

**MINI-PLenary DEBATE ON: *South Africa's deepening water crisis:
Challenges and solutions for a water scarce country***

By Mr. David Mahlobo MP,

Deputy Minister of Water and Sanitation

National Assembly, Cape Town

13 November 2019

Honourable Speaker, Ms. Thandi Modise

Ministers and Deputy Ministers

Hon. P Majodina and D Dlakude- Chief Whip and Deputy Chief Whip

Hon Rosina Semanya, Chairperson of the Portfolio Committee on Human Settlements, Water and Sanitation and other Members

Honourable Members of Parliament

Members of the media fraternity

Fellow South Africans

INTRODUCTION

1. Yesterday on the 12th November 2019 we had a snap debate in recognition of what our country has achieved by winning the Webb Ellis Rugby World Cup trophy for the third time in three different continents.
2. Most of us shared a tear of joy when HE President Ramaphosa, Captain Siya Kolisi and the rest of the Springboks hoisted the trophy in Yokohama, Japan. We needed this as a nation and people. Despite all odds we, once again, demonstrated that united in our diversity we can achieve our goals.
3. The words of our first democratic President HE Nelson Mandela remained timeless and profound during this epoch when he said: *“Sports have the power to change the world. It has the power to inspire, the power to unite people in a way that little else does. It speaks to youth in a language they understand. Sports can create hope, where there was once only despair. It is more powerful than governments in breaking down racial barriers. It laughs in the face of all types of discrimination. Sports is the game of lovers.”*
4. A lot of progress has been achieved in the last twenty-five years in changing the lives of our people for the better but we are the first to admit that more still needs to be done.

CONTEXT AND WATER SECURITY

5. The amount of water on earth is constant and cannot be increased or decreased, but it is unevenly distributed across the earth. South Africa receives an annual rainfall of 492 millimetres whereas the rest of the earth receives 985 millimetres. This is nearly half the earth's average. Thus South Africa is classified as a water-stressed country.
6. We live in a country where water is scarce, that only 30 or so other countries have less water per person than we do.
7. Now we must take account of climate change, which will make our natural water supplies even more difficult to predict and manage.

8. During this period we have witnessed some parts of our country experiencing water supply disruptions, failing infrastructure, increased levels of water pollution and a number of farmer's livestock affected causing both social and financial ruins especially in the Eastern and Northern parts.
9. We have been exposed to prolonged heat wave conditions and the late onset of rains has caused local supply failures. A number of our dams especially in small towns and rural communities are at a critical level or almost dry. We are continuously monitoring the dams' levels as part of our early warning system and apply appropriate measures to ameliorate the situation.
10. Our drought mitigation strategies are informed by the following triggers namely :
 - i. Lower than expected dam storage,
 - ii. Lower than expected rainfall and stream flows
 - iii. South African Weather Service indices/forecasts
 - iv. Higher than expected demands due to prolonged periods of below average rainfall and/or above average temperatures
 - v. Water quality and environmental problems
 - vi. Drought conditions can be catchment specific
11. We are pleased that most parts of KZN, MP, LP (sporadic) and Gauteng are starting to experience rains. This is indeed a welcome relief even though some areas in KZN are affected negatively by flash floods and inclement weather. We are not off the hook because we have not accumulated enough run-off.
12. As a country we shouldn't expect that forecasting success to continue. It's unusual for a seasonal forecast to be so confident. The way we operate our national water infrastructure already takes into account of the big, year-to-year variabilities in climate and the slower process of climate change.

13. Every year, we look at how much water we have, how much is going to be used, and our hydrologists calculate whether we need to introduce restrictions or not.
14. We also try to help other water managers to do the same thing. Unfortunately, they don't always listen. Often small towns keep pumping water despite the fact that they are warned that, once dam levels fall to a particular point – and we tell them what it is – they will get into trouble. Then, when the dam is dry they run to us and say there is a crisis! It is a crisis that they made! Even Cape Town, before its big crisis, was warned that they needed new infrastructure. They said no, they were saving water, using it more efficiently. Then the drought came and they were in crisis.
15. Given the increasing water demands to meet the needs of a rapidly growing and urbanising population, changing lifestyles, and economic growth, which is exacerbated by climate change which is driving the country towards a warmer and drier future, with predicted longer and more extreme droughts, and more intense floods, means that there will be less water available to meet water needs.
16. We strive for water security to ensure that people will always have enough water to meet their basic needs, that industry can invest knowing that there is a reliable supply. While we cannot guarantee rain for our farmers, we must ensure that their irrigation supplies are predictable and well managed.
17. Much of the existing Water Resources Infrastructure like major dams was planned for specific sector's needs, to the exclusion of other water users.
18. Communities and rural households have been excluded in the planning of some of this raw water infrastructure, resulting in raw water infrastructure and distribution networks by-passing these communities.
19. In future, the planning of bulk water systems, all water users (in particular, communities affected by the infrastructure development) in an area will have to be considered.

