# STRATEGIC WATER PARTNERS NETWORK SOUTH AFRICA

### CREATING SHARED VALUE THROUGH INNOVATIVE PARTNERSHIPS





water & sanitation Department: Water and Sanitation REPUBLIC OF SOUTH AFRICA





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### FOREWORD BY THE MINISTER OF WATER AND SANITATION

Ms Nomvula Mokonyane
- Minister of Water and Sanitation

"I am grateful to the SWPN-SA for becoming an international benchmark and example of the successes that can be achieved when the private and public sector come together with will, integrity and cohesiveness addressing 'real' issues and not losing sight of the needs of all people within this nation."

The greatest challenge for water security in South Africa must be seen in the context of our combined efforts to address the most pressing developmental issues in our country. Many of our people don't have access to clean water or basic sanitation services. Some of our farmers are less productive because of drought conditions and our businesses need access to reliable and clean water to help grow the economy. Providing access to additional water and sanitation is a key priority for the South African government, at both national and local levels but in a semi-arid country where water resources are already fully allocated, we will need to be bold and creative to free up the water required for this purpose, while at the same time ensuring that existing resources are efficiently used and managed.

The people-centred approach at the heart of the National Development Plan demands that we address

the challenges of access to water and sanitation faced by many on a daily basis. We have committed ourselves to national water security and that means reliable and accessible water supply to all our South African citizens.

It is for this purpose that I am proud to lead the Strategic Water Partners Network (SWPN). It is a visible demonstration of the commitment of the government to partner with the business sector and broader civil society on this journey. We have to use the resources and innovation across all sectors of society in order to transform the water landscape as a basis for human dignity, social well-being, economic growth and environmental sustainability. It may be early days for this rather unique partnership, but I believe I will nurture it to become a global benchmark for local water partnerships.



### **MESSAGES FROM THE SWPN CO-CHAIRS**





#### Public Sector Co-chair

Ms Margaret-Ann Diedricks

Director-General, Department of Water and Sanitation

Providing access to water and sanitation services is a major priority for my Department. This requires bold resource management strategies and active water demand management initiatives, as the basis for sustainable service provision into the future. We simply cannot continue with a situation where local authorities cannot account for 30-40% of the water in their area.

This is where the SWPN becomes a strategic partner to assist the government in key areas of water efficiency in local government and reducing leaks. The focus on improving water use in the agricultural sector equally addresses a key national concern. But it is also important to have a hard look at water efficiency in the private sector and to address pollution head-on if we are serious about restoring the dignity of our people.

A key challenge to us all is to rethink our traditional and outdated approaches to water and sanitation. How can it be efficient for a parcel of water to flow all the way from the Lesotho Highlands, through the Vaal River system, pumped to Gauteng, bulk treated to world class drinking water quality, reticulated by the council and then be flushed down a toilet? We simply have to design innovative and more sustainable approaches to both water and sanitation to drive transformation and access to basic services. By partnering with the SWPN we can ensure this effort also supports the other national imperatives such as job creation, skills development and economic opportunities for entrepreneurs and the previously disadvantaged.



Private Sector Co-chair

Mr André Fourie

- Senior Manager, Environmental Value, SABMiller

Water security is often described in futuristic terms, where business or communities could face scarcity or a lack of access to clean drinking water. The reality is that many local authorities, corporations and citizens are already experiencing some degree of water insecurity. Lack of access to water and sanitation is not only holding back economic growth, but also livelihoods for ordinary people in both the cities and rural areas. For this reason, the SWPN is a valued partnership to build on the natural strengths of the public, private and social sectors to focus on key water challenges facing us all.

The trust that has been built over the past three years through this process has informed the healthy and honest debates that have become a core value of the SWPN. There is no doubt that the country faces a number of serious water challenges. The only way to ensure a balance between demand and supply of water over the coming decades would be for each sector, organisation and individual to make their contribution. For the private sector, the SWPN provides a high level partnership with the government, where individual companies can co-operate to achieve national impact. This partnership is much appreciated and we will work to strengthen this collaborative approach.

