



Western Cape
Government

BETTER TOGETHER.

PORTFOLIO COMMITTEE ON WATER AND SANITATION

COORDINATED DROUGHT RESPONSE

25 October 2017

Mr G Paulse

Climate Change



Western Cape
Government

→ Mee NoD -

Climate Outlook

Graham -

effect of
climate change →

- Increasingly frequent and severe weather events
- Increases in temperature in many regions and resulting changes in precipitation patterns
- Estimated that by 2050, rainfall in the Western Cape is likely to have **decreased by 30%**
- More flooding events → less infiltration and recharge of ground water
- Quality of the water resource, as impacted on by human activities, becomes even more important
- More fires and droughts → poorer water quality (erosion)

storms
& fires in
Kaysna



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water plan based on normal
rainfall.
Water above politics.

Unique Situation of Western Cape

Winter: 90% of our rain 25% of the demand

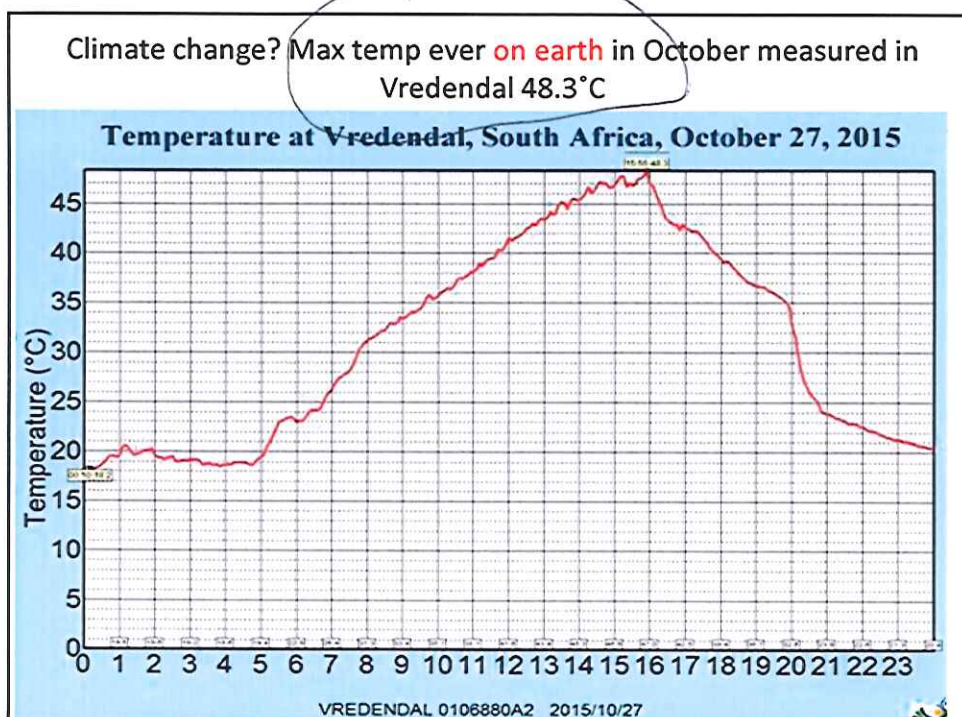
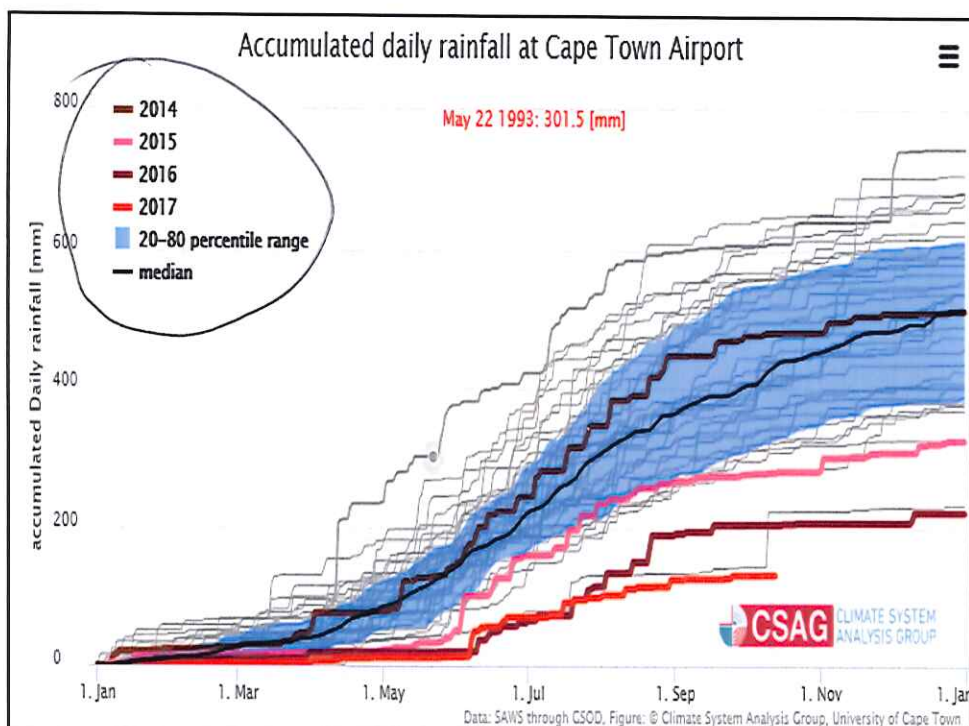
Summer: 10% of our rain 75% of the demand

