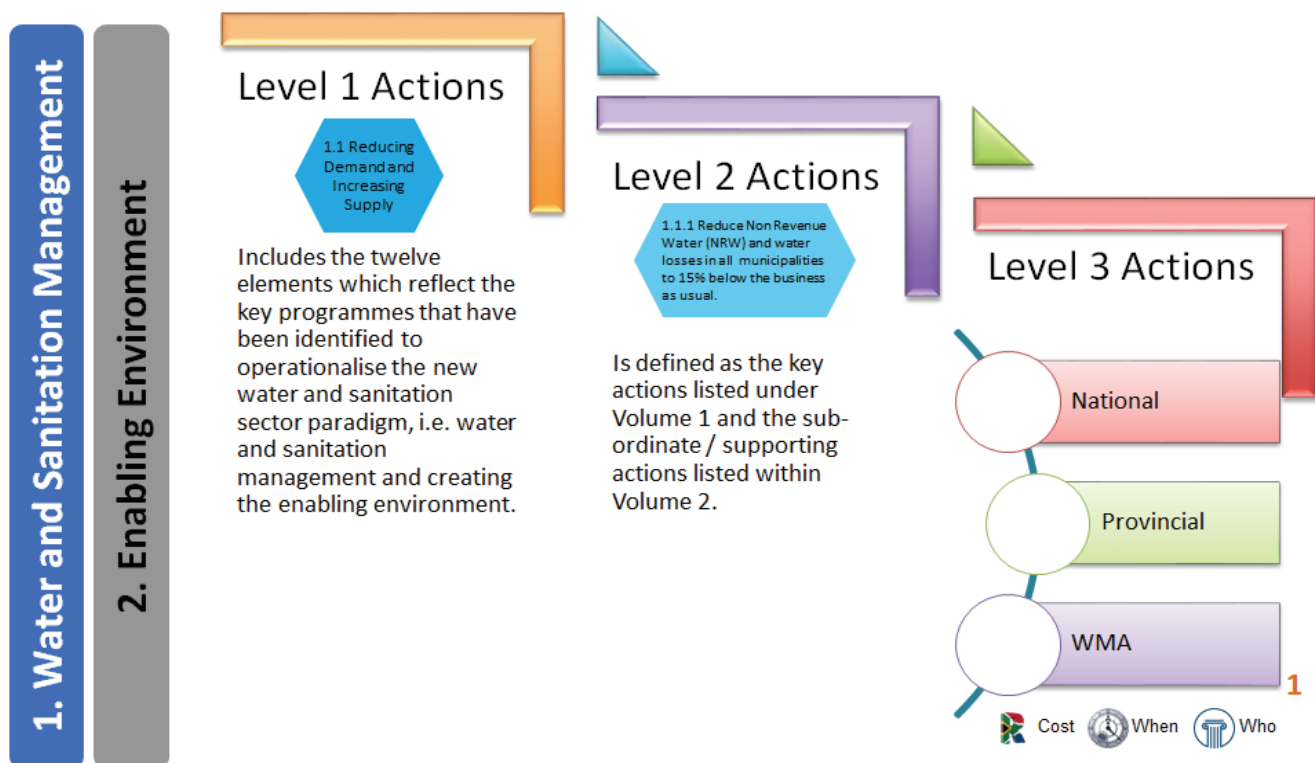


3. DETERMINANTS

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

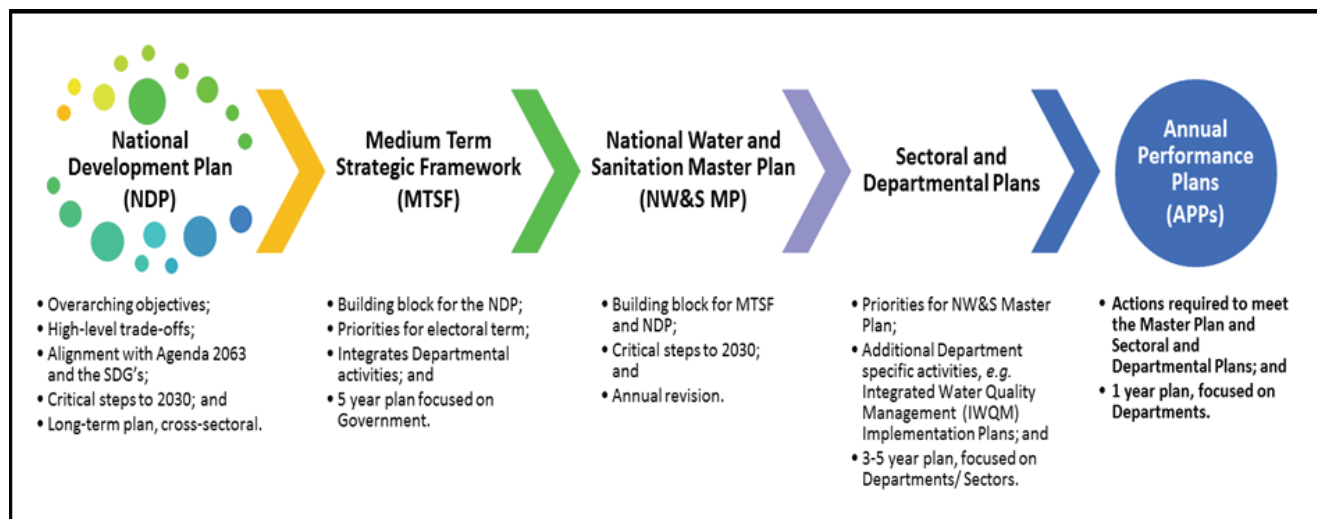
Figure 3-1: Content of Volume 3



- 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 must 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.

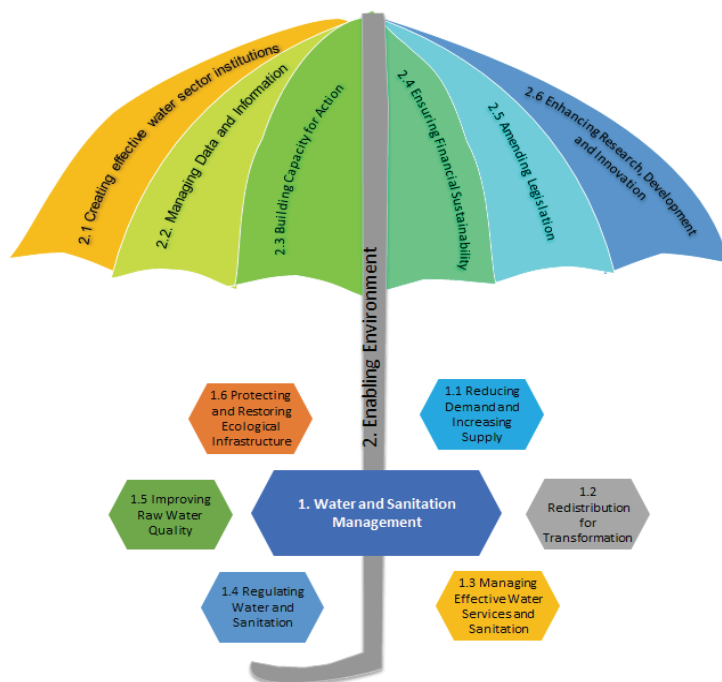


Figure 3-3: Linkages between Actions

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 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.
- 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