20. This approach will deal with short and long term benefits including health, access to food, savings in time and cost, higher productivity and income (all of which contribute to poverty reduction).

CHALLENGES AND SOLUTIONS

GAUTENG PROVINCE

21. The current growing demand is not sustainable with the current importation of raw water from Lesotho and critically the resource yield limitation, noting that we are already abstracting 22% more than the approved license. This City region is the economic hub of the country and has been subjected to urban migration and across the world people seeking endless opportunities. Failure to plan for this has placed huge strain on existing infrastructure including planning and development of new one.
22. The Departments projections indicate that on the current demand we will not reach the level to open Sterkfontein at 25% of the Integrated Vaal River System (IVRS) due to the shutdown. The Integrated Vaal River System (IVRS) is currently at 60.6 % and mainly supplied through 14 dams.
23. The Minister and I have engaged with the leadership of the province to find lasting solutions to the water security. The long awaited Polihali Dam is back on track. The Minister is currently in Lesotho as part of sod turning event.
24. Other measures include implementation of water conservation and demand interventions supported consumer awareness campaigns, embarking on emergency operations to ensure that IVRS is balanced to meet the pressures imposed by the scheduled maintenance of the Lesotho Highlands and high consumption levels. The measures include informing the public and ensuring that all users are engaged to protect the stability of the system by using the water sparingly, taking steps to reduce night flows in the network, alternating the system to manage the pressure, restrictions imposed to top 25 consumers and system reduction from 4 900 MI/day to 4 368 MI/d.

25. In Gauteng the system is under control and the agreed plans are being implemented. The restrictions will force reduction of water demand to meet supply capacity as it was successfully implemented in other cities before. Some consumers are experiencing low pressure in the system especially consumers in high lying areas.
26. We apologize for the inconvenience this might have caused. We urged all municipalities to improve their communication with all their customers and alert them in advance to take necessary measures.
27. Municipalities lose up to 50% of water due to physical losses. Water leaks are worse during the night when water pressure increases as a result of reduced consumption. Our Rand Water Board is controlling minimum night flows by closing/ restricting the zonal valves is an effective way of reducing consumption and saving costs at the same time. Municipalities are generally reluctant to do this due to excessive overtime worked by staff and faulty valves in the reticulation networks
28. The City of Tshwane has recently been left without a drop of water when taps ran dry without notice. The shortage, resulting from infrastructure failures, substation station hit by lightning on the 18 October 2019 and water restrictions. Because of a recent heat wave in the area, schools were forced to close and residents were left fuming with a lack of official response.
29. The situation was exacerbated by poor communication wherein many communities like Laudium, Tshwane east, Hammanskraal and others were in some cases kept in dark on when the service would be restored. Working with the Provincial Government I was instructed by the Minister to work together with the municipality and restore normalcy. On the 08 November 2019, water was restored in many parts whilst in other areas the impact of water pollution from Rooiwal Waste Water treatment continues to pose a challenge.

30. The Municipalities infrastructure especially the waste water treatment works are over capacitated and discharge effluent that is not in compliance with the license conditions. This has caused major challenges to the Vaal River Systems, Apies and Haartebeespoort. The Deputy President HE DD Mabuza is convening a meeting with the Minister of Human Settlements, Water and Sanitation with affected Premiers to craft a concrete response plan to ameliorate the situation.
31. We are committed to ensure those perpetrators are brought to book as envisaged in the polluter pays principle. The Minister as the custodian of water resource in the public interest will ensure that culprits are prosecuted by through our justice system.
32. We are pleased by the commitment of the Premier of Gauteng and his entire Executive Council in prioritizing water for development and prosperity of the province.

EASTERN CAPE

33. Most parts of the Eastern Cape have experienced prolonged drought, failing infrastructure and management of the resource affecting many communities and farmers.
34. It has been the site of wholesale livestock deaths and failed crops as a result of the prolonged drought, has not seen proper rain in five months.
35. The Minister, Deputy Ministers, Amatole water board working with provincial government is engaged in finding lasting solutions including the delayed dams and bulk infrastructure planning and development.
36. The province dams of 46 and at least 22 are at critical point with Ngwete, Xilinx, Gcuwa, Toleni and Bonkolo Dams dry or almost dry.
37. Councils in the following municipalities – Sarah Baartman, Chris Hani, Amathole, Alfred Nzo, and Nelson Mandela – have declared the drought a disaster and are actively seeking governmental assistance.