Need to store winter runoff in dams to be available in summer for consumption and irrigation

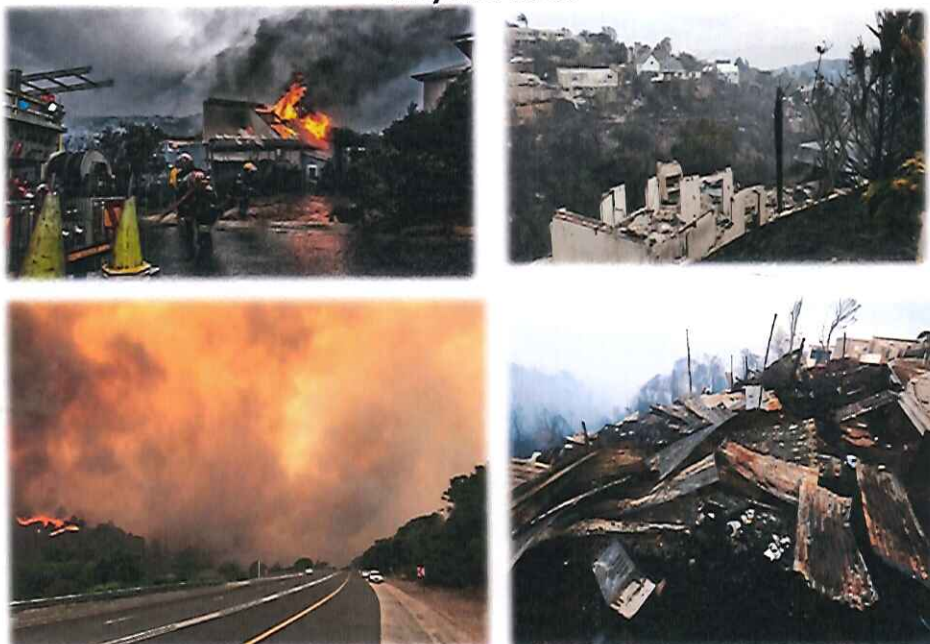


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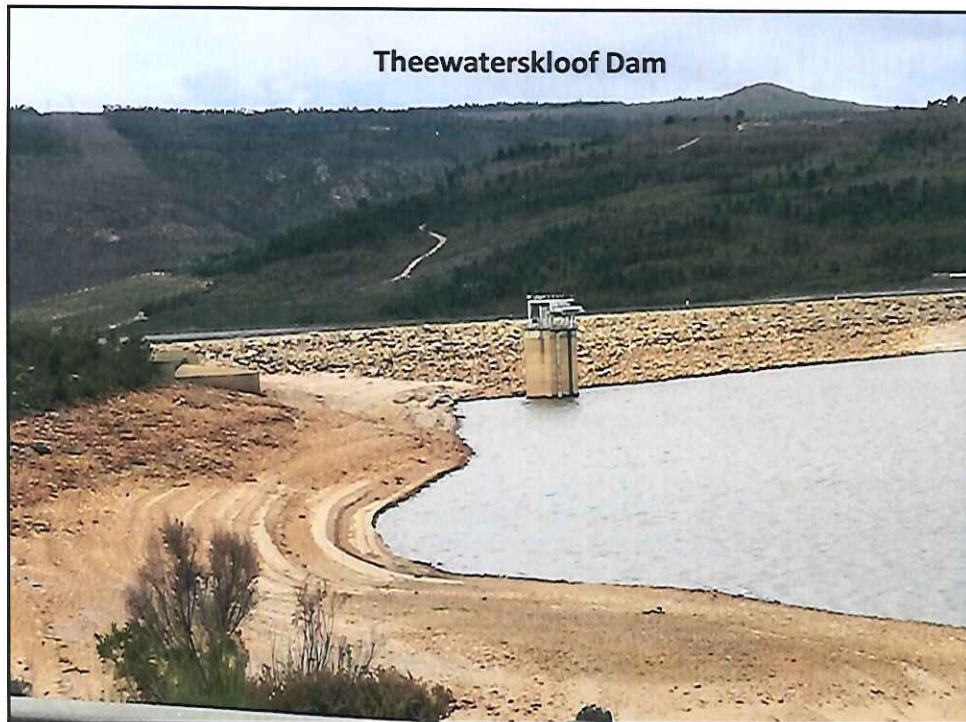
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June 17

Knysna Fires**Critical Dam Levels**

Dam	% on 16/10/2017	% change from last week	% on 16/10/2016	Storage capacity Mm ³
Greater Brandvlei	33.4	+0.6	58.1	286
Theewaterskloof	27.0	-0.3	52.5	479
Voëlvlei	27.1	-0.7	71.8	158
Berg River	65.9	-0.02	72.5	127
Clanwilliam	39.4	-2.5	99.9	122



Impact on Domestic Users

- Reduced levels of water and sanitation services to communities.
- Water restrictions are enforced e.g. 87 litres p/d and 20 kl pm
- Reduced water pressure, water rationing, e.g. High building and elevated residence, water management devices
- Moratoriums on further developments exist and there are delays on growth in residential market, business growth
- Increased in Water tariffs, punitive water tariff, fines.
- Disruptions in water services to consumers
- Consumer Behavioural change



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Significant

Impact on agriculture

Vegetables

Ceres: 50% less onions planted and 80% less potatoes due to lack of water, resulting in **loss of R40 million in wages to agri workers.**

Tomatoes

Puree factory in Lutzville will not open this season.