### SWPN VISION AND MISSION

Since its formation in 2011, the SWPN has grown in strength through ongoing commitment to a strong partnership between government and private sector investors. Massive inroads have been made over the past four years as it continues to meet the strategic priorities of the Department of Water and Sanitation.

#### VISION

The SWPN strives to contribute to **efficient, equitable** and sustainable water supply and access to water for all South Africans through the identification and application of innovative and cost effective solutions and programmes.

#### **MISSION**

The mission of the SWPN is to **close the projected 17% water gap by 2030** with the goal of improving water security in South Africa. This forum is great for discussing projects we agree on, but more importantly, we are able to openly discuss things that we don't

agree on.

Dhesigen Naidoo, CEO: Water Research Commission

We would not have moved as fast in developing and implementing the 'No Drop' project in such a short space of time without the SWPN. In fact, I doubt that this project would have happened at all. Paul Herbst, Director: Water Use Efficiency, DWS

> The Minister is grateful for all the work done by the SWPN and South Africa is used as a benchmark internationally, on how the public and private sectors can work together effectively. **Tabisa Fiko, Director: International Relations, DWS**

The SWPN not only focuses on projects but also on building trust between the public and private sectors.

Andre Kruger, PPP Financing Specialist: Absa Capital



### **SWPN MILESTONES**

### 2010

#### NOVEMBER

Exploratory workshop by World Economic Forum (WEF) and Department of Water Affairs (DWA) at the CEO Water Mandate Conference in Cape Town.

#### 2011 JANUARY

Request by Minister Molewa at the WEF Annual Meeting in Davos, Switzerland to catalyse the SWPN partnership.

#### Declaration of the partnership between the DWA and the WRG at WEF on Africa in Cape Town, South Africa.

MAY

Initial local investment secured to establish the SWPN Secretariat.

AUGUST





#### **NOVEMBER**

Public-private-civil society partnership SWPN formally launched at COP 17 in Durban, South Africa.

#### APRIL -PRESENT

Continuation and implementation of current projects. Development of pipeline projects i.e. Vaalharts funding and investment plan development.



# **TACKLING REAL AND TANGIBLE** WATER CHALLENGES

#### THE MAIN OBJECTIVE OF THE SWPN IS TO HELP CLOSE SOUTH AFRICA'S PROJECTED WATER DEFICIT WHICH WILL BE A 17% DEMAND-SUPPLY GAP BY 2030.

The main consumers of water in our country have traditionally been the agriculture, manufacturing, energy, mining and residential sectors which guided the SWPN members to focus on three specific and critical areas of water conservation and reclamation. The following Thematic Working Groups (TWGs) were set up to focus on these areas:

### Thematic Working Group 1: Agricultural Supply Chain

(ASC) – Improving equity in water access for irrigation schemes and efficient water use.

### Thematic Working Group 2: Effluent and Waste Water

Management (EWWM) -Expanding the re-use of treated effluent and waste water in local municipalities.

#### THE THEMATIC WORKING GROUPS ARE RESPONSIBLE FOR:

- Providing the strategy for SWPN interventions
- Identifying projects for SWPN support
- Mobilising partners for participation in the working groups
- Mobilising funding for the working group projects

#### PROJECTS ARE SELECTED FOR DEVELOPMENT AND IMPLEMENTATION IF THEY MEET AS A MINIMUM THE FOLLOWING CRITERIA:

Potential for scalability

11

- Potential for public-private partnerships
- Contribute to reducing water loss and closing the water gap

10



#### **Thematic Working Group 3:**

Water Use Efficiency and Leakage Reduction (WELR) – Addressing municipal and industrial water losses.

### AGRICULTURAL SUPPLY CHAIN



"The SWPN remains a primary national platform where stakeholders representing government, business and the development community can collaborate to address the water gap in SA. The opportunity going forward lies in even closer alignment between these partners to bring the best practices and resources to the table."

#### Mr Ian Hirschfeld

- Chair of the Agricultural Supply Chain Working Group
- Head: Public Policy and Regulatory, Coca-Cola

The agricultural sector's contribution to South Africa's gross domestic product (GDP), employment and food security is of national importance with the primary agricultural sector contributing about 3% to GDP and representing 7% of formal employment. The entire value chain of agriculture contributes 12% to GDP. However, despite these benefits to the economy and society, the sector loses a considerable amount of valuable water across the country through inefficient irrigation infrastructure and canal systems.