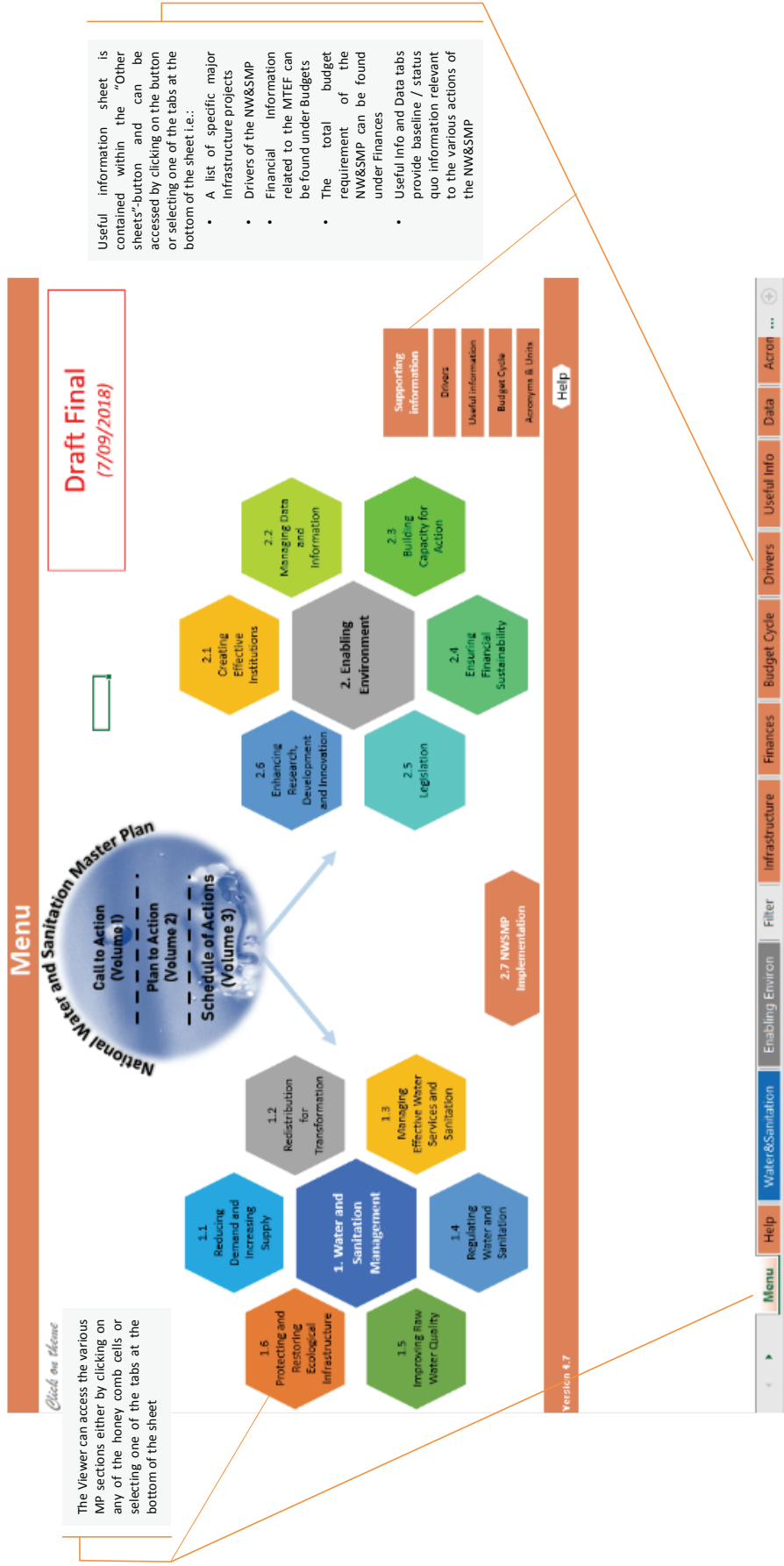
The reader must take note that Volume 3 is currently still under development, its full functionality and interactiveness is therefore currently work in progress. As Volume 3 is communicated to the Water Sector, additional functionalities that could be incorporated in future, are the following:

- 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



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 screenshot displays the '1. Water and Sanitation Management' section of the NW&SMP ACTION PLAN. The interface is divided into several panes:

- Home Screen (Top):** Shows the '1. Water and Sanitation Management' section with a 'Menu' button to return to the Home Screen.
- Level 1 Key Actions (Middle):** Lists actions such as '1.1 Reducing water demand and increasing supply', '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', and '1.6 Protecting and restoring ecological infrastructure'. A 'Help' button is available for definitions.
- Level 2 Supporting Actions (Bottom Left):** Lists actions like 'Level 2: Supporting Actions', 'Level 3: Regional Actions', and 'Level 3: National Actions'.
- Level 1 Key Actions Detail (Bottom Right):** A detailed view of '1.1 Reducing water demand and increasing supply' with columns for 'Baseline / Status Quo', 'Major Measurable Deliverable', 'Target Date', and 'Level'. It includes a table of specific actions and their metrics.

Table: Major Measurable Deliverable for 1.1 Reducing water demand and increasing supply

Major Measurable Deliverable	Baseline / Status Quo	Target Date	Level
Reduce Non Revenue Water	45.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	46.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	47.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	48.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	49.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	50.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	51.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	52.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	53.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	54.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	55.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	56.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	57.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	58.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	59.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	60.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	61.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	62.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	63.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	64.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	65.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	66.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	67.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	68.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	69.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	70.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	71.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	72.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	73.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	74.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	75.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	76.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	77.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	78.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	79.76% Non revenue water	2019	2020 (DVS)
Reduce Non Revenue Water	80.76% Non revenue water	2019	2020 (DVS)

4.1 CONTENTS OF THE VARIOUS TABS

Infrastructure

List of DWS water resources development projects

Menu | [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
Surface Water								TOTAL
Lesotho Highlands Water Project - Phase 2	The construction of the Pekaia Dam and associated water supply system, which supplies water to Graham's and surrounding areas.	N/A	Cape Town (City of Metropolitan Municipality)	N/A	Orange	Senou River Catchment (Graham)	470	Design
Western Cape Water Supply System Augmentation Project	Vorster Dam Supplement Scheme, including abstraction 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 Ollants	Vorster River Catchment	20	Financing
Western Cape Water Supply System Augmentation Phase 1	Large Scale Desalination Plant and associated infrastructure that will require government assistance with financing.	Western Cape			Berg Ollants		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 water supply to the City of Durban.	KwaZulu Natal		Inqwa Local Municipality (IC251)	Pengola, Mzimkulu	uMkhomazi River Catchment	215	Concept and Viability
Acid Mine Drainage (AMD) - Phase 2 Western Basin	WSS is a task in effort to provide a long-term solution in the Witwatersrand Gold Fields Area.	Gauteng	Buruhlen Metropolitan Municipality	Sanfenton Local Municipality	Nyal	Middle Vals River Catchment	220	Financing
Acid Mine Drainage (AMD) - Phase 3 Central Basin	The construction of water treatment plant in the Witwatersrand Gold Fields Area.	Gauteng	Buruhlen Metropolitan Municipality	Sanfenton Local Municipality	Nyal	Middle Vals River Catchment	220	Financing

Menu | [Help](#) | [Water & Sanitation](#) | [Enabling Environment](#) | [Infrastructure](#) | [Finances](#) | [Budget Cycle](#) | [Drivers](#) | [Useful In](#)

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.

