

**INTERSESSIONAL PANEL OF THE UNITED NATIONS COMMISSION
ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CSTD)**

**Geneva, Switzerland
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Contribution by South Africa

to the CSTD 2022-2023 priority theme on “Ensuring safe water and sanitation for
all: a solution by science, technology and innovation”

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South Africa’s response to the United Nations Commission on Science and Technology for Development (CSTD) on Priority theme 2 (Ensuring safe water and sanitation for all: a solution by science, technology, and innovation)

The [25th CSTD annual session](#) selected “Ensuring safe water and sanitation for all: a solution by science, technology and innovation” as one of the priority themes for its 26th session (2022-23 period). This theme addresses SDG 6 on Clean Water and Sanitation.

Challenge	Response/ Intervention
<ul style="list-style-type: none"> • What are the concrete challenges that your country (South Africa) has encountered in managing water and sanitation and provision of access? 	<ul style="list-style-type: none"> • Inequities in access to safe water and sanitation in some areas in the country, especially the rural areas (approximately 3 million people lack access to basic water supply, and 14 million lack access to safe sanitation). • Lack of water adequate water infrastructure in rural areas (approximately 19% lack access to reliable water supply and 33% do not have basic sanitation services), water infrastructure management and investment. • Poor water quality (pollution at resources and drinking levels) • Governance for water resources management, supply, and allocation management • Rural communities or settlements in areas with no piped water and sanitation therefore need non-sewered sanitation solutions and portable or other means of drinking water supply • Over dependence on diminishing surface water which is not enough and not maximally tapping into other alternative water supplies • Climate change and extreme weather events affecting availability and quality of water. • Insufficient skilled and human resource in institutions responsible and contributing to water supply and to take up. • Insufficient or lack of partnerships to facilitate uptake of the knowledge and innovation product • Water Energy and Food nexus. • Sustainable water behaviours

<ul style="list-style-type: none"> • What projects/policies has your country implemented to use water and sanitation technologies and innovation such as water purification technologies, wastewater treatment technologies, water availability forecasting technologies, hydrological observation solutions, data exchange innovations, and forecasting solutions, artificial intelligence, drones etc? • What are the main outcomes? • What are the main difficulties confronted while trying to implement these projects/policies? • Impact in gender 	<p>Policies</p> <p>National development plan chapter 4, Economic Infrastructure</p> <ul style="list-style-type: none"> • Add WADER and SASTEP • The South African constitution states that everyone has a right to clean water and basic sanitation. • South Africa has a free basic water policy of 2001, that makes provision of at least 6000 free litres of water to the poor. • The National Water and Sanitation Master plan, led by the DWS. • National Water and Sanitation Industrial Master Plan. • National Water Resources Strategy.2 • WRC hosts the RDI subcommittee of the DWS SDG 6 committee. • Water research act 34 of 1971 • Water Research act 108 of 1997 • Water Research Act 36 of 1998 <p>Projects</p> <ul style="list-style-type: none"> • Sanitation Appropriate for education Initiative (SAFE) to address sanitation challenges in South African Schools. This initiative is implemented by the department of Basic Education. • The WRC is implementing the Water Technologies demonstration Programme (Wader) programme supported by the Department of Science and Innovation (DSI). WADER promotes the early adoption of promising technologies and accelerates innovation in the water sector by showcasing technologies that have gone through a credible assessment process. • The South African Sanitation Technology Enterprise Programme (SASTEP, supported by the Bill and Melinda Gates foundation and the DSI. The South African Sanitation Technology Enterprise Programme (SASTEP) is a national system of innovation platform that seeks to fast-track the adoption of innovative and emerging sanitation technologies in South Africa through fostering local manufacturing and commercialization.
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	<ul style="list-style-type: none"> • The Water Research, Development, and Innovation (RDI) Roadmap is a high-level planning intervention that facilitates and guides refocusing of research, reprioritisation of funds, synergising of existing initiatives and ring-fencing of new resources to facilitate a more optimal water innovation system. The roadmap is the implementation plan for Chapter 14 of the National Water Resources Strategy (NWRS II). Lastly, the Roadmap is partnership initiative with the DSI and the Department of Water and Sanitation DWS). The roadmap addresses a range of knowledge deployment needs relating to SDG 6 – High end skills system capacity development, communities of practise of deployment of new solutions into practise, the WADER programme as part of de-risking tech solutions and also a range of research capability build issues that inform water security decision making. • The Operationalizing Community-Driven Multiple-Use Water Services is initiated to increase levels of investments in multiple-use water services (MUS). The purpose of the project is to support the operationalization of Multiple-Use Water Services (MUS) services in the Republic of South Africa (RSA) through demonstration investments, awareness raising, applied research and leveraging of finance. The project is often led by women in the rural villages.
<p>Can your country provide examples of policies/projects/initiatives aimed at strengthening national STI capabilities in managing water and sanitation for ensuring their access by all population in your country (an example is what institutional and regulatory arrangements are in place to stimulate R & D and innovation in managing water and sanitation for access by all)?</p>	<p>Policies</p> <ul style="list-style-type: none"> • The Water and Sanitation Master plan. • The white paper on Science, Technology, and Innovation of 2019 by the DSI and DSI Decadal plan. • National Water RDI Roadmap, which is embedded in the National Water Resources Strategy and Master Plan. • National Sanitation Framework (2016) • Water and Sanitation Sector Policy on Climate Change (2017) • National FSM Strategy (2021) <p>Programmes</p> <ul style="list-style-type: none"> • The WRC WADER programme • SASTEP programme • Water RDI roadmap Implementation Unit

<p>Could you share case studies of regional and international cooperation that have helped your country in strengthening STI capacities?</p> <p>Can you provide success stories in this regard?</p>	<ul style="list-style-type: none"> • SAFE programme <p>Projects</p> <ul style="list-style-type: none"> • South Africa, through the WRC participate in the European Water Joint Programming Initiative (WaterJPI), which launches call addressing water related challenges with partner countries. SA Africa has to date participated in 19 such international projects. • The WRC has lunched an Africa directed call “From theory to practice: developing a case study and guidelines for Water – Energy – Food (WEF) nexus implementation in Africa” 4 projects with African partners are currently being implemented. These programmes/ projects play a key role in new knowledge and solution generation with international and African partners. • Transformative Innovation Policy Consortium – 2 big water sector projects have been positioned as strategic niche experiments under this global programme – Alternative Sanitation Industry (SASTEP) and ecological infrastructure security (Living Catchments Programme). • Danish-SA partnership on groundwater security, industrial efficiency, STI partnerships etc • .SA EU dialogue facility project on the impact of COVID-19 on the EU and SADC Water Research Agendas and Capacity Building Activities prospects for increased resilience and effective post-COVID- 19 recovery. • Adaptative response and local scale adaptation for improving water security and increasing resilience to climate change in selected communities in Giyani’. The project is sponsored by the Government of the Flanders.
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