water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

WQM POLICIES AND STRATEGIES FOR SOUTH AFRICA

WP 10978

Implications of the WQM Policy and IWQM Strategy for Implementation

Provincial Workshop

October/November 2016

DISCUSSION POINTS

1. Introduction and Progress
2. Background to WQ and WQM in South Africa
3. WQM Policy
4. Developing the IWQM Strategy
5. IWQMS Workshops
6. Way Forward

DISCUSSION POINTS

1. Introduction and Progress
2. Background to WQ and WQM in South Africa
3. WQM Policy
4. Developing the IWQM Strategy
5. IWQMS Workshops
6. Way Forward

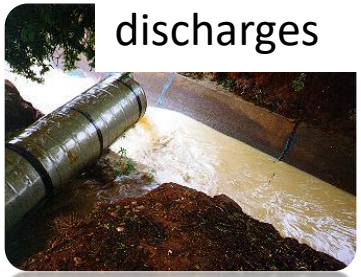
In South Africa we are faced with many of the problems related to poor water quality; largely attributed to the challenges we have with managing the various sources of pollution.

Challenges with managing run-off from un-serviced areas

Air pollution

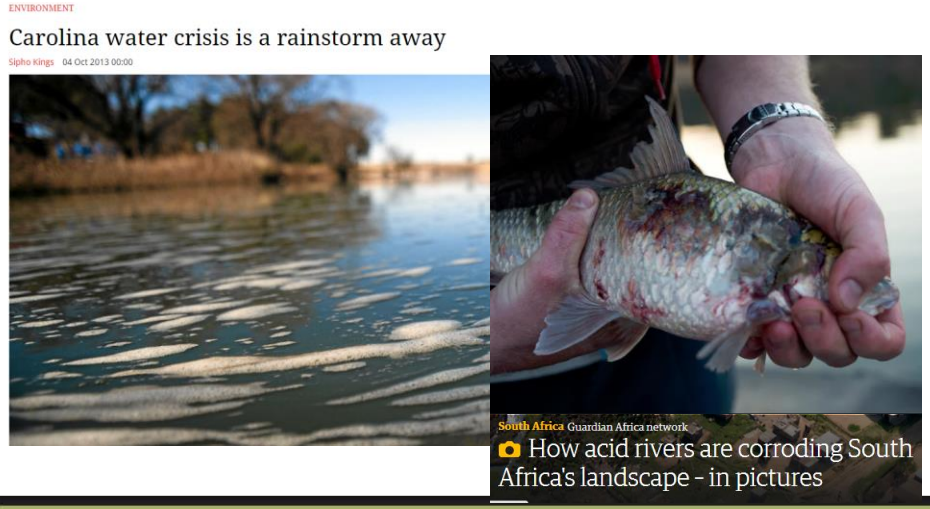
agricultural drift & run-off

industrial wastewater discharges



urban run-off

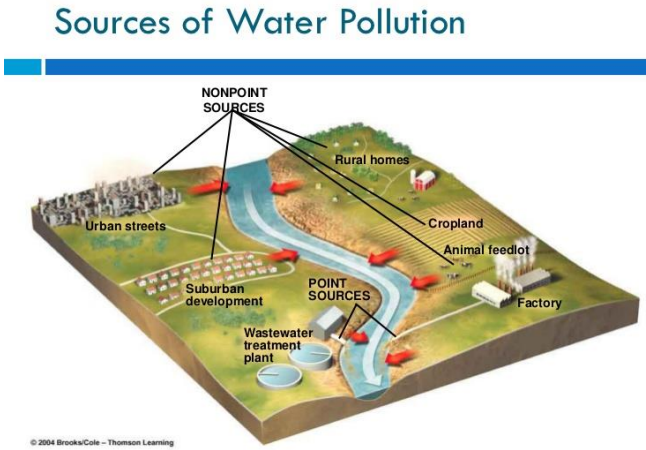
Challenges with managing mine water



Challenges with managing sewage water

MANY FACTORS WHICH CONTRIBUTE TO THE WQM CHALLENGES

- **Sources of water pollution are complex:** There are varying sources of pollution (point source, diffuse) and water quality changes along the hydrological regime.
- **Catchments are complex socio-economic systems, and some are shared watercourses**: Sufficiently integrated and adaptive approaches within and across catchments should be implemented, which is currently lacking.



- **Need sufficient alignment and coordination within and between government departments:** WQM hampered by poor coordination & conflicting approaches
- **Insufficient Finance for WQM:** Financial resources available are insufficient and do not recognize the investment required to counteract economic harm.
- **Insufficient data and information management:** Data sharing is a challenge, including transboundary-management. There is a challenge in ensuring that the public has access to information
- **Capacity & skills constraints in the field of WQM**

In response to the country's need to take an **improved INTEGRATED approach to Water Quality Management (WQM)**, the Department of Water and Sanitation has initiated a project to develop a national, integrated Water Quality Management (WQM) Strategy.

Before the strategy could however be developed **the current WQM policies**, which were needed in order to give direction to the strategy, **would require revision**.

BACKGROUND

This is due to the fact that **whilst innovative at the time of publication**, the current policies (Water Quality Management Policies and Strategies in the RSA in 1991 and the 2006 Resource Directed Management of Water Quality Policy) are outdated

and

need to be aligned with current overarching policy and legislative frameworks, socio-economic trends and **emerging global issues**.