	2018-2020	2021-2025	2026-2030	2031-2035	2036-2040	Percent Value Cost (VAT excl.) (MIP Horizon)	%
3							
4							
5	181 545	308 943	94 514				
6	1.1 Reducing water demand and increasing supply	17 525	64 848	28 514	21 896	111 407	25%
7	1.2 Redistributing water and sanitation services	22	13	10	0.01%	45	0.0%
8	1.3 Managing effective water and sanitation services	125 013	242 891	4 456	73.17%	372 340	76%
9	1.4 Regulating the water and sanitation sector	443	231	145	0.16%	819	0.2%
10	1.5 Improving raw water quality	341	705	901	0.38%	1 947	0.4%
11	1.6 Protecting and restoring ecological infrastructure	201	135	108	0.09%	444	0.1%
12	2. Enabling Environment	13 043	8 322	363		21 868	OK
13	2.1 Creating effective water sector institutions	826	3	-	0.15%	829	4%
14	2.2 Managing Data and Information	24	24	22	0.01%	70	0.3%
15	2.3 Building Capacity for Action	10 061	50	108	2.02%	10 219	47%
16	2.4 Ensuring Financial Sustainability	2 008	8 004	-	1.97%	10 012	46%
17	2.5 Legislation	26	29	-	0.01%	55	0.3%
18	2.6 Enhancing Research, Development and Innovation	68	173	233	0.09%	473	2%
19	2.7 Implementation of NWSMP	71	35	35	0.03%	141	1%
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							

Category	Percentage
1.1 Reducing water demand and increasing supply	25%
1.2 Redistributing water and sanitation services	0%
1.3 Managing effective water and sanitation services	76%
1.4 Regulating the water and sanitation sector	0%
1.5 Improving raw water quality	0%
1.6 Protecting and restoring ecological infrastructure	0%
2.1 Creating effective water sector institutions	4%
2.2 Managing Data and Information	0%
2.3 Building Capacity for Action	47%
2.4 Ensuring Financial Sustainability	46%
2.5 Legislation	0%
2.6 Enhancing Research, Development and Innovation	2%
2.7 Implementation of NWSMP	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		MTEF			
Budget (2018/19 to 2020/21)		2018/19	2019/20	2020/21	3 year total
		(R million)	(R million)	(R million)	(R million)
1					
2					
3					
4	Available budget/funds				
5					
6					
7	Budget Vote 36				
8	Programme 1 Administration	R 1 715	R 1 808	R 1 922	R 5 445
9	Programme 2 Water Planning and Information Management	R 862	R 965	R 1 030	R 2 857
10	Programme 3 Water Infrastructure Development	R 12 496	R 13 233	R 13 959	R 39 687
11	Programme 4 Water Sector Regulation	R 499	R 461	R 499	R 1 459
12	DWS Total	R 15 572	R 16 467	R 17 409	R 49 447
13					
14	DORA infrastructure transfers related to water				
15	Direct transfers				
16	<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>
17	Water component of MIG (50%)	R 7 644	R 7 867	R 8 300	R 23 811
18	Water Services Infrastructure	R 3 481	R 3 669	R 3 871	R 11 021
19	Regional bulk infrastructure	R 1 957	R 2 066	R 2 180	R 6 203
20	Indirect transfers				
21	Regional bulk infrastructure	R 2 881	R 3 037	R 3 204	R 9 122
22	Water Services Infrastructure	R 608	R 642	R 678	R 1 928
23					
24	Municipal revenue	R 72 000	R 76 320	R 80 899	R 229 219
25	Equitable share	R 62 731	R 68 973	R 75 683	R 207 387
26	Equitable share for water and sanitation (10%)	R 6 273	R 6 897	R 7 568	R 20 739
27					
28					

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

Menu		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)				
6	A.1	SDG 6.1. Equitable access to safe and affordable drinking water		2030
7	A.2	SDG 6.2. Equitable access to adequate sanitation		2030
8	A.3	SDG 6.3. Improve WQ and reduce pollution		2030
9	A.4	SDG 6.4. Increase water use efficiency		2030
10	A.5	SDG 6.5. Improve water resources management		2030
11	A.6	SDG 6.6. Protect and restore water ecosystems		2030
12	A.7	SDG 6.7. Expand international cooperation and capacity-building support		2030
13	A.8	SDG 6.8. Stakeholder participation to improve water and sanitation management		2030
14				
15				
B National Development Plan, Vision 2030 (National Planning Commission, 2012)				
16	B.1	Enabling infrastructure	Enabling milestones	
17	B.2	Critical actions	Critical actions	
18	B.3	Critical actions	Critical actions	
19	B.4	Critical actions	Critical actions	
20	B.5	Critical actions	Critical actions	
21	B.6	Economic infra. Obj.	Economic infrastructure: Reduce water demand in urban areas to 15% below business as usual scenario	15% below current by 2030
22	B.7	Economic infra. Obj.	Economic infrastructure: Comprehensive management strategy including investment programme for water resource development, bulk water supply and wastewater management	For Major centres, by 2012 Review every 5 years
23				

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.

Menu		1. Water and Sanitation Management						
ACTION PLAN		Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regional Actions	Mat. Req. & System (M)/Prov. (P)/Local (L)	Baseline / Status Quo	Drivers / Goals	Major Measurable Deliverable
3.1 Reducing water demand and increasing supply		11. Reduce water demand (RPA) and save losses in the business as usual.						
RPA water demand		Local	415,000 revenue water	415,000 revenue water	415,000 revenue water	415,000 revenue water	415,000 revenue water	26% Non-revenue water
National		Extrem Cape	48,320,000 revenue water	48,320,000 revenue water	48,320,000 revenue water	48,320,000 revenue water	48,320,000 revenue water	31,320,000 revenue water
Free State		Free State	42,320,000 revenue water	42,320,000 revenue water	42,320,000 revenue water	42,320,000 revenue water	42,320,000 revenue water	27,320,000 revenue water
Gauteng		Gauteng	34,750,000 revenue water	34,750,000 revenue water	34,750,000 revenue water	34,750,000 revenue water	34,750,000 revenue water	200,000 revenue water
KwaZulu Natal		KwaZulu Natal	485,000 revenue water	485,000 revenue water	485,000 revenue water	485,000 revenue water	485,000 revenue water	390,000 revenue water
Limpopo		Limpopo	63,250,000 revenue water	63,250,000 revenue water	63,250,000 revenue water	63,250,000 revenue water	63,250,000 revenue water	36,250,000 revenue water
Mpumalanga		Mpumalanga	48,250,000 revenue water	48,250,000 revenue water	48,250,000 revenue water	48,250,000 revenue water	48,250,000 revenue water	31,250,000 revenue water

Please hover on cell headings to obtain definitions

Directs

Useful info

Useful information **Define acronyms**

1. Menu

2. Water loss (DWS No Drop Report)

Province	2017 SV (m³/annum)	Population	% Non-Revenue Water	% WIL	Lead	LI
4. EC	4 477 918	332 151 326	138 647 165	41.80%	46.00%	201
6. FS	2 723 028	207 835 805	105 508 574	51.40%	46.50%	209
7. GT	12 979 281	1 473 100 700	528 839 540	35.90%	87.40%	305
8. KZN	8 491 598	697 751 184	327 444 107	46.90%	43.00%	256
9. LM	4 225 967	281 235 937	155 016 679	55.10%	35.10%	182
10. MP	3 622 595	270 590 713	129 652 450	47.90%	43.50%	205
11. NC	1 085 944	94 205 308	45 418 308	48.20%	45.50%	239
12. NW	3 039 951	206 456 625	105 277 858	51.10%	51.00%	186
13. WC	6 108 951	482 895 411	102 220 237	21.30%	16.70%	201
14. National	46 754 146	4 048 483 225	1 659 888 111	41.00%	38.50%	231

15. Green Drop Certification Summaries

Province	Number of WSA's (2003)	Number of WSA's with Certified Systems (2016)	Number of Works (2016)	Number of Certified Works	No of 27 Priority DfWs (2017)	No of DfWs
16. Eastern Cape	14	1	136	1	5	6
17. Free State	19	2	120	7	1	2
20. Gauteng	14	5	102	7	1	1
21. KwaZulu-Natal	14	5	298	19	10	11
22. Limpopo	10	3	144	3	5	5
23. Mpumalanga	17	2	184	3	1	3
24. North West	10	0	92	0	3	4
25. Northern Cape	26	1	146	1	1	5
26. Western Cape	25	8	207	26	0	6
27. Toronto	144	21	1490	19	27	6

29. National Standards for Drinking Water quality

Ready

Water & Sanitation | Enabling Environ | Infrastructure | Finances | Budget Cycle | Drivers | Useful Info | Del

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.