Deciduous fruit:

20% small crop expected, with smaller fruit resulting in reduction in farm income
2016: produced same tonnage but **smaller fruit resulted in R720 million losses**

Actions taken:

1. Remove flowers from trees to stop fruit forming
2. Take out all the old orchards (approximately 10 – 20%) in order to save water.
3. 30% of citrus trees being cut back for regrowth next season.



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Farmers
actions

Impact on agriculture

Wine industry

- Under financial stress and the drought is aggravating it. Nursery vines orders for new planting are being cancelled and kept in cold storage.
- A **5% reduction** in the wine production equates to a **loss of R175 million** at the **farm gate** and R525 million with the value chain added.
- Available water will only be allocated to high producing vineyards.

Grain

- Producers are **using their wheat fields as grazing** for their animals as they will not be able to harvest this year.
- Indications show that wheat production will be lower than the average demand of 600 000 tonnes per annum in the Western Cape.

Livestock

- The situation is getting desperate for grazing and fodder availability is a major problem.



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Impact on agriculture

Social Welfare

- Seasonal workers not getting work, **Agri WK estimate 50 000 breadwinners** will not have a normal income or any income at all.
- The social-economic effect is going to be astronomical with the following impacts:
 1. Humanitarian needs in the rural areas.
 2. People moving to the Metro and towns.
 3. Rural safety will be compromised with increased criminal activities.
 4. Potential health risks.
 5. Support to producers, their wives, children, agri workers and their families in respect of:
 - Emotional needs to manage their situation
 - Spiritual well being
 - Physical needs – food, water, shelter, etc.



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Drought support to stock farmers

Provided support to Central Karoo, West Coast, Kannaland and Witzenberg to date.

- 1 482 farmers
- 89 374 animals (SSU's)

Source of funding	Amount (million)
Reprioritised DoA budget	R 66.789
Reprioritised CASP	R 10.804
Donation AgriSA	<u>R 2.5</u>
Total	R 80.093
Spent (end Aug 2017)	<u>R 60.395</u>
Balance	R 19.698

Vouchers issued for Sept R 11.8 million → Balance R 7.898 million

DAFF allocation R 40 million → With support every 2nd month: up to March 2018

Short term challenges

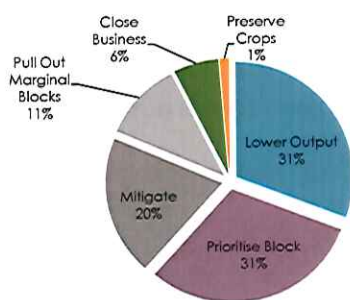
Veld will not recover before next spring, if sufficient rain fall is received, shortfall in funding for support

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SCENARIO: 60% LESS WATER ALLOCATED

Producers were asked their strategy in the following scenario regarding 2017/18 water availability for the next summer

If water supply is capped to 60% of your allocation, what will be the impact on-farm



- The average decline in production is expected to be 36.9%
- This will translate to
 - R4.96 billion GVA decline for 2017/8 (27% of the WC Agri industry)
 - 35 634 potential job losses
 - The sector is set to lose valuable market share in fruit exports
 - Some farm operations are likely to go bankrupt as a result



DISCLAIMER:

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AVIAN FLU 2017

- AI has been detected in the Province; currently 2 769 483 commercial poultry have died or are in the process to be culled as result of AI.
- Currently 2 623 812 are layer hens; expected to rise to 2 648 812 layer hens later this week, or 63% of Provincial egg laying flock
- It is estimated that 20-30% of all layers are in the Western Cape
- The impacts will be significant and affect especially the poorer sectors of society
- Immediate losses are estimated at R800 million