#### AGRICULTURAL SUPPLY CHAIN (ASC) WORKING GROUP

The working group recognises both the importance of agriculture to the economy as well as the impact that



water losses have on the economy. As a result the group has identified projects that contribute to closing the water gap such as the Vaalharts Irrigation Scheme upgrade and the Water Administration System project. **The primary focus of the group is to develop solutions for water use efficiency in irrigation by developing mechanisms to address aging and inefficient water infrastructure. Furthermore, the group aims to unlock funding for irrigation scheme upgrades and transformation.** 

#### VAALHAARTS IRRIGATION SCHEME UPGRADE

The Vaalharts is South Africa's oldest and largest irrigation scheme covering over 35,000 ha. With aging infrastructure, large areas of the scheme are at risk of collapsing in the near future. Leaving the scheme in its current state risks lowering agricultural output, loss of local jobs and reduced water supply for the 400,000 residents in seven municipalities that it supplies with water. The rehabilitation and upgrade of the scheme has the potential for a substantial water saving of approximately 40 million m<sup>3</sup>/annum. It will not only avert the risk of components of the scheme collapsing, but will also improve the schemes productivity and create an additional 2,000 jobs to augment the existing 7,500. The direct beneficiaries of the scheme upgrade will be the existing farmers and new users that are able to access water saved as a result of the upgrade. The indirect beneficiaries are the employees and service providers that support agriculture in the area.

The Presidential Infrastructure Co-ordinating Commission (PICC) is responsible for developing the business case for the upgrade of the scheme. PICC has appointed the National Agricultural Marketing Council (NAMC) to lead the project. Due to the large investment required, of approximately R4 billion over 20 years, the SWPN is supporting NAMC with the development of a multi-stakeholder funding and investment plan for the upgrade.





#### WATER ADMINISTRATION SYSTEM PROJECT

The Water Administration System (WAS) is a water management tool for irrigation schemes to manage their water usage, water distribution and water accounts. One of the main aims of the WAS is to minimise water losses on irrigation schemes that distribute water through canal networks.

The SWPN is supporting the roll-out of the WAS, which will minimise water distribution losses in four irrigation schemes through the implementation of the water release module.

These irrigations schemes include:

- Sand-Vet Water User Association (WUA),
- Hartbeespoort Irrigation Board (West Canal),
- Vaalharts WUA and Orange-Riet WUA.

The project aims to quantify the water saving benefits and costs which will inform further roll-out of the water release module in other irrigation schemes. A further benefit of the project is the training and capacity building provided for local officials to operate and manage the WAS in alignment with the Ministers skills development requirement. This will ensure sustainability of the project and improvement of the overall water administration management on the irrigation schemes.

#### **PROJECT MILESTONES**

- Project Steering Committees have been established for all four irrigation schemes.
- Measuring gauges have been put in place and progress reports have been received with an analysis of water use and loss.
- Preliminary results from the water release module calculation obtained for three of the four schemes supported indicate a combined reduction in water losses of 927 891 m<sup>3</sup>.



### EFFLUENT AND WASTE WATER MANAGEMENT



"The SWPN continues to grow in strength, bringing together a diverse group of stakeholders and individuals who are committed and passionate to address the water and sanitation risks facing society, business and the environment in a collective, integrated and innovative manner."

#### Mr Nandha Govender

- Chair of the Effluent and Waste Water Management Working Group
- General Manager: Water & Environmental Operations, Eskom

The mining sector contributes 5% of South Africa's GDP however, it also contributes to water pollution and generates excess mine water and acid mine drainage (AMD) with high levels of contaminants. Mining and energy companies in South Africa are increasingly recognising the importance of treating effluent before releasing it into the municipal water system, streams and rivers.

#### EFFLUENT AND WASTE WATER MANAGEMENT (EWWM) WORKING GROUP

The EWWN seeks to address the issue of mining impacts on the water supply in South Africa. The focus of the Working Group is on co-ordinating private and public sector players to optimise the utilisation of treated effluent and waste water. The Working Group recognises the effect that mining activities have on the country's water resources and quality and believes that mine water treatment can be expanded or improved to increase water security in South Africa.