3. Water and Sanitation Management ACTION PLAN

Level 1: Key Actions

Level 2: Supporting Actions

Level 3: Regional Actions

Level 4: National

1.1 Reducing water demand and increasing supply

Reduce water demand

Level	Key Action	Supporting Action	Regional Action	Nat. Reg. & (M)/Prov. (P)/Local (L)	Major Measurable Deliverable
1.1	Reduce water demand	1.1.1 Non-revenue water (NRW) reduction in municipalities to 8% below the business as usual	1.1.1.1 National	Local	25% Non-revenue water
			Eastern Cape	N/A	31.5% Non-revenue water
			Free State	N/A	27.2% Non-revenue water
			Gauteng	N/A	50% Non-revenue water
			KwaZulu-Natal	N/A	30% Non-revenue water
			Limpopo	N/A	31.2% Non-revenue water
			Mpumalanga	N/A	31.2% Non-revenue water

Overall it is based on all headings to obtain definitions

Direct Drivers / Goals

Data

Geographical and other place names

1. Menu

Province	District Municipality	Local Municipality	Water Service Authority	WMA	Responsible Institution	27 Priority DfWs
4. Eastern Cape	Alfred Duma	Alfred Duma Local Municipality	Alfred Duma Water Services	Alfred Duma WMA	Alfred Duma WMA	Alfred Duma WMA
6. Free State	Alfred Duma	Alfred Duma Local Municipality	Alfred Duma Water Services	Alfred Duma WMA	Alfred Duma WMA	Alfred Duma WMA
7. Gauteng	Alfred Duma	Alfred Duma Local Municipality	Alfred Duma Water Services	Alfred Duma WMA	Alfred Duma WMA	Alfred Duma WMA
8. KwaZulu-Natal	Alfred Duma	Alfred Duma Local Municipality	Alfred Duma Water Services	Alfred Duma WMA	Alfred Duma WMA	Alfred Duma WMA
9. Limpopo	Alfred Duma	Alfred Duma Local Municipality	Alfred Duma Water Services	Alfred Duma WMA	Alfred Duma WMA	Alfred Duma WMA
10. Mpumalanga	Alfred Duma	Alfred Duma Local Municipality	Alfred Duma Water Services	Alfred Duma WMA	Alfred Duma WMA	Alfred Duma WMA
11. Northern Cape	Alfred Duma	Alfred Duma Local Municipality	Alfred Duma Water Services	Alfred Duma WMA	Alfred Duma WMA	Alfred Duma WMA
12. North West	Alfred Duma	Alfred Duma Local Municipality	Alfred Duma Water Services	Alfred Duma WMA	Alfred Duma WMA	Alfred Duma WMA
13. Western Cape	Alfred Duma	Alfred Duma Local Municipality	Alfred Duma Water Services	Alfred Duma WMA	Alfred Duma WMA	Alfred Duma WMA
14. National	Alfred Duma	Alfred Duma Local Municipality	Alfred Duma Water Services	Alfred Duma WMA	Alfred Duma WMA	Alfred Duma WMA

Water & Sanitation | Enabling Environ | Infrastructure | Finances | Budget Cycle | Drivers | Useful Info | Del

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.

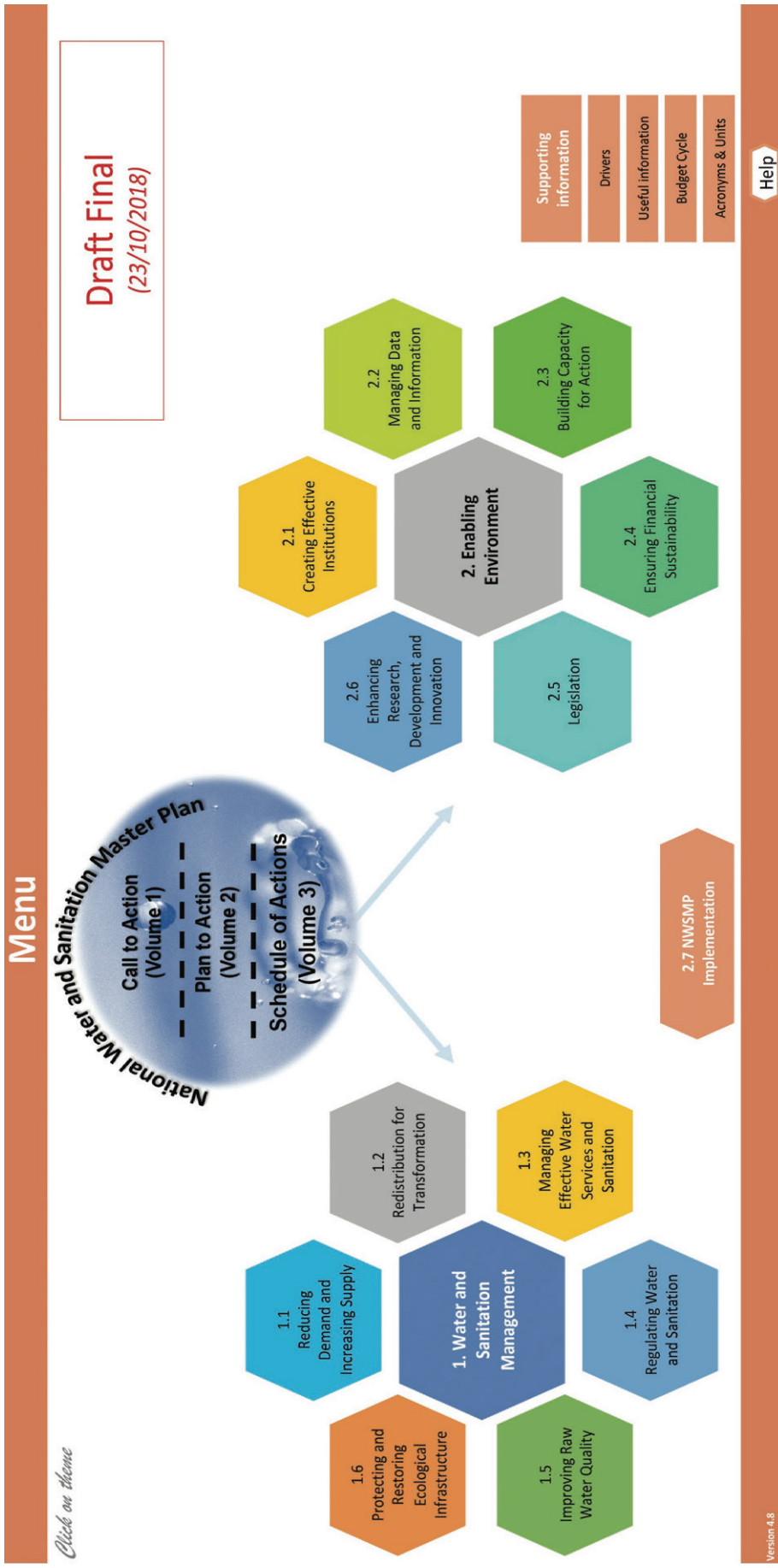
4.2 SPECIFICATIONS:

Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regulatory Actions	Nat. Reg. & Standards (N/Pro v. (P)/Local (L))	Baseline Status Quo	Overall targets				Breakdown of deliverables per time segment												Priority						
					Drivers	Major Deliverable	Target Date		Present Value Cost (VAT excl.) 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 investment generate?	What has prevented action from being completed to date?					
							Start	Compl.		Deliverable	Date	PV Cost million	Deliverable	Date	PV Cost million	Deliverable	Date						PV Cost million	Deliverable	Date	PV Cost 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																											
<p>A Level 1 Key Action</p> <p>NW&SMP Main sections:</p> <ol style="list-style-type: none"> W&S management Enabling environment <p>Level 1 is linked to the 6 NW&SMP sub sections:</p> <ol style="list-style-type: none"> Reducing water demand and increasing supply <ol style="list-style-type: none"> Reducing Water Demand <ol style="list-style-type: none"> Increasing Supply <ol style="list-style-type: none"> Infrastructure Redistributing water for transformation Managing effective water and sanitation services <ol style="list-style-type: none"> Regulating the water and sanitation sector <ol style="list-style-type: none"> Improving raw water quality Protecting and restoring ecological infrastructure <ol style="list-style-type: none"> Creating effective water sector institutions Managing data and information <ol style="list-style-type: none"> Building Capacity for action Ensuring financial sustainability Amending the legislation <ol style="list-style-type: none"> Enhancing Research, development and innovation <p>Strategic action</p> <p>Driven by Government objectives and goals</p> <p>Broad deliverable and no prioritisation required on this level</p> <p>Timeframes determined by Government objectives and goals – roll-up of timeframes from level 2 and level 3</p> <p>Only the lead responsibility to be indicated</p> <p>Budget to be rolled up from level 2 and level 3</p>																											
<p>Example</p> <p>W&S Management</p> <p>Reduce water demand</p>																											