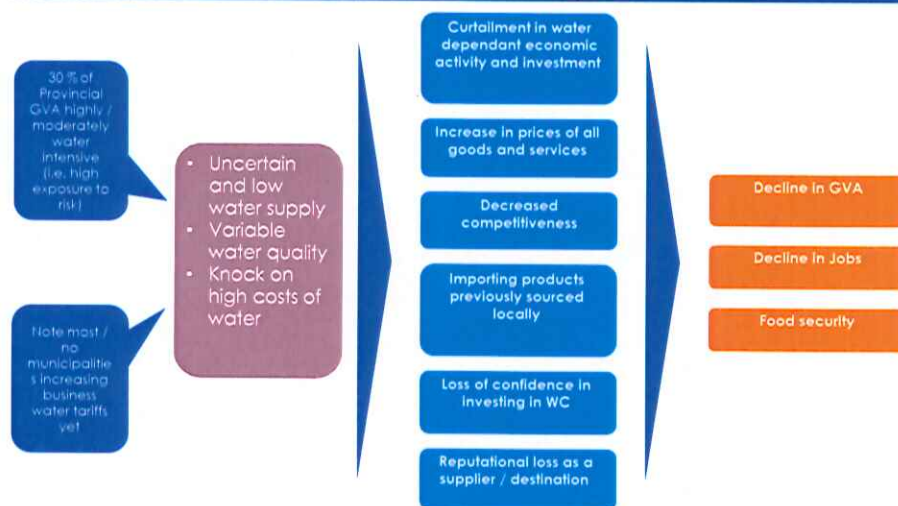
Item	Large-scale Production System	Income for full cycle (52 weeks)	Immediate Losses of Production
Number of Lay Hens	2 061 549		
Number of Eggs per day	0.85	Value of eggs	722 889 028.68
Total Dozens of eggs per Hen per life-span	26	Value of Spent Hen	72 154 215.00
Length of laying cycle	52 weeks	Total Loss	795 043 243.68
Dozens per week	1022185		
Dozens per cycle	53153605		



Disposal of Infected Material



Impact on Business Sector



Impact on Business Sector

- Risk of two fish canning factories in Saldanha Bay will close
 - If certainty of water supply is not secured
 - Lead to 4 to 6 thousand direct and indirect job losses
- Smelter at risk of closing down, 2000 direct job losses
- Swimming pool companies starting to downscale/close down ✓
- Nurseries – huge impacts, some closing ✓
- Car washers – waterless or close down ✓
- Construction industry – having to find own water supplies, but perception is that using water for projects not good and so contracts being cancelled 'until restrictions are lifted'

Some concerning messages:

- in light of potential water shortages, businesses have been ramping of production to stockpile goods
- businesses is storing municipal potable water in case of day Zero
- businesses mentioned a rates boycott the minute the City stops delivering water, part of their service delivery mandate'

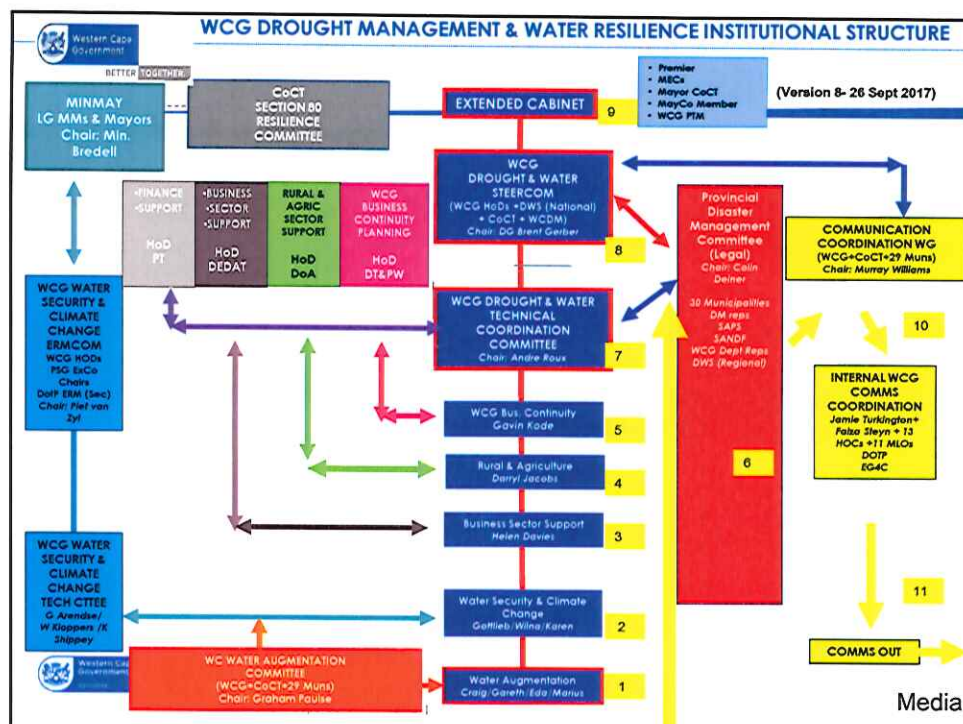


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Coordinated Response





Provincial Drought Risk Register

- On 14 January 2014 the first Provincial Drought Task Team Meeting was held including all provincial stakeholders and the City of Cape Town as well as the District Disaster Management Centres.
- In May 2016 an intensive three-day engagement was held with all municipalities in whereby they were invited to provide all the relevant information related to their drought status.
- PDMC developed a comprehensive water risk register
- a Number of critical interventions was revealed that is required to prevent certain areas from running out of water in the short-term as well as interventions required to ensure the long-term water security of the province.
- Estimated Cost: R5.4 billion

Provincial State of Disaster

- On 24 May 2017, a provincial state of disaster was declared under Provincial Notice 112/2017, published in Provincial Gazette 7771, issued under section 41(1) of the Act.
- The Premier of the province concerned may make regulations or issue directions or authorise the issue of directions concerning inter-alia: The issuing of Draft Directions under section 41(2) of the Act: Standardization of water restrictions