The benefits include:

- Reduction of the amount of pollutants entering the environment
- Reduction of the amount of clean water required for dilution of pollutants
- Potential availability of additional potable water.

### MINE WATER MANAGEMENT PROJECT

The Mine Water Management project is a three-phased approach to address water pollution problems caused by mine-impacted waters. Phase 1b identified the issues, opportunities and constraints around mine water management for new, operational and closed mines in South Africa. These include the Waterberg coalfields, Witbank coalfields and the Witwatersrand goldfields respectively. It was agreed that the focus of Phase 2 would be on the Witbank coalfields which comprises new, operational and closed mines.

Response options and approaches to the mine water challenge that arose from Phase 1b included collaborative planning, regulation, governance, treatment and mitigation. These approaches were aimed at ensuring that the remaining 20-year coal mining operational life-span does not further deteriorate the water quality in the catchment, whilst also promoting the rehabilitation of the water resources and the implementation of long-term solutions to water guality management.

Due to the complexity of the AMD phenomenon, there were a range of approaches identified which translate into a variety of potential institutional-financial business models.

#### PHASE 2

The current project (Phase 2), supports the development of institutional-business models for sustainable mine water management in the Witbank coal mining area.

The institutional-financial business models should fulfil the function that it is required to perform, be adaptable to changes while also being sustainable in the longterm, and should implement or at best foster the implementation of the required objectives (i.e. through outsourcing certain functions).

This project will catalyse the development of a larger programme with the result of improved water quality and mine water sustainability in the Olifants catchment and beyond.

#### **PROJECT MILESTONES**

- The Catchment Intervention Framework
   was approved
- Completion of an options analysis (up to pre-feasibility level) for priority collaborative interventions
- Completion of a model analysis (including the timeframes for development and implementation) for the establishment of a Co-ordination Body
- Finalisation of a report on financing options to support the establishment and activities of the Co-ordination Body



### WATER USE EFFICIENCY AND LEAKAGE REDUCTION



"To address the water challenges facing South Africa, there is a need for effective partnerships. Through the SWPN, Nestlé is able to partner with government and key stakeholders to address the critical gap between water demand and water supply, currently and in the future."

#### **Mr Sanjeev Raghubir**

- Chair for the Water Use Efficiency and Leakage Reduction Working Group
- Manager: Environmental Sustainability, Nestlé

#### WATER USE EFFICIENCY AND LEAKAGE REDUCTION (WELR) WORKING GROUP

The Water Use Efficiency and Leakage Reduction Working Group focuses on developing solutions for reducing water losses in municipal and industrial water systems.

The amount of non-revenue water consumed in South Africa exceeds that of the international average. In a report by the Water Research Commission (TT 522/12, August 2012), it revealed that South Africa has a national non-revenue water figure of 36.8% for 132 (54%) municipalities, and an average water consumption of 235 litres/ capita/day, compared to the international average of 173 litres/capita/day. The volume of non-revenue water for the country represented 1,580 million  $m^3$  and trends showed a steady increase.

Inefficient water usage and water loss are a primary risk to the municipal sector in terms of water availability and financial sustainability. This ultimately presents a direct risk to all water users. Challenges of nonrevenue water include: the lack of managerial and technical skills in municipalities, aging and dilapidated infrastructure, rapid housing developments unaligned to infrastructure master planning and budgets, and a poor understanding of the complexities of water supply and demand management.

#### **NO DROP PROGRAMME PHASE 2**

To address this problem, the Department of Water and Sanitation in partnership with the SWPN developed the No Drop Programme to draw attention to and improve water use efficiency, water loss, and non-revenue water management in the South African municipal sector.

The No Drop Programme is a water use efficiency rating system aimed at municipalities to encourage performance excellence through a rewards and penalties system. The No Drop is a simple scorecard that assesses and ranks municipalities on water losses, revenue collection and water use efficiency. Through No Drop Certification the municipality receives public accolade and acknowledgment of its excellence in water supply management against a set of criteria (developed by the SWPN and the DWS).