38. In Amathole Mquma including Butterworth the district is implementing water recovery through a backwash of its WTW, deployment of tankers, drill boreholes and there is a need of an emergency pipeline from Tsomo River to Butterworth.
39. In Graaff-Reinet under Sara Baartman, Beyers Naude alternative sources from the Graaf-Reinet Bulk Water Supply Scheme are being explored whilst in the interim water tankers are being used but not adequate.
40. In Nelson Mandela Bay metro there is implementation of ground water scheme, fast track phase 3 of Nooitgedatch, phase 4 of Coega Kop Well-field and implement water conservation and demand measures.
41. In Raymond Mhlaba under Amathole water rationing is being implemented and consideration is being sought for possible augmentation from Fish River.
42. In Enoch Mgijima under Chris Hani equipping of boreholes is being implemented, water tankers and spring protection.
43. In most parts of the province ground water is being exploited and water tankers being used.

FREE STATE

44. The dam levels at Rustfontein is currently below 30% requiring the Manguang metro to consider possible augmentation from Katse Dam, augmentation from Welbedatch dam and implement water conservation and demand management measures.
45. The Saulspoort Dam is currently above 80% supporting Fezile Dabi. Due to available water a release is being undertaken to deal with the pressure on Frankfort and Tweeling. The released will take about 7 days to reach Frankfort. There is sufficient water until the scheduled maintenance in the Lesotho Highlands Tunnel is concluded.

46. The Fika-Patso Dam supplying to Maluti-A-Phofung is almost dry. Additional reservoirs of 3Ml were completed in March 2019, 58 boreholes have been tested and equipping of the 10 priority boreholes have commenced. Working on a plan for a release from Syferfontein to refill Fika-Patso dam.
47. The Department, COGTA/ MISA, Sedibeng Water, Bloem Water together with Provincial leadership is working to support the struggling water services authorities. Upgrading the existing infrastructure, water losses in Xhariep and Lejweleputswa.

KWAZULU NATAL

48. The Province of KwaZulu Natal has engaged with the Minister, Deputy Minister, Mhlathuze Water and Umgeni Water Boards in finding lasting solutions to water security and associated impact on socio-economic development prospects of the province.
49. I also attended UMkhanyakude District Municipality to address the long standing utilization of the Jozini Dam and other associated water schemes. Concrete action plans were agreed to with the Provincial Government, the member municipalities of the District and National Departments like Agriculture, land reform and rural development.
50. Mhlathuze Water has also embarked on major infrastructure upgrades including commissioning a 40-mega litre per day water treatment plant to service the uMkhanyakude District with portable water. As an interim measure, the water utility is also installing bore holes in those areas of UMkhanyakude worst affected by the water scarcity.
51. In Northern KwaZulu–Natal, an area that encompasses the King Cetshwayo, Zululand and uMkhanyakude District Municipalities and which is serviced by Mhlathuze Water for its bulk water needs; we have also noticed a worrying decrease in dam levels.

52. The two largest dams that service this largely rural geography, namely the Goedetrouw and Pongolapoort Dams are sitting at 40.83% and 41.81% respectively. Other water sources in the area such as Lavumisa (0.18%) and the Ulundi Weir (19.5%) are practically depleted.
53. The only dams which have shown some slight resilience are Hluhluwe which sits at 68.98% and Klipfontein at 63.15%. Compared to the same period last year, our dams are markedly lower.
54. These statistics do not make for comfortable reading, especially given that the northern KZN region is still recovering from a devastating drought which in 2015 led to the area being declared a disaster area.
55. We have instructed the management of the Mhlathuze Water Board to work with might and main to ensure both communities and industries alike closely monitor their water consumption patterns.
56. The area supplied by Umgeni Water has established a Joint Operations Centre composed of key stakeholders and decision-makers from Umgeni Water, customers, municipalities and key local, provincial and national departments.
57. This structure is tasked with: Reviewing information gathered by the water resources planning professionals; Services to assess the impact of drought conditions; confirm the existence of drought-related conditions and recommend drought phases and appropriate responses and Information on appropriate responses will be distributed to the water users through the existing communication networks as required.
58. The uMgeni System is slightly lower than at the same time last year. The trajectory, however, is along the average line and there is no need for intervention. A strong message must be communicated to communities to use water sparingly.

