



Strategic Water Partners Network
SOUTH AFRICA

ADAPTING WATER STRATEGIES FOR CHANGING CLIMATIC CONDITIONS

EXTREME WEATHER CONDITIONS MEAN SA HAS TO ADAPT

Droughts and floods have devastating effects on businesses, the economy and communities across the country. SA's recent drought was triggered by El Niño, a weather condition associated with a bank of warm ocean water that develops in the Pacific Ocean, causing global changes in both temperature and rainfall.

During El Niño years, the southern part of Africa generally receives below-normal rainfall. Once El Niño weakens and tapers off, it is often followed by a cooler phase also known as La Nina ('The Girl Child'). La Nina tends to bring average and above-average rainfall. The above-normal rainfall sometimes associated with La Nina can also bring flooding.

Using computer models to forecast the impact of El Niño on the summer rainfall season, scientists are able to help farmers, industry and government put contingency plans in place up to nine months in advance. While the El Niño phenomenon can account for approximately 30% of rainfall variability, other factors may also affect seasonal rainfall and temperatures. It's therefore essential that long-term water adaption and efficiency strategies are implemented – regardless of whether we find ourselves in a drought or flood situation.

Irrespective of current or possible weather phenomena, the SWPN remains firmly committed to its vision of improving future water management and security in South Africa and finding ways to help government, business and consumers adapt and improve their water usage.

<http://www.weathersa.co.za/learning/climate-questions/35-how-does-enso-affect-south-africa>



PLANNING FOR ADAPTATION

FUTURE INITIATIVES IN THE SWPN'S MAIN PROJECT AREAS

The SWPN has developed work streams and projects that strategically and coherently address the water challenges facing South Africa. Upcoming projects focus on six areas of water management:

WATER USE, EFFICIENCY & LEAKAGE REDUCTION (WELR)

The SWPN is exploring opportunities for public private partnership-funded water loss reduction programmes, such as pressure management, bulk meter installation and leak repairs to support municipalities at risk identified through the National No Drop Programme.

AGRICULTURAL SUPPLY CHAIN (ASC)

Six large irrigation schemes have been identified for further roll out of the Water Administration System (WAS) water release module to increase the impact and scale of water loss reduction in the agricultural sector. The roll out of the system has commenced in the identified schemes which include the Loskop, Hartebeespoort (East Canal), Nzhelele, Impala and Lower Olifants Water User Associations (WUA) and Irrigation Boards (IB). Orange-Riet will be supported with the installation of two measuring stations to further improve data accuracy and monitoring. Significant emphasis will be placed on providing training for on-scheme personnel to ensure sustainable utilisation of the system by all participating WUA and IB's.

EFFLUENT & WASTE WATER MANAGEMENT (EWWM)

A project focusing on the management of saline coal mine water in Mpumalanga using irrigation will explore how neutralised and poor quality mine water can be used for successful food production. This project is currently at the inception phase and is supported by a number of key partners including the SWPN, WRC, Anglo American, Exxaro and South32. To further drive the mine water management initiatives in the Olifants Catchment, the SWPN is looking forward to welcoming a mine water project manager in May 2016 who will serve as a dedicated resource for the establishment of the Mine Water Coordinating Body (MWCB). Another key focus area for 2016 will be the exploration of treated municipal effluent as a potential water resource.





NEW KIDS ON THE BLOCK (WATER STEWARDSHIP (WS), SANITATION (SANI), SKILLS DEVELOPMENT AND TRANSFORMATION (SDT))

The Department of Water and Sanitation is currently in the process of developing a ground breaking policy on water stewardship aimed at creating an enabling environment for the different actors within the water sector to collaborate and invest in water stewardship initiatives on a much broader scale. The **WS working group** is thus considering the consolidation of private and civil society sector views on water stewardship and the appropriate instruments which could guide the sector towards holistic mitigation of the shared water risks.

Sanitation is currently a hot topic in the sector and one which must be addressed in a well-considered manner if we are to truly restore dignity to our communities and meet our water security targets. In this regard, the **SANI working group**, in consultation with key research organisations such as the Water Research Commission (WRC), is investigating appropriate water efficient and dry sanitation technologies for piloting and roll out through the private and public sector to demonstrate the potential for water savvy sanitation of the future.

The municipal sector has over the years progressively moved into the spotlight as a key institution with a significant mandate and contribution to make towards realizing a secure water future. The **SDT working group** has recognized this potential and will focus its efforts on exploring the establishment of a water manager's excellence forum which will serve amongst other things as a leadership think tank for municipal water management and a platform on which the private sector can engage and help to capacitate municipalities. In addition, the working group will pursue avenues to support national initiatives such as the National War on Leaks programme through apprentice placement and implementation of monitoring instruments to measure the impact of the programmes.