Appointment of Groundwater Specialists

Geohydrologists appointed on 8 August 2017 to provide specialist support as follows;

Geohydrologist	District
Aurecon South Africa (pty) Ltd	West Coast
JG Africa (pty) Ltd	Cape Winelands
Ages Omega (pty) Ltd	Overberg
GHT consulting scientists	Eden
SRK	Central Karoo

* Appointed Geohydrologists to liaise with Municipalities



Criteria used for Prioritization of Risk categorizations/ Levels

Prioritization of Risk categorizations

High Risk

- Towns with less than 90 days of water supply

Medium Risk

- Towns with less than 180 days of water supply

Low Risk

- Towns with 365 days of water supply



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Categorisation of Municipalities: Risk Levels

High Risk

- Beaufort West
- Kannaland
- Knysna
- Bitou
- City of Cape Town

*Indaba
etc*

Medium Risk

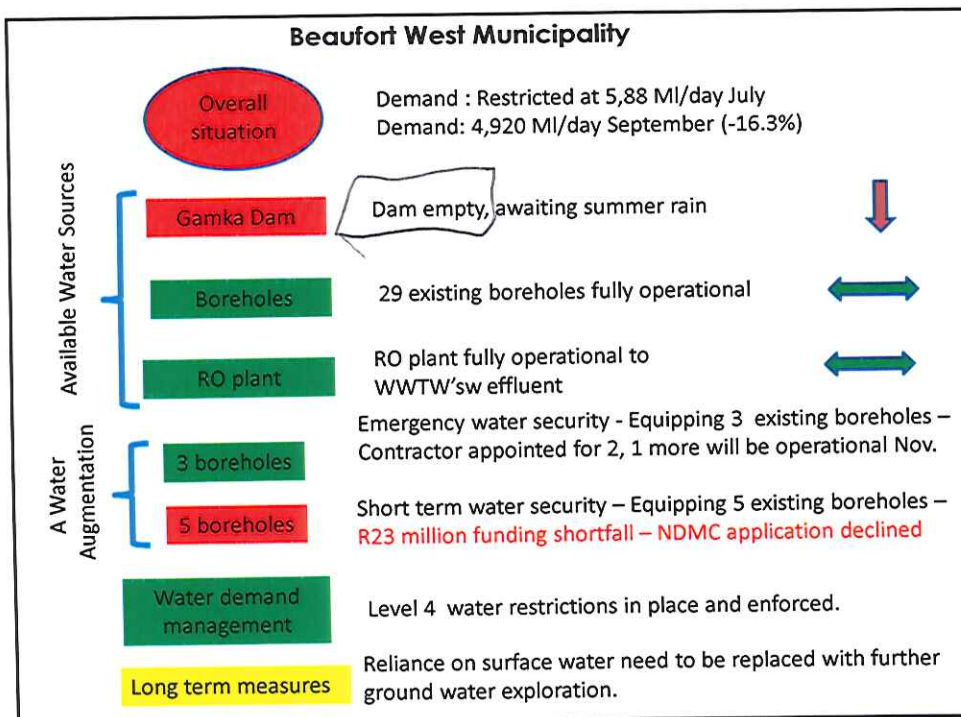
- Matzikama
- Cederberg
- Theewaterskloof
- Witzenberg
- Hessequa
- George
- Oudtshoorn
- Swartland
- Bergrivier
- Saldanha
- Drakenstein
- Stellenbosch

Low Risk

- Breede Valley
- Langeberg
- Overstrand
- Cape Agulhas
- Swellendam
- Mossel Bay
- Laingsburg
- Prince Albert