59. As a government we are pleased to that despite the 33% level for Albert Falls Dam, there is no real cause for concern as the upstream Midmar Dam is at 92% and releases can be made from Midmar to Albert Falls as needed namely : Maximising pumping from Spring Grove Dam to Midmar Dam continues; Maximising pumping from Inanda Dam to Durban Heights is continuing, to reduce pressure on Albert Falls; Current UMgeni System Storage is projected to be adequate for a minimum of two years and the Joint Operating Committee (DWS, WSA's, Umgeni Water, CoGTA, Agric) meets quarterly to review the information and reassess the status and the proposed interventions.

60. Equally in the North Coast System, the Hazelmere Dam is at 33% of the new raised capacity. However this equates to 69% of pre-raised level whilst and current demand less than 98% yield value. The system cannot impound to greater than pre-raised level until rock anchors are complete. Lobbying DWS to complete construction. The augmentation option from the Lower Thukela Bulk Water Supply Scheme and the storage is adequate for a minimum of two years.

61. The South Coast System, the Umzinto Dam is at 47%, however this is augmented from E J Smith Dam which is at 71. Where necessary Mpambanyoni Emergency Scheme can be commissioned to supply additional 8ML/d. With Mpambanyoni on line, full demand can be supplied for at least two years. The Mtwalume supply from run-of-river is being monitored and restrictions will apply if level drops considerably

62. UThukela System is stable and Spioenkop Dam is currently at 75% of full capacity and the upstream Woodstock Dam is at 85%. There is no need for concern at this stage. The Olifantskop Dam capacity (yield) is small in comparison to demand.

63. The Dam is currently critically empty. Water restrictions are therefore in place and basic levels are supplied by tanker services.
64. A new Kokstad system, Umgeni Water in the process of taking over management of the Kokstad Supply System from Harry Gwala DM. Kokstad is supplied via Crystal Springs Dam (current capacity 75%) and the Mzintlava River. Current work include -replacing pump at quarry dam on the Mzintlava River; replacing rising main from Mzintlava River to WTP (50% complete); Mzintlava River Pump replaced by Umgeni Water and a detailed feasibility study of Kokstad Bulk Water Supply System with future augmentation options to be initiated in 2020.
65. Umgeni Water recently signed contract with Ugu District Municipality to manage the Harding Supply System which is supplied via the Amanzimnyama Dam. The current dam level less than 5%.
66. This system supplies Harding town and Ezingolweni (there has been public protests over water shortages in the past 3 months in the area. UGU requested UW to intervene and take over the system.
67. We are pleased to note that an emergency order approved by CE of Umgeni Water to develop an emergency scheme to supply water from the Weza and Mzimkhulwana River to the Amanzimnyama Dam and construction to be completed by February / March 2020.

LIMPOPO

68. Currently 79% of the dams in Limpopo have less water than the corresponding period last year and 11 dams are below 40%. The following dams are mostly affected namely Ebenezer, Houtrivier, Nsami, Doorndraai, Tzaneen, Modjadji and Middel-Letaba.

69. The Department engaged with the leadership of the Province and Municipalities on the 10 November 2019 and agreed to implement a number of interventions.
70. A drop in Limpopo's dam levels have also manifested in water scarcity in Tzaneen, Mogalakwena, Makhado, Modimolle, Bela Bela, Thabazimbi and Polokwane.
71. These interventions include exploiting ground water that remained untapped (potential 3 550 boreholes- 2249 functional and 1 313 not functional), conversion of single purpose dams to multi-purpose use.
72. In Polokwane additional 19MI funded through water services infrastructure grant will be used for ground water exploitation and upgrade Ebenezer Scheme and Olifantspoort in the long term is required.
73. In Mogalakwena ground water source will yield additional 5MI in Mokopane but requires funding whilst about 8 MI from Jakkalskuil cluster from ground water. In the long term a bulk pipeline is being considered.
74. In Mopani District- the Giyani project has been allocated about R114m and R100m in the current financial year. It is planned to conclude the remaining work by late in 2020.
75. In Sekhukhune District we agreed to find means ways to conclude the incomplete bulk infrastructure projects in the light of available water from De Hoop Dam. Municipalities to work on reticulation whilst in the short term ground water is being implemented and tinkering.

MPUMALANGA

76. The Rhenosterkop and Mkhombo Dams supplying Dr. JS Moroka and Moutse cluster are at critical low level almost dry. This situation is being attended to with 26 boreholes and 2 refurbished package plants, possible release from Rust De Winter dam, refurbish Mkhombo Dam emergency supply line. An amount of R18m from drought relief.

77. In Thembisile Hani 17 boreholes drilled and 18 refurbished. The City of Tshwane to be engaged on the challenges of the Rand Water Supply line. The Municipalities have engaged with the Ministry and agreed on set of intervention.