URBAN WATER SUPPLY ADAPTATION - WHAT CAN BUSINESSES DO

5 STEPS TO WATER EFFICIENCY

While many SA businesses have adopted energy efficiency plans, few have implemented water efficiency plans and measures. With the risk of water shortages looming large as

weather patterns change and demand outstrips sustainable water supplies, here are some ways to make sure your business makes the best use of available water.

1. Make a plan

Start with analysing how much water is used. Be it in a commercial setting or home, you can measure your water usage on a month-by-month basis. Understanding where the highest volume of water is used will help assess and put plans in place around how to reduce usage and wastage.

2. Pick the low hanging fruit

By using water efficient fittings such as dual flush toilets, low-flow shower heads and tap aerators, as well as rainwater harvested from rooftops to irrigate gardens, a great deal of water can be saved. Air-cooled chiller systems, used in combination with energy and water efficient evaporative cooling systems can also help reduce water usage. Declare war on leaks too, with an active management system to keep track of faulty taps and pipes to inform maintenance activities required on various operating sites and factories.

3. Urban water harvesting

Rainwater Harvesting is the practice of capturing and utilising rain water from rooftops driveways, sidewalks, parking lots and streets. It's been used successfully around the world as an effective water conservation strategy, decreasing unnecessary use of heavily treated drinking water for landscaping and toilet flushing, for example. With proper filtration, rainwater can also be used as potable water.

4. Innovate

Using a combination of water efficiency technologies, it's possible to halve demand from municipal supplies. This not only saves on costs, but also enables businesses to operate with more predictability. Water-intensive companies can use water recycled from their manufacturing and production processes back in their operations.

5. Change behaviors

Every drop counts, and so does every person. Educate not only employees, but customers and business partners too with educational posters and reminders about how to save water. Saving water requires long-term sustained behaviour change towards efficiency.





NUMBERS GAME



To assist drought-stricken areas and communities in which it operates, SAB distributed clean drinking water to thousands of people in need.

Corporates across South Africa have used their business experience and operational know-how to come up with innovative ways to assist communities during the recent drought. SWPN member company, SAB used its powerful distribution and transport network not only to get water to where it was needed most, but also to transport donated stock feed to desperate farmers.



Our feed collection from Grasrug Farm near Malmesbury was attended by Western Cape Minister for Economic Opportunities, Alan Winde. With him is Zukiswa Gaqavu and farmer Michiel Smuts.



- ▶ **2 400** bottles (**12 000l**) of water were delivered to those in need in Aliwal North.
- ▶ **10** pallets of **2l** bottles of water were delivered to the Mkuze Municipality in KwaZulu-Natal to local hospitals, clinics and other areas in need.
- ▶ **18** pallets of water were distributed to **5** schools in Nongoma region, reaching **5 000** children, teachers and staff.
- ▶ **25 580l** of drinking water were delivered in and around South Africa.
- ▶ **100t** of animal feed was collected in Bredasdorp, Ceres and Malmesbury from farmers who kindly donated all they could spare.
- ▶ **6** trucks were sent to collect and transport the donated feed to desperate farmers in the Kliprand area, an **8**-hour drive north of Cape Town.





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EVENTS AND UPCOMING ATTRACTIONS

The SWPN team is continuously working on improving its knowledge and building networks when it comes to water management. Here's a heads up on what the team has been up to and what's on the cards...

2030 WRG KNOWLEDGE EXCHANGE

The SWPN was represented at the 2030 WRG international knowledge exchange where participants shared practical insights and learned from the South Africa public-private-civil society experience. Apart from networking opportunities, SA was able to showcase its water management achievements to senior officials from other countries, while at the same time learning from the experiences of other countries.

WISA 2016

Delegates from the SWPN will attend the Water Institute of Southern Africa (WISA) 2016 Conference and Exhibition in May 2016. The conference will cover hot topics such as industrial water and effluent treatment; policy and legislation; information technology, modeling; mine water; fracking; and Community Water Supply amongst others. The Department of Water and Sanitation in partnership with the SWPN will also hold a No Drop Workshop at the conference where comprehensive feedback will be provided to municipalities on the results of the first No Drop Assessment.



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Contact Us

*Strategic Water Partners Network
NEPAD Business Foundation
Tuscany Office Park
Building No 9
6 Coombe Place
Rivonia
2128
Johannesburg
South Africa.*

*Email: swpn.secretariat@thenbf.co.za
Tel: 010 596 1888*

