sub goal set to meet the strategic action	20 % NRW per WSA
			Pre-defined criteria to be set per detailed action where possible until overall target is met. May vary between and within levels	Reduce NRW by 15% per annum per province until national goal of 20% is reached
H		Target Start Date	Start date should be indicated per financial year in which the action will start	2018
I		Target Completion date	Completion date should be indicated per financial year in which the action will be completed	2030
J		Responsible Institutions	<p>Level to meet the target could be;</p> <p>National(N), Provincial (P), Local (WSA), Water Board (WB)</p>	WSA, DWS, CoGTA
K	Present Value Cost (VAT excl) R million	Present cost is defined as total current value in year 2018 R million to complete action over time period. Costs exclude VAT.	Cost should reflect the total cost requirement over the full period	R 439,2
L	Breakdown of deliverables per time segment	2018-2020 Deliverable	Reduce overall target to meet strategic action	Reduce NRW by 15% per annum until national strategic target of 20% is met
M		Date	Start date should be indicated per financial year	2018
N		Cost	Multiply no of entities not meeting target with unit cost per and the total no of financial years	R 16
O		2021-2025 Deliverable	Reduce overall target to meet strategic action	Reduce NRW by 15% per annum until national strategic target of 20% is met
P		Date	Start date should be indicated per financial year	2021
Q		Costs	Multiply no of entities not meeting target with unit cost per and the total no of financial years	R 40
R		2026-2030 (current MP horizon, to vary in future) Deliverable	Reduce overall target to meet strategic action	Reduce NRW by 15% per annum until national strategic target of 20% is met

Definition			Example	
S		Date	Start date should be indicated per financial year	2030
T		Cost	Multiply no of entities not meeting target with unit cost per and the total no of financial years	R 8
U		2031-2050 (beyond current MP horizon) Deliverable	Maintain overall strategic target	Maintain NRW of 20% per WSA
V		Date	Start date should be indicated per financial year	2031
W		Costs	Responsible entity should include budget to maintain national strategic target	R 8 per annum
X		Notes	Provide additional comments where applicable	
Y	Magnitude or impact if action does not occur		Impact if strategic target is not achieved should be indicated as follows: (1) Critical, (2) Serious, (3) important (4) minor	1
Z	Is it a foundation action		Status of action should be indicated as follows: (1) Other actions highly dependent; (2) Few direct dependencies (3) no direct dependencies	1
AA	What level of impact will the investment generate?		Where possible, the impact should be indicated as follows: (1) Major benefit (>x10); (2) moderate benefit (>x2) (3) limited benefit	1
AB	What has prevented action from being completed to date?			WSAs