78. In Steve Tshwete additional boreholes were installed including eMakhazeni.

79. The Ohrigstad Dam supporting Sabie, Tweefontein, Graskop and Mashishing is very low. In the intervening period tankers have been deployed, ground water exploited through boreholes and infrastructure maintenance.

80. The Primkop dam supplying Pienaar, Dantjie and Msogwaba very low and critical. Mbombela have concluded plans and implanting agent is being appointed. The Barberton, Umjindi Trust the Lomati Dam has dropped to a critical point-water restrictions have been imposed and exploiting ground water.

81. Morgenstond dam supplying Msukaligwa is moderate. Augmentation when needed will be released from Heyshope dam.

NORTH WEST

82. In the North West province, intermittent water disruptions, as a result of drought and poor planning. In Ngaka Modiri many areas are served through tinkering whilst we are exploring the use of ground water supported by the Sedibeng water board.

83. The Klein-Marico-poort dam is very low and critical supporting Zeerust. Water tankers have been deployed.

84. The Lindleyspoort Dam is low and critical as part of Marico system. In Bojanala work is underway to upgrade the pump stations and extend the water supply network.

85. This includes the renovation of bulk water supply from Koster dam to the WTW. In Swartruggens water treatment work including the waste water treatment work is being undertaken to fix problems. In Rustenburg operations and maintenance work is being undertaken to improve the efficiency of the existing system whilst more boreholes are being drilled.

86. The Olifantsnek, Marico Bosveld, Molatedi, Disaneng, Setume Dams are very low. Ground water is exploited through drilling of boreholes, using tankers and infrastructure upgrades.

NORTHERN CAPE

87. On Namakwa Hantam the Karee dam is low. Water restrictions were imposed used drought relief fund to deal with shortage by exploring ground water.

WESTERN CAPE

88. The City of Cape Town also learnt – the hard way – that prevention is far better than cure. Stringent water restrictions, dam rehabilitation projects and desalination schemes were instituted two years ago, when the City of Cape Town quickly realised that its water supply would not quench citizens' thirst through the summer season.

89. Areas supplied by Kammanassie, Hartebeest-kuil, calitzdorp, klipberg and gamka dams are stressed and are supported through exploiting ground water and imposing of restrictions.

CONCLUSION

90. We will only succeed if we work together – water is everybody’s business. We must use our water carefully and wisely at home, and in our workplaces. We must respect and take care of our public infrastructure and we must make sure that others do the same.

91. As a country we must implement water conservation and demand reduction measures: This can be achieved through a combination of:

- a. **Operations and Maintenance** - Infrastructure repairs (to address non- revenue water), new building codes, incentives to install water-efficient appliances and a tiered water-pricing structure.
- b. **Education and Awareness** campaigns to raise awareness about high levels of per capita water use and the inherent value of water conservation in a water- scarce country.
- c. **Increase the amount of water that is reused notably from acid mine drainage and wastewater** - Progress here will not only improve the quality of South Africa’s water but also increase the supply.
- d. **Increase groundwater extraction** - Groundwater is likely an under-used resource in South Africa. Our estimate suggests that there is potential to significantly expand the amount of groundwater extracted. This could be particularly useful for the agricultural sector, where nearly two-thirds of South Africa’s water is used and in some rural communities
- e. **Explore new technologies** - through innovation we have seen consumers benefit from new technologies being deployed within water treatment and conservation space.
- f. **Desalination.**

92. Water infrastructure is a critical component for socio-economic growth imperatives for jobs and transformation. Over the past few years our infrastructure planning and implementation has experienced poor planning, inadequate budgeting, delays in execution, poor maintenance of infrastructure, corruption in procurement, and lack of technical engineering capacity.

93. We are also working jointly with COGTA, NT and SALGA to deal with debt owed by municipalities to water boards and equally debts owed to municipalities by government and services. The user pay principle should be implemented without fail.

94. The Ministerial Anti-Pollution task team has completed its work progress and earnestly working to curb the deteriorating water quality in our country. The Ministerial National Rapid Response Task Team has been dispatched in various hotspots across the country.

95. The Ministers of Human, Settlements, Water and Sanitation and of Cooperative Governance and Traditional Affairs in their respective MinMecs have discussed the prevailing water challenges and are planning a joint MinMec to craft a comprehensive response in support of the severely impacted municipalities shortly.

96. We are building a water secure South Africa, in which every South African will have the opportunity to play their part. Every drop you waste someone somewhere is desperately looking for that drop.

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

98. God Bless Africa her sons and daughters

99. I thank you