IWQMS PROJECT PHASES

Project Commenced : 4th October 2015

Completed Oct 2015 -Jan 2016	Inception	• Clarify the expectations and scope for the project
Completed Jan 2016 – Mar 2016	Assessment	• Comprehensive literature survey • Identification of the WQ and WQM Challenges in SA
Completed (Edition 1) Mar 2016 – Feb 2017	Policy	• Define Policy Principles • Revise, update & integrate existing WQM policies
Current Phase Aug 2016 – Feb 2017	Strategy	• Revise, update & integrate existing WQM strategies based on inputs from Stakeholders & assessment phase
Nov 2016 – Jul 2017	Policy into Practice	• Develop a pragmatic plan to implement, monitor and evaluate the execution of the policy and strategy.

PROJECT PROGRESS TO DATE

Final documents:
www.dws.gov.za/projects/iwqms

Completed

- Inception Report
- Review of WQM Policies & Strategies
- Review of WQM Institutional Arrangements
- Review of WQM Instruments
- WQ and WQM Challenges in SA
- WQ Glossary
- Capacity Building Strategy
- Stakeholder Communication Strategy
- Newsletter (1) and (2)
- Note on the WQM Policy Principles

Supported by ETM Policy Committee:
Request to Gazette for Public Comment

- WQM Policy: Edition 1

Compiled: for use in discussion with project committees and stakeholders to develop IWQMS Strategy

- Note on the Strategic Framework

In development

- IWQMS Strategy: Edition 1

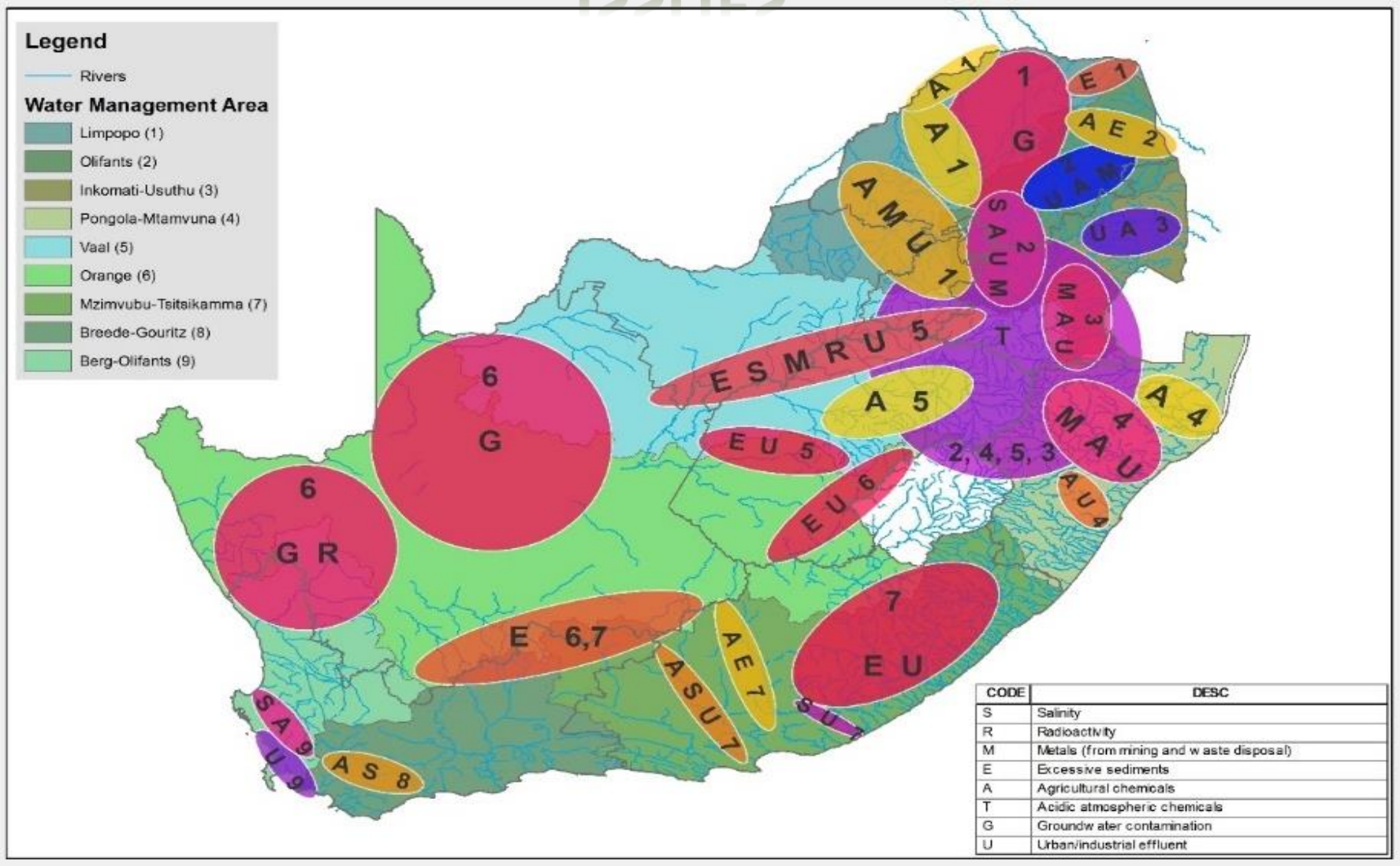
DISCUSSION POINTS

1. Introduction and Progress
2. Background to WQ and WQM in South Africa
3. WQM Policy
4. Developing the IWQM Strategy
5. IWQMS Workshops
6. Way Forward