	Definition			Example
B	Level 2: Supporting Action		<p>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</p> <p>Include supporting action(s) ordered chronologically to meet sub goal 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</p>	<p>Reduce Non-Revenue Water (NRW) and water losses in all municipalities to 15% below the business as usual.</p>
C	Level 3: Regional Action		<p>Detailed action(s) required to meet sub-goal set under Level 2 Actions to be listed in order of execution to meet sub goal (propose "bottom to top" approach) Timeframes will depend on current SQ specific to the level (N, P, L, WB, System) but must be within target set at Level 1 Budgets to be level specific</p>	<p>List per province: No of WSAs per provinces / NRW target</p>
D	Level (N, P, L)	Nat, Reg. & System (N)/Prov. (P)/Local (WSA)	Level to meet the target could be: National(N), Provincial (P), Local (WSA), Water Board (WB)	P
E	Baseline / Status Quo	Status Quo	Current Status Quo Current baseline in 2018	46.3
F	Overall targets	Drivers	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 These Drivers are listed under the Drivers tab within the spreadsheet	A.3, B11
G		Major Measurable Deliverable	Overall Sub goal set to meet the strategic action	20 % NRW per WSA
H		Target Start Date	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
I		Target Completion date	Start date should be indicated per financial year in which the action will start	2018
J		Responsible Institutions	Completion date should be indicated per financial year in which the action will be completed	2030
K	Present Value Cost. (VAT excl) R million		Level to meet the target could be; National(N), Provincial (P), Local (WSA), Water Board (WB)	WSA, DWS, CoGTA
L	Breakdown of deliverables per time segment	2018-2020 Deliverable	Cost should reflect the total cost requirement over the full period	R 439,2
M		Date	Reduce overall target to meet strategic action	Reduce NRW by 15% per annum until national strategic target of 20% is met
N		Cost	Start date should be indicated per financial year	2018
O		2021-2025 Deliverable	Multiply no of entities not meeting target with unit cost per and the total no of financial years	R 16
			Reduce overall target to meet strategic action	Reduce NRW by 15% per annum until national strategic target of 20% is met

Definition		Example	
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
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

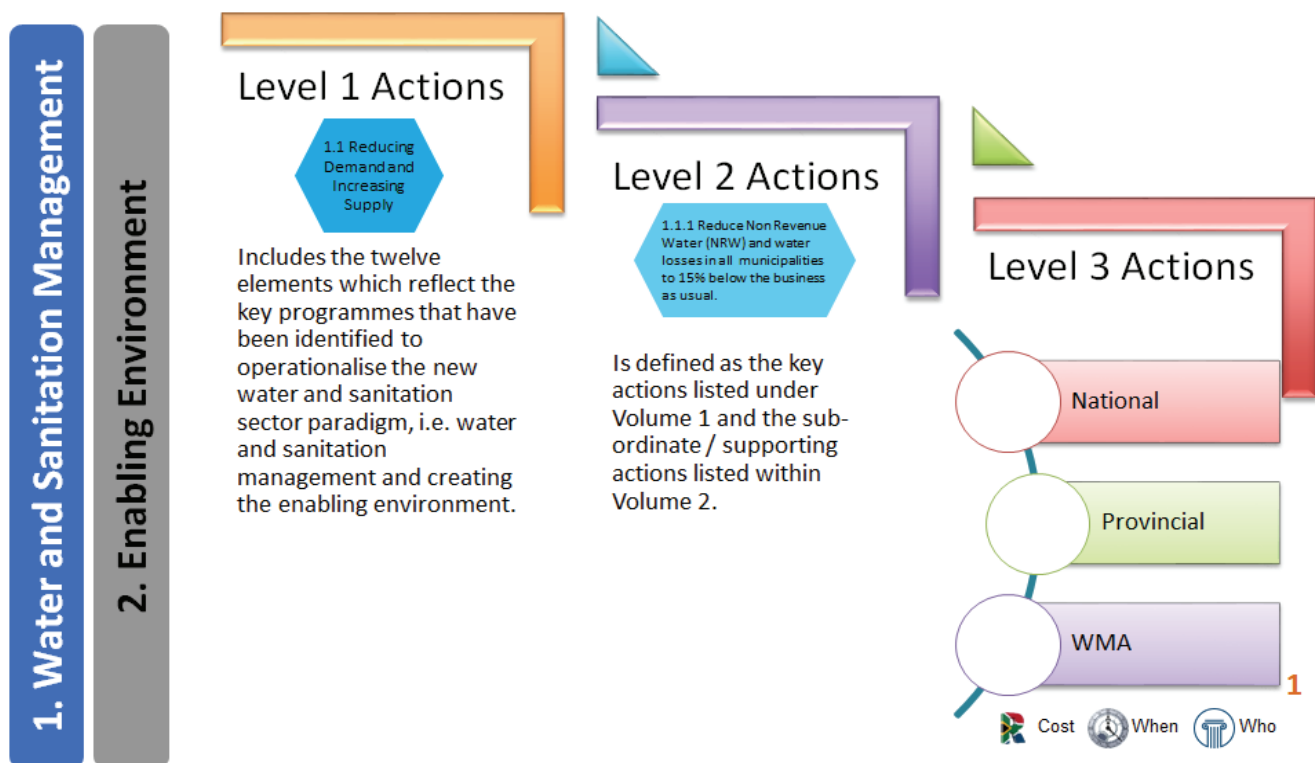
2. VOLUME 3: SCHEDULE OF ACTIONS



3. DETERMINANTS

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

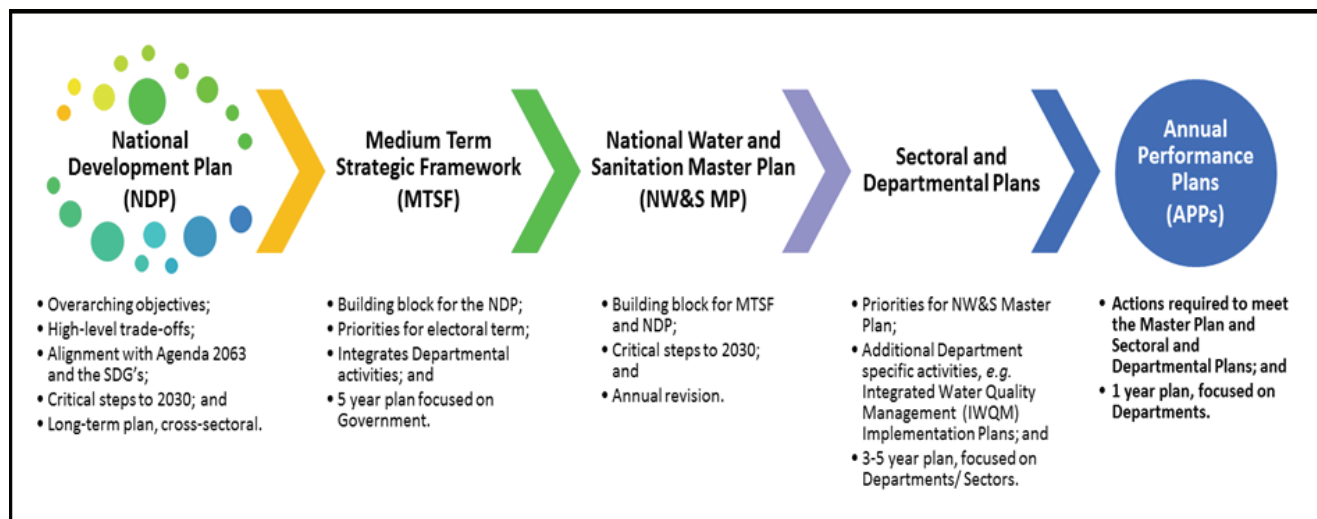
Figure 3-1: Content of Volume 3



- 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 must 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.