### These seven criteria, otherwise referred to as Key Performance Areas (KPAs) include:

- 1. Strategy and planning
- 2. Asset management
- 3. Technical skills
- 4. Credibility
- 5. Compliance and performance

- 6. Local regulations
- 7. Customer care

#### **PROJECT MILESTONES**

- All municipalities in South Africa have been assessed using the three most essential KPAs of the No Drop scorecard (3% No Drop data)
- All eight metropolitan municipalities have been audited against the full scorecard with seven KPAs
- The information from the municipal assessments will feed into a No Drop Report segment in the Blue Drop Report 2014 due to be released in 2015.

#### MODEL PERFORMANCE-BASED CONTRACT (PBC)

The SWPN, in partnership with GIZ, funded the development of a generic performance-based contract for targeted water loss reduction programmes in South African municipalities. Reducing water losses in municipal supply systems is a strategic priority for South Africa's water sector. In addition, a reduction in water losses will help to improve municipal finances and also reduce the impact of water abstraction on the environment.

In many cases, the pay-back period for the interventions is relatively short and the savings made can cover the cost of implementing the requisite water-loss reduction measures. This means that performance-based contracts with private sector contractors can be used to ensure that targeted results, and value for money, are achieved. The establishment of performance-based contracts within the current municipal procurement and financial management regulations can be complex. The SWPN and GIZ have developed a draft model contract that conforms to all current legislative requirements and best practice in terms of water conservation and water demand management optimisation.

#### **PROJECT MILESTONES**

- The model contract has been completed
- A joint launch of the performance-based contract by the SWPN, GIZ and SALGA was held in March 2015.



### **PARTNERS ACROSS BORDERS**

#### GIZ

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) has identified the importance of water in South Africa and how crucial it is for the profitability and sustainability of companies operating in the country and for maintaining the livelihoods of communities.



Through its International Water Stewardship Programme (IWaSP), which is funded by the German and British governments, GIZ works to foster partnerships between government, the private sector and civil society to collectively address shared water challenges. GIZ is a key partner of the SWPN and is currently supporting the organisation through a grant.

The concept of water stewardship is based on the understanding that all water users play a crucial role in ensuring sustainable water management and that all key stakeholders must be involved in the process if these complex challenges are to be addressed.

- GIZ/IWaSP mandate

#### 2030 WRG

The 2030 Water Resources Group (WRG) is a global public-private-civil society partnership that assists governments and the private sector to accelerate water resource reforms. The ultimate aim of such reforms and actions is to close the gap between water demand and supply by the year 2030.

SWPN South Africa is part of the 2030 WRG network of country partnerships. 2030 WRG was instrumental in helping establish the SWPN in 2011. Through collaboration between the **International Finance Corporation (IFC), the World Economic Forum (WEF), multilateral and bilateral agencies (Swiss Development Corporation), private sector companies (Nestlé, PepsiCo, The Coca-Cola Company, SABMiller)** and other organisations such as the **World Wildlife Fund (WWF)**, the WRG is able to provide invaluable research, insight and support to the SWPN.

#### SIWI

The Stockholm International Water Institute (SIWI) is a policy institute that generates knowledge, builds capacity and informs decision making with a view to addressing the world's escalating water crisis. SIWI's programmes and activities fill the niche between policy and practice.



2030

Water

Group

Resources

SIWI also actively promotes networking and interaction among water stakeholders, notably via the World Water Week, organised annually in Stockholm, and the various prizes awarded to recognise outstanding water-related achievements.

In 2014 SIWI opened its first regional office, the Africa Regional Centre, in Pretoria. This office manages partnership programmes in the region and is promoting the exchange of knowledge and experience between various parts of Africa.



# **SWPN PARTNERS AND FUNDERS**



Strategic Water Partners Network SOUTH AFRICA





























**RAND WATER** 

WATER RESEARC











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SALGA







# **CONTACT US**

The SWPN-SA Secretariat is hosted by the NEPAD Business Foundation (NBF). The NBF is a neutral non-profit institution promoting public and private sector collaboration to achieve social and economic development across Africa.

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