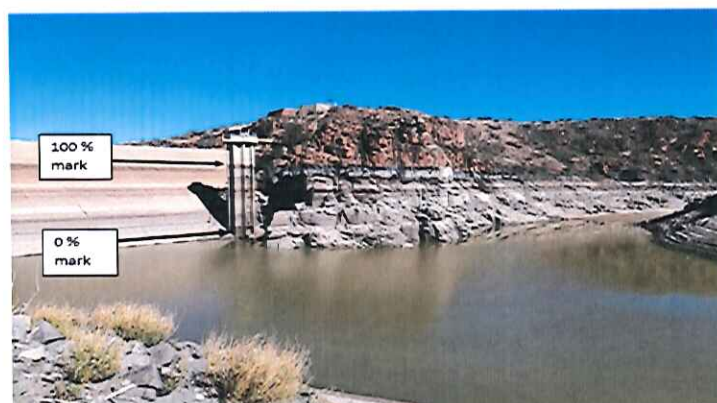
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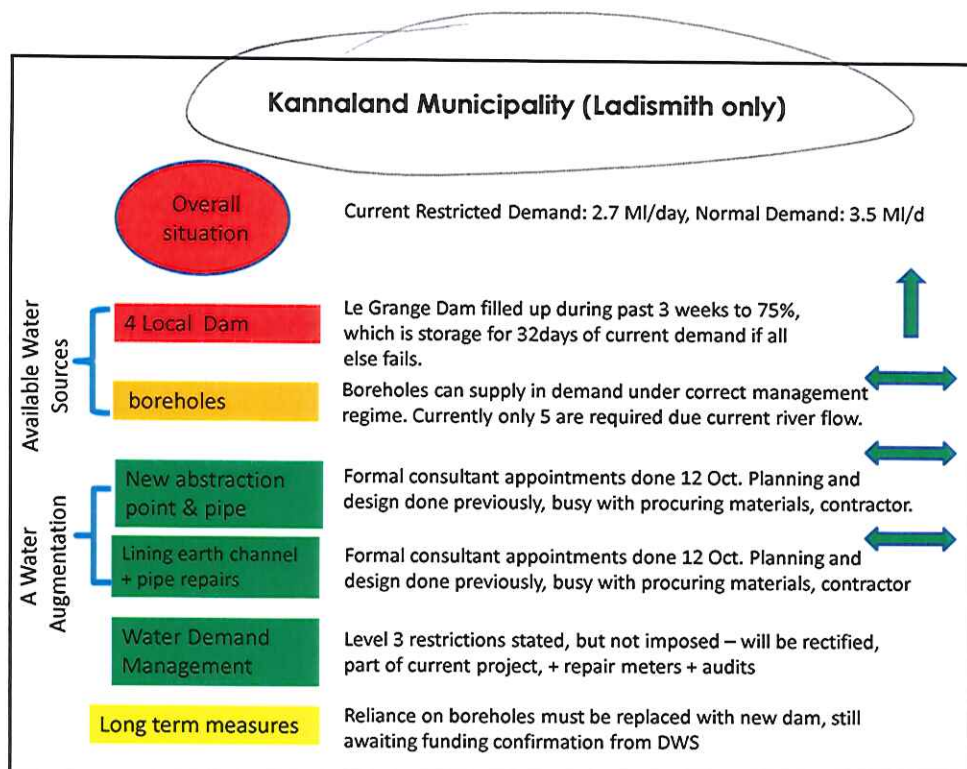


*rely on
boreholes
recycled
water*

Beaufort West

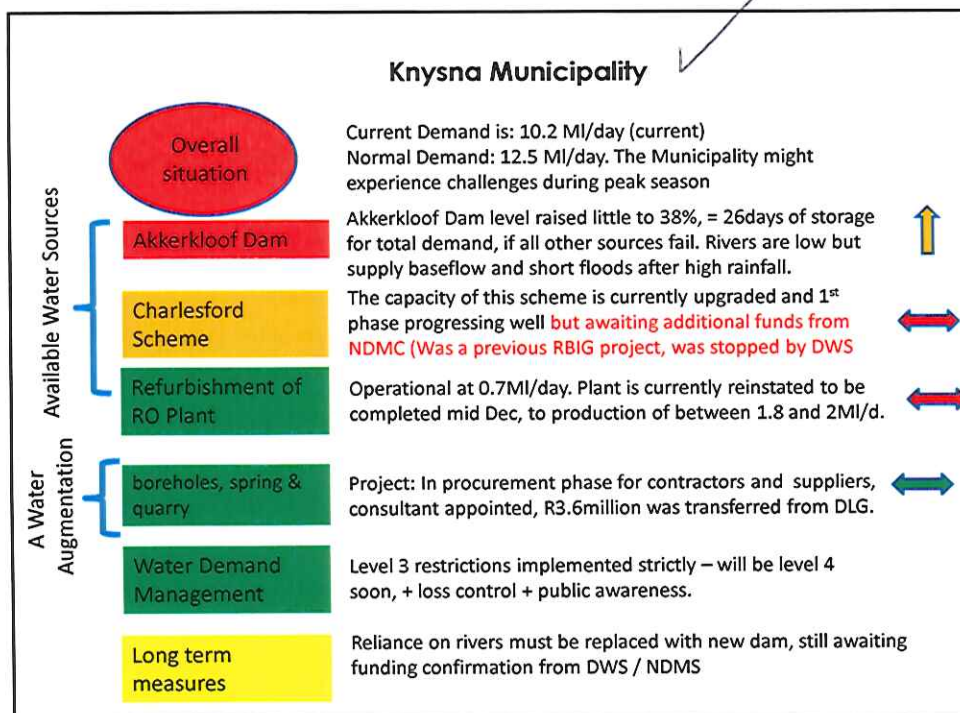
Gamka Dam – Current Capacity at 0% (Empty)





