NATIONAL WATER AND SANITATION SUMMIT

NAME OF SESSION: WATER RESOURCE MANAGEMENT AND CLIMATE CHANGE

HOSTED BY: Minister Thoko Didiza

CHAIRPERSON : **Dr Jennifer Molwantwa**

FACILITATOR **: Dr Mandla Msibi**

DATE **: 18 February 2022**

TIME **: 10h30 – 13h30**

VENUE **: Gallagher Estates**

1. TOPIC OF THE SESSION: SUB-THEMES, PANELISTS & PRESENTATIONS

The session will start with introduction of the sub themes as listed in the table below. Each presenter will spend about 10 minutes highlighting the key issues to be deliberated. The presentations will take 1 hour 15 minutes and thereafter a facilitated session by the Panel of Experts will commence.

Sub-Theme	Panelists	Time
Groundwater	Dr Shafick -WRC	15 mins
Rainwater harvesting	Prof John Ndiritu - Wits	15 Mins
Climate Change	Prof Francois Engelbrecht – Director and Professor of Climatology at WITS, & Prof Babatunde Abiodun - Professor of Climate Change at UCT	15 Mins
Scenario planning for future resource supply and demand Access of water by different sectors of the economy Water Mix	Mr Gerald de Jager – Water Resources Consultant	30 Mins

2. BACKGROUND ON THE SESSION THEME

South Africa is a water scare country with almost half the Word's average in rainfall and very high evaporation rate due to high temperature under natural conditions (i.e. prior to factoring climate change effects). The country is also highly variable in terms of climate. Thus, rendering water management under the changing climate one of the greatest challenges facing water managers and decision makers worldwide.

It is important to understand that our water resources comprising surface water (rivers), groundwater, seawater and other sources such as rainwater harvesting need to be optimally harnessed to improve resilience. Extreme events such as flood and drought management are threats to water resource security and must be managed in the context of climate change, to mitigate the risks posed.

South Africa is approaching the full utilisation of its freshwater resources, with most of the remaining potential in the rivers already committed to be developed. Water security challenges pose increased risk to human livelihoods in many areas of the country. Population and economic growth, changing social values about the importance of water quality and the environment continue to drive the growing demand for water resources.

Large quantities of water will in future be required to meet domestic, industrial, power generation, mining, and agricultural needs, mostly in locations distant from the remaining freshwater resources. In many cases these demands are well beyond the potential of the local freshwater resources. These trends will impose more pressure on existing resources, focusing attention on the importance of water resources management through planning, development, and operation.

This theme will develop an understanding on how we can strengthen the resilience of the water supply systems through robust strategies to match demand and availability, as well as by extending the utility of the existing water resources. These strategies guide spatial and sectoral development planning to determine the most appropriate parameters and locations for large future developments and further beneficial allocations.

3. AIM OF THE SESSION:

a) Understand the context of water resource management in South Africa
b) Discuss the importance of water resource planning processes and how they lead to strategies for water resource management
c) Deliberate on the contribution of groundwater to the water mix of the country
d) Assess the impact of and vulnerability to climate change and recommend appropriate adaptation and mitigation measures.
e) Discuss the importance of Public Private Partnerships in ensuring effective and efficient water management
f) Understand the ecological condition of South Africa's rivers based on mostly the rapid assessment of aquatic macroinvertebrates

4. WHAT ISSUES DO YOU WANT THE FACILITATOR TO RAISE?

a. Infrastructure resilience and adaptation for climate change

b. How best can the water sector respond to ensure sustainability of the limited water resources under climate change?
c. The weakness in groundwater management at all levels of government to the water services responsibility, due to lack of capacity for the sustainable utilisation and management of local groundwater resources.

5. CHALLENGES THE THEMATIC SESSION SEEKS TO ADDRESS

a. Climate impacts exacerbate already vulnerable water systems
b. Frequent drought events associated with climate change increase water insecurity
c. Optimal adaptation options that the sector can take in medium to long term
d. Poor groundwater management – mainly relating to poor operation and maintenance of the infrastructure used to abstract groundwater and/or non-existent monitoring or proper management of aquifers at local level including vandalism of equipment and uncontrolled drilling. Karst aquifers and coastal aquifers are under pressure in many locations through over- abstraction, with declining water levels and water quality degradation.
e. Land-use exerts major contaminating impacts – (diffuse pollution, waste disposal, poor sanitation practices and Acid Mine Drainage (AMD)).

6. CURRENT INTERVENTIONS BY DWS TO ADDRESS THESE CHALLENGES

a. Development and update of the water and sanitation related response strategy
b. Risk and vulnerability assessment of climate change in all WMAs
c. Developing understanding of how climate change impacts on groundwater, water quality freshwater ecosystem and relevant response measures

7. OUTCOMES OF THE SESSION:

a) Measures to build the country's water resource resilience raised and adopted
b) Awareness of water scarcity of the country raised
c) Water resource development plan shared, and role players identified.
d) Climate change risk mitigation measures adopted at all levels to manage risk to water resources, as well as to the disasters
e) Disaster management plans shared and committed to by all players
f) The funding requirements for the future build program elevated
g) Describes the skills needed by the sector and how the professionalisation of those skills will be regulated

Details for DWS resource persons:

D Mochotlhi
L S Mabuda
Z Maswuma
MC Moseki
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