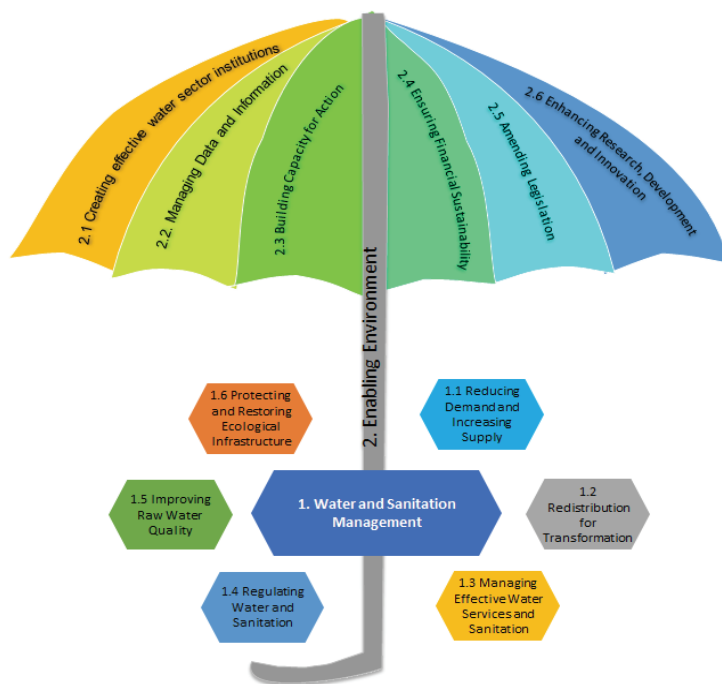


Figure 3-3: Linkages between Actions

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 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.
- 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

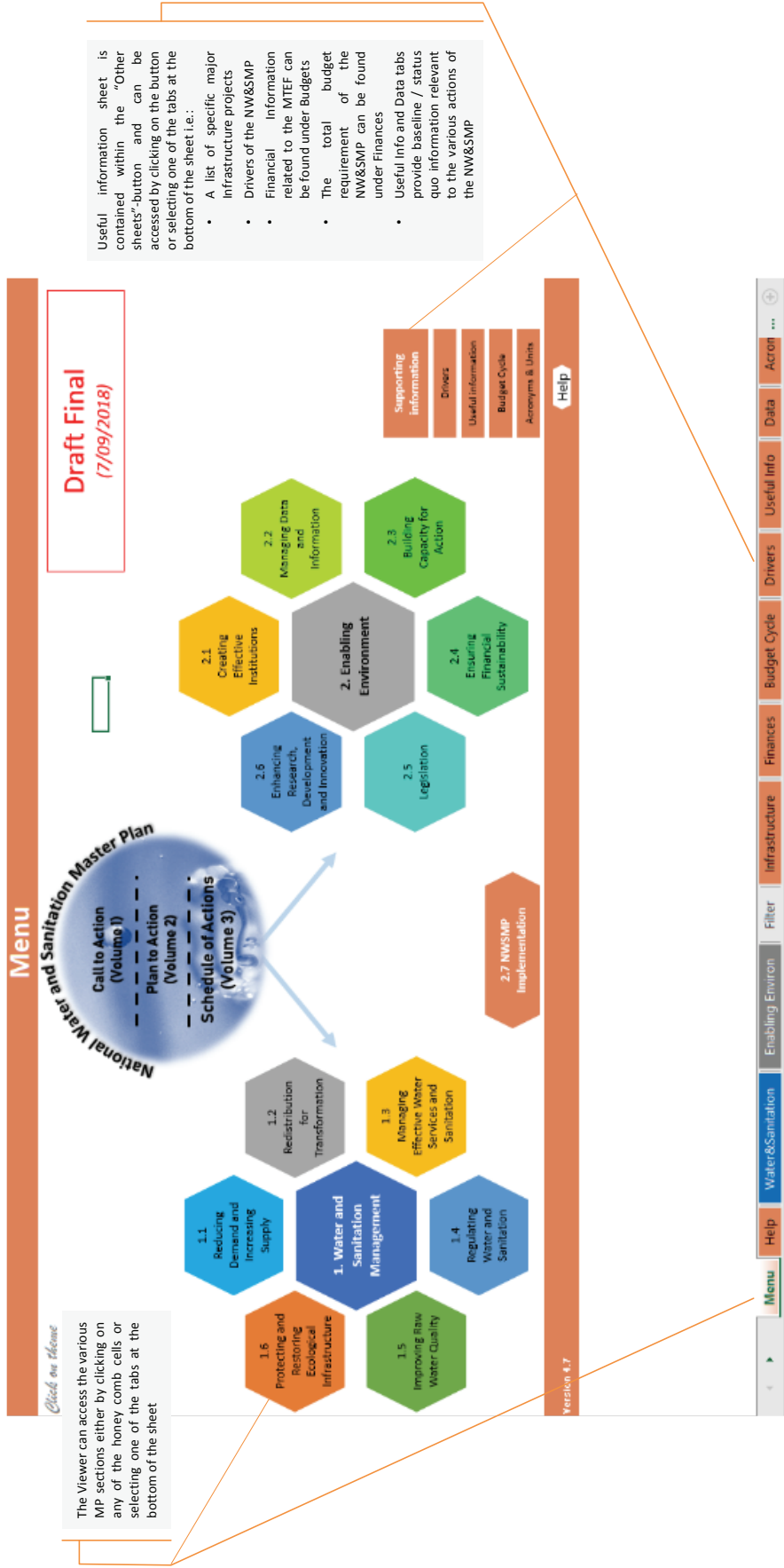
The reader must take note that Volume 3 is currently still under development, its full functionality and interactiveness is therefore currently work in progress. As Volume 3 is communicated to the Water Sector, additional functionalities that could be incorporated in future, are the following:

- 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



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 '1. Water and Sanitation Management' section of the NW&SMP ACTION PLAN. The interface is organized into columns A through F, representing different levels of actions and their associated metrics.

- Column A:** Lists action levels from 1 to 6, including 'Level 1: Key Actions', 'Level 2: Supporting Actions', 'Level 3: Regional Actions', and 'Level 4: Key Actions'.
- Column B:** Contains 'Level 1: Key Actions' and 'Level 2: Supporting Actions'.
- Column C:** Features 'Level 3: Regional Actions' and 'Level 4: Key Actions'.
- Column D:** Shows 'Nat., Reg. & System (N/Prov. (P)/Local (L))'.
- Column E:** Displays 'Baseline / Status Quo'.
- Column F:** Lists 'Drivers / Goods'.

Key features and callouts include:

- Menu:** A button in the top right corner for returning to the Home Screen.
- Help:** A button in the top right corner for accessing definitions.
- Cell Headings:** A callout pointing to the 'Level 1: Key Actions' header, stating that hovering over it provides definitions.
- Expandable Sections:** A callout pointing to a '+' icon next to 'Level 1: Key Actions', indicating that clicking it reveals detailed actions.
- Navigation:** A callout pointing to the '1. Water and Sanitation Management' header, explaining that clicking it jumps to the corresponding sheet.

The main content area shows a detailed view of 'Level 1: Key Actions' with a list of sub-sections: 1.1 Reducing water demand and increasing supply, 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, and 1.6 Protecting and restoring ecological infrastructure. A 'Major Measurable Deliverable' table is also visible, listing various metrics and their targets.