Kannaland: Ladismith

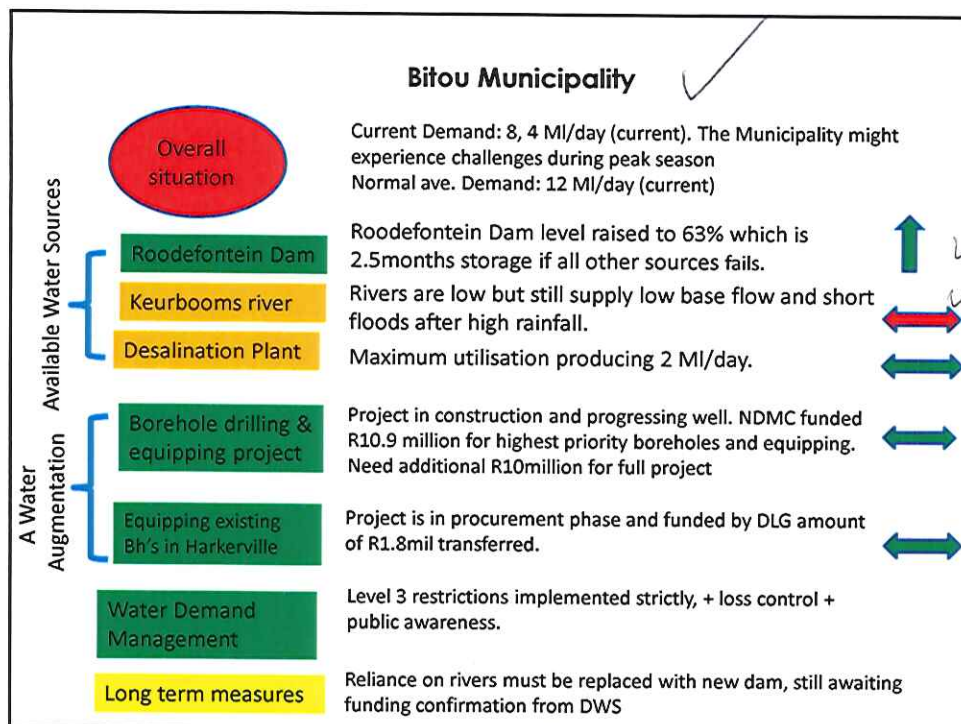




Knysna: Akkerkloof Dam

Akkerkloof Dam in Knysna was 81% full by the end of Feb. 100% means that a safe reserve of 69 days of full supply in the average demand. The peak demands in Dec, can be 50% to 100% more of the average demand.





Bitou: Keerbooms River

The pump station in Keurbooms River looking upstream & the 500mm diam. pump line.



Funding Implications



WCG Emergency Funding Allocation

No	Vote	Purpose	Amount
4	Community Safety	Security requirements at care facilities	R2 000 000
5	Education	School Infrastructure (storm and fire)	R15 000 000
6	Health	Health Infrastructure (storm and fire)	R1 200 000
6	Health	Swartland Hospital	R15 000 000
7	Social Development	Emergency humanitarian support and related expenditure	R5 000 000
8	Human Settlements	Displacement of people (storm and fire)	R7 500 000
9	Environmental Affairs	Cape Nature, Working of Fire	R3 000 000
10	Transport and Public Works	Road related infrastructure damage	R5 000 000
10	Transport and Public Works	Transport cost of the emergency evacuations	R800 000
11	Agriculture	To mitigate impact of natural and biological disasters on section	R5 500 000
14	Local Government	Disaster mgt co-ordination, drought assistance and related infrastructure requirements.	R15 000 000
TOTAL			R75 000 000



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Fire
+ Drought

Financial allocations based on the infrastructure assessment: Dept. of Local Government Reprioritisation ✓

Municipality	Project	Amount
All Districts	Appointment of Geohydrologists	R3 000 000
Saldanha Bay	Bulk water supply augmentation	R3 010 000
Knysna	Knysna water augmentation	R3 600 000
Matzikama	Vredendal water augmentation	R2 000 000
Beaufort West	Beaufort West: equip boreholes	R3 300 000
Kannaland	Ladismith: boreholes & augmentation of supply	R3 800 000
Theewaterskloof	Bereaville: Refurbish existing borehole	R2 700 000
Langeberg	Boreholes in Montague	R3 000 000
Bitou	Harkeville Boreholes	R1 800 000
Total		R26 210 000



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ADDITIONAL NATIONAL GOVERNMENT FUNDING

Sector/Municipality	Source of funding	Amount
Department of Agriculture	Provincial Disaster Grant	R40 000 000
Bitou Municipality	Municipal Disaster Grant	R10 920 000
City of Cape Town	Municipal Disaster Grant	R20 812 483
Theewaterskloof Municipality	Municipal Disaster Grant	R3 133 780
Total		R74 866 263



from
CCOP

Municipal Funding Requirements

Municipality	Total Funding required R Million	Municipal R Million	DLG R Million	NDMF R Million	Deficit R Million
Beaufort West	34	7,7	3,3	-	23
Bitou	28,8	6,1	1,8	10,9	10
Kannaland	206,3	2,5	3,8	-	200
Knysna	173,6	56	3,6	-	114
Drakenstein	85	36	-	-	49
Stellenbosch	40,6	5,6	-	-	35
Swartland	60	2	-	-	58
Saldanha Bay	115	60	3	-	52
Total	743,3	175,9	15,5	10,9	5421



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Still
shortfall
~~500M~~
500M.

Western Cape Government requirements 2017/18

A summary of the additional financial requirements for the current financial year is provided in the table below.

The additional budget requirements during the current MTEF period will be provided in the Integrated Provincial Water Response Plan that will be submitted at the end of February 2018.

Department	Amount
Premier: DG	R2.0 million
Premier: Communications	R3.0 million
Agriculture	R40.0 million
Community Safety	Unknown
Economic Development and Tourism	R1.6 million
Environmental Affairs and Development Planning	Nil
Local Government	R42.2 million
Social Development	R4.0 million
Transport and Public Works	R20.7 million
Total	R113.7 million



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Outcomes: Meeting Minister Mokonyane

- a) Green Climate Fund: Support funding application to Minister Molewa - CoCT
- b) Brandvlei Dam: By increasing the inlet-canal of the Brandvlei Dam by 30 cm, an additional 33 million m³ of water can be stored. This to irrigate 4 400 hectares and it will attract R2.2 billion in investment, create 8 000 jobs and lead to the achievement of 56% of the land reform target in the area – R15 million
- c) Raising of the Clanwilliam Dam: in process of concluding the procurement process - irrigation water available for an additional 5 000 ha .
- d) Catch Management Areas: Advance the appointment of EPWP workers not only for job creation but mainly for water security – removal of alien vegetation.
- e) Water Use Licence Applications: 60% processed and concluded. Process outstanding applications.
- f) Review Water Tariffs: Seek legal advice.
- g) Support with Communication: Working together to communicate one message.
- h) Illegal dams: on farms, the Upper Berg River, bagging of water.



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Brandvlei Dam Project: Returns on Investment



- The Canal:
 - Cost of increasing the wall of the canal by 30 cm: R15 million
- Capacity created:
 - Additional water: 33 million m³
 - Additional area: 4 400 ha
- Impact on irrigation farming:
 - Attract capital : R2,2 billion
 - Primary jobs: 8 000
 - Secondary jobs: 6 500
 - Can unlock R836 million land value = 56% of land reform target
- Also a Phase 2: Increase pump station?
- Allocation of water use licences
- Inter-governmental cooperation to be prioritised



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10-Point Comms Plan

"The New Urgency" into "The New Normal"

- 1: PDCC (WC Disaster Management/Disaster Declaration)
- 2: City of Cape Town
- 3: District & Local Municipalities: Local & Unique
- 4: Municipal Comms Tool Kits
- 5: New Urgency, "New Normal" province-wide campaign
- 6: WCG Departments' Plans
- 7: Key Stakeholders & Strategic Partners
- 8: "Lead the Leaders"
- 9: Internal WCG & Municipalities
- 10: Research, M&E, new realities



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dev a business continuity plan

Service delivery priority levels

Priority one	Priority two	Priority three	Priority four	All
These service delivery areas or business processes are highly critical. These services cannot be interrupted without risk to life. Every effort has to be made to ensure the services can continue to be rendered, at least partially to ensure no loss of life. Interruption to water supplies must be restored within a few hours; otherwise it will have a catastrophic impact to the Department.	<p>2A These service delivery areas or business processes are very important to the organisation. The loss of or inability to deliver such services or processes as a result of the lack of water will have a serious impact; they need to be recovered within a month.</p> <p>2B Plus service delivery areas or business processes that would otherwise be Priority 4A or 3A service delivery areas or business processes but which have a low water intensity or are not water reliant at all but which need to be scaled back or curtailed.</p>	<p>3A These service delivery areas or business processes are required, contracted or legislative processes. Loss of such service delivery areas or business processes has a significant impact to the organisation; they should be recovered within as soon as possible.</p> <p>3B Plus service delivery areas or business processes that would otherwise be Priority 4A service delivery areas or business processes but which have a medium water intensity and scaling back will reduce water demand</p>	4A These service delivery areas or business processes are necessary processes but which have high water intensity and scaling back will materially reduce water demand; whereas the impact of their loss is low to the organisation. These processes can be recovered when business resumes to normal operations.	All The entire basket of service delivery areas or business processes of a particular department or entity

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Conclusion

- Western Cape: particularly vulnerable to climate change - coastal location and the influence of rising sea temperatures on the weather patterns.
- By 2050, the rainfall in the Western Cape is likely to decrease by 30% relative to current figures – decreasing dam levels.
- Drought conditions exacerbate the occurrence of fires during summer season.
- Impact on the Economy – reduced business confidence, significant job losses, GDP
- All agricultural production sectors are under heavy strain - job losses 50 000.
- Social instability and unrest – safety and security ✓ with water security
- Reprioritisation of own funding, Significant funding requirements, Adjustment Budget
- Impact on provincial government deliverables and programmes – roads, schools, hospitals, general service delivery, APP deliverables, National Departments
- Preparing for Day Zero – inadequate resources →



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est m
fines will ↑
done so
ask for
more money

Recommendations

The Portfolio Committee notes the:

- Contents of the presentation and the severe water crisis.
- Outcomes of the meeting with Minister Mokonyane in relation to assistance:
 - Raising of the Clanwilliam Dam
 - Brandvlei Dam Project
 - Fast tracking of water use license applications e.g. Saldanha Bay Municipality
 - Catch Management Areas: removal of alien vegetation
 - Municipal water augmentation programmes, ground water, desalination, RO
- Significant impact on agriculture and the economy
- Impact on national and provincial government deliverables and programmes ✓
- Funding deficit and requirements e.g. water augmentation and Day Zero



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will activate ASMC for " "
but don't have fund-
to augment for tankers
etc.

Schools
hospitals
Rehs
under threat
for construction
Most of APP
deliverables
reported as
prioritization