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 (mln m ³ /a)	Procurement	TOTAL
<p>Surface Water</p> <p>↳ Surface water ↔</p> <p>↳ Desalination ↔</p> <p>↳ Re-use ↔</p>									
Lesotho Highlands Water Project - Phase 2	The construction of the Polihale Dam, a balancing dam, tunnel system, which supplies water to the Vaal River System, and the construction of the Venterdam Dam, a balancing dam, tunnel system, which supplies water to the Orange River System, and the construction of the Venterdam Dam, a balancing dam, tunnel system, which supplies water to the Orange River System.	N/A	Cape Town (City of)	N/A	Orange	Senqo River Catchment (Orange)	470	Design	
Western Cape Water Supply System Augmentation Project	North West Dam Supplement and the construction of the Venterdam Dam, a balancing dam, tunnel system, which supplies water to the Orange River System, and the construction of the Venterdam Dam, a balancing dam, tunnel system, which supplies water to the Orange River System.	Western Cape	Cape Town (City of) Metropolitan Municipality		Berg Oflants	Veele River Catchment	20	Financing	
Western Cape Water Desalination Plant	Large Scale Desalination Plant, which will supply water to the surrounding areas. The project will require government assistance with funding.	Western Cape			Berg Oflants		49	Concept and Viability	
uMkhomazi Water Project Phase 1 Raw Water	The construction of the Smithfield Dam, a balancing dam, tunnel system, which supplies water to the uMkhomazi Water Supply System (WSS) that supplies eThekweni, uMgungululu and the surrounding areas. The project will require government assistance with funding.	KwaZulu Natal	Inqwe Local Municipality (ECSA)		Pongola, Mzimkulu	uMkhomazi River Catchment	215	Concept and Viability	
Acid Mine Drainage (AMD) - Phase 2 Western Basin	The construction of the long term solution in the Witwatersrand Gold Fields Areas.	Gauteng	Buruhlem Metropolitan Municipality	Buruhlem Local Municipality	Vaal	Middle Vaal River Catchment	220	Financing	
Acid Mine Drainage (AMD) - Phase 1	The construction of water treatment plants.								

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.

	2018-2020	2021-2025	2026-2030	Present Value Cost (VAT ed) (M\$ billion)	(2018)	%	
3							
4							
5	1,43,545	308,943	34,514	487,003	check		
6	1.1 Reducing water demand and increasing supply	17,425	64,968	28,914	21,899	111,407	23%
7	1.2 Redistributing water for transformation	22	13	10	0.01%	45	0.0%
8	1.3 Managing effective water and sanitation services	115,013	242,891	4,486	73.17%	372,340	76%
9	1.4 Regulating the water and sanitation sector	443	231	145	0.16%	819	0.2%
10	1.5 Improving raw water quality	841	705	901	0.38%	1,947	0.4%
11	1.6 Protecting and restoring ecological infrastructure	201	135	108	0.09%	444	0.1%
12	2. Enabling Environment	13,043	8,322	363		21,868	OK
13	2.1 Creating effective water sector institutions	826	3	-	0.16%	828	4%
14	2.2 Managing Data and Information	24	24	22	0.21%	70	0.3%
15	2.3 Building Capacity for Action	10,091	90	108	2.02%	10,289	47%
16	2.4 Ensuring Financial Sustainability	2,008	8,004	-	1.97%	10,012	46%
17	2.5 Legislation	26	29	-	0.01%	55	0.3%
18	2.6 Enhancing Research, Development and Innovation	68	173	233	0.09%	473	2%
19	2.7 Implementation of NWSMP	71	35	35	0.00%	141	1%
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							

Legend for Pie Chart:

- 1.1 Reducing water demand and increasing supply (6%)
- 1.2 Redistributing water for transformation (0%)
- 1.3 Managing effective water and sanitation services (22%)
- 1.4 Regulating the water and sanitation sector (0%)
- 1.5 Improving raw water quality (2%)
- 1.6 Protecting and restoring ecological infrastructure (6%)
- 2.1 Creating effective water sector institutions (4%)
- 2.2 Managing Data and Information (0.3%)
- 2.3 Building Capacity for Action (47%)
- 2.4 Ensuring Financial Sustainability (46%)
- 2.5 Legislation (0.3%)
- 2.6 Enhancing Research, Development and Innovation (2%)
- 2.7 Implementation of NWSMP (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		MTEF			
Budget (2018/19 to 2020/21)		2018/19	2019/20	2020/21	3 year total
		(R million)	(R million)	(R million)	(R million)
1					
2					
3					
4	Available budget/funds				
5					
6					
7	Budget Vote 36				
8	Programme 1 Administration	R 1 715	R 1 808	R 1 922	R 5 445
9	Programme 2 Water Planning and Information Management	R 862	R 1 030	R 2 857	R 4 749
10	Programme 3 Water Infrastructure Development	R 12 496	R 13 233	R 13 959	R 39 687
11	Programme 4 Water Sector Regulation	R 499	R 461	R 499	R 1 459
12	DWS Total	R 15 572	R 16 467	R 17 409	R 49 447
13					
14	DORA infrastructure transfers related to water				
15	Direct transfers				
16	<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>
17	Water component of MIG (50%)	R 7 644	R 7 867	R 8 300	R 23 811
18	Water Services Infrastructure	R 3 481	R 3 669	R 3 871	R 11 021
19	Regional bulk infrastructure	R 1 957	R 2 066	R 2 180	R 6 203
20	Indirect transfers				
21	Regional bulk infrastructure	R 2 881	R 3 037	R 3 204	R 9 122
22	Water Services Infrastructure	R 608	R 642	R 678	R 1 928
23					
24	Municipal revenue	R 72 000	R 76 320	R 80 899	R 229 219
25	Equitable share	R 62 731	R 68 973	R 75 683	R 207 387
26	Equitable share for water and sanitation (10%)	R 6 273	R 6 897	R 7 568	R 20 739
27					
28					

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

Menu		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)				
6	A.1	SDG 6.1. Equitable access to safe and affordable drinking water		2030
7	A.2	SDG 6.2. Equitable access to adequate sanitation		2030
8	A.3	SDG 6.3. Improve WQ and reduce pollution		2030
9	A.4	SDG 6.4. Increase water use efficiency		2030
10	A.5	SDG 6.5. Implement integrated water resources management		2030
11	A.6	SDG 6.6. Protect and restore water ecosystems		2030
12	A.7	SDG 6.7. Expand international cooperation and capacity-building support		2030
13	A.8	SDG 6.8. Stakeholder participation to improve water and sanitation management		2030
14				
15				
B National Development Plan, Vision 2030 (National Planning Commission, 2012)				
16	B.1	Enabling infrastructure	Enabling milestones	
17	B.2	Critical actions	Critical actions	
18	B.3	Critical actions	Critical actions	
19	B.4	Critical actions	Critical actions	
20	B.5	Critical actions	Critical actions	
21	B.6	Economic infra. Obj.	Economic infrastructure: Reduce water demand in urban areas to 15% below business as usual scenario	15% below current by 2030
22	B.7	Economic infra. Obj.	Economic infrastructure: Comprehensive management strategy including investment programme for water resource development, bulk water supply and wastewater management	For Major centres, by 2032 Review every 5 years
23				

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.

Menu		1. Water and Sanitation Management					Overall	
ACTION PLAN		Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regional Actions	Mat. Req. & System (M)/Prov. (P)/Local (L)	Baseline / Status Quo	Drivers / Goals	Major Measurable Deliverable
3.1 Reducing water demand and increasing supply		11. Reduce water demand	11.1. Reduce water demand	11.1.1. Reduce water demand	Local	415: Non-revenue water	Directly	26% Non-revenue water
		11.2. Increase water supply	11.2.1. Increase water supply	11.2.1.1. Increase water supply	National	415: Non-revenue water	Directly	31.3% Non-revenue water
		11.3. Increase water supply	11.3.1. Increase water supply	11.3.1.1. Increase water supply	Extrem Cape	415: Non-revenue water	Directly	27.3% Non-revenue water
		11.4. Increase water supply	11.4.1. Increase water supply	11.4.1.1. Increase water supply	Free State	415: Non-revenue water	Directly	20% Non-revenue water
		11.5. Increase water supply	11.5.1. Increase water supply	11.5.1.1. Increase water supply	Gauteng	415: Non-revenue water	Directly	39% Non-revenue water
		11.6. Increase water supply	11.6.1. Increase water supply	11.6.1.1. Increase water supply	North West	415: Non-revenue water	Directly	36% Non-revenue water
		11.7. Increase water supply	11.7.1. Increase water supply	11.7.1.1. Increase water supply	Limpopo	415: Non-revenue water	Directly	31.2% Non-revenue water
		11.8. Increase water supply	11.8.1. Increase water supply	11.8.1.1. Increase water supply	Mpumalanga	415: Non-revenue water	Directly	31.2% Non-revenue water

Useful info

Useful information Define acronyms

1. Menu

2. Water loss (DWS No Drop Report) 2017

Province	Population	SV (m³/annum)	% Non-Revenue Water	% WIL	Lead	LI
4. EC	4 477 918	332 151 326	138 647 165	41.80%	46.00%	201
5. FS	2 723 028	207 835 805	105 508 574	51.40%	46.50%	209
6. FS	2 723 028	207 835 805	105 508 574	51.40%	46.50%	209
7. GT	12 979 281	1 473 100 700	528 839 540	35.90%	87.40%	305
8. KZN	8 491 598	697 751 184	327 444 107	46.90%	43.00%	256
9. LM	4 225 967	281 235 937	155 016 679	55.10%	35.10%	182
10. MP	3 622 595	270 590 713	129 652 450	47.90%	43.50%	205
11. NC	1 085 944	94 205 305	45 418 308	48.20%	45.50%	239
12. NW	3 039 951	206 456 625	105 577 858	51.10%	51.00%	186
13. WC	6 108 951	482 895 411	102 220 237	21.30%	16.70%	201
14. National	46 754 146	4 048 483 225	1 659 888 111	41.00%	38.50%	231

15. Green Drop Certification Summaries

Province	Number of WSA's (2003)	Number of WSA's with Certified Systems (2016)	Number of Works (2016)	Number of Certified Works	No of 27 Priority DfIs (2017)	No of DfIs
16. Eastern Cape	14	1	150	1	5	6
17. Free State	19	2	120	7	1	2
18. Gauteng	14	5	102	7	1	1
19. KwaZulu-Natal	14	5	298	19	10	11
20. Limpopo	10	3	144	3	5	3
21. Mpumalanga	17	2	184	3	1	3
22. Northern West	10	0	92	0	3	4
23. Northern East	26	1	146	1	1	5
24. Western Cape	25	8	207	26	0	6
25. Toronto	144	21	1400	19	27	6

26. National Standards for Drinking Water quality

27. Menu

28. Help

29. Water & Sanitation

30. Enabling Environ

31. Infrastructure

32. Finances

33. Budget Cycle

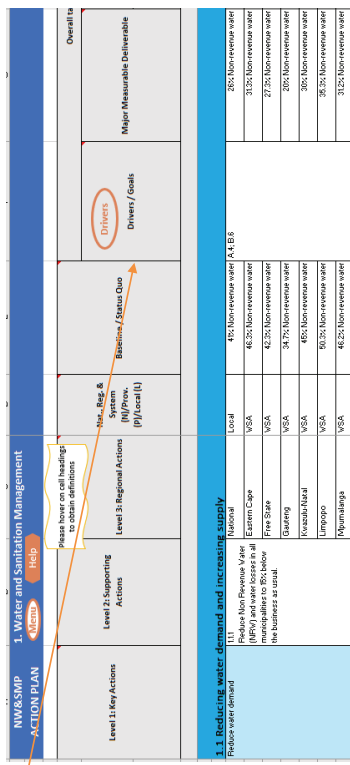
34. Drivers

35. Useful Info

36. Del

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.



Data

Geographical and other place names

1. Menu

2. Province

3. District Municipality

4. Local Municipality

5. Water Service Authority

6. WMA

7. Institution

8. 27 Priority DfIs

9. Eastern Cape

10. Free State

11. Gauteng

12. KwaZulu-Natal

13. Limpopo

14. Mpumalanga

15. Northern West

16. Northern East

17. Western Cape

18. Toronto

19. National

20. Help

21. Water & Sanitation

22. Enabling Environ

23. Infrastructure

24. Finances

25. Budget Cycle

26. Drivers

27. Useful Info

28. Del

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: Regulatory Actions	Nat. Reg. & Standards (N/Pro v. (P)/Local (L))	Baseline Status Quo	Overall targets				Breakdown of deliverables per time segment												Priority							
					Drivers	Major Deliverable	Target Date		Present Value Cost (VAT excl.) 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 million	Deliverable	Date	PV Cost million	Deliverable	Date						PV Cost million	Deliverable	Date	PV Cost 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																												
<p>A Level 1 Key Action</p> <p>NW&SMP Main sections:</p> <ol style="list-style-type: none"> W&S management Enabling environment <p>Level 1 is linked to the 6 NW&SMP sub sections:</p> <ol style="list-style-type: none"> 1.1 Reducing water demand and increasing supply <ol style="list-style-type: none"> 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 <ol style="list-style-type: none"> 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 <p>Strategic action</p> <p>Driven by Government objectives and goals</p> <p>Broad deliverable and no prioritisation required on this level</p> <p>Timeframes determined by Government objectives and goals – roll-up of timeframes from level 2 and level 3</p> <p>Only the lead responsibility to be indicated</p> <p>Budget to be rolled up from level 2 and level 3</p>																												
<p>Example</p> <p>W&S Management</p> <p>Reduce water demand</p>																												

Definition		Example
	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	
B	Level 2: Supporting Action Include supporting action(s) ordered chronologically to meet sub goal 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	Reduce Non-Revenue Water (NRW) and water losses in all municipalities to 15% below the business as usual.
C	Level 3: Regional Action Detailed action(s) required to meet sub-goal set under Level 2 Actions to be listed in order of execution to meet sub goal (propose "bottom to top" approach) Timeframes will depend on current SO specific to the level (N, P, L, WB, System) but must be within target set at Level 1 Budgets to be level specific	List per province: No of WSAs per provinces / NRW target
D	Level (N, P, L) Nat , Reg. & System (N)/Prov. (P)/Local (WSA)	P
E	Baseline / Status Quo Status Quo	46.3
F	Overall targets Drivers	A.3, B11
G	Major Measurable Deliverable Overall Sub goal set to meet the strategic action	20 % NRW per WSA
H	Target Start Date 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 2018
I	Target Completion date Completion date should be indicated per financial year in which the action will be completed	2030
J	Responsible Institutions Level to meet the target could be: National(N), Provincial (P), Local (WSA), Water Board (WB)	WSA, DWS, CoGTA
K	Present Value Cost (VAT excl) R million Cost should reflect the total cost requirement over the full period	R 439.2
L	Breakdown of deliverables per time segment 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

Definition		Example
P	Date	Start date should be indicated per financial year
Q	Costs	Multiply no of entities not meeting target with unit cost per and the total no of financial years
R	2026-2030, (current MP horizon, to vary in future) Deliverable	Reduce overall target to meet strategic action
S	Date	Start date should be indicated per financial year
T	Cost	Multiply no of entities not meeting target with unit cost per and the total no of financial years
U	2031-2050 (beyond current MP horizon) Deliverable	Maintain overall strategic target
V	Date	Start date should be indicated per financial year
W	Costs	Responsible entity should include budget to maintain national strategic target
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
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
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
AB	What has prevented action from being completed to date?	WSAs

ADDENDUM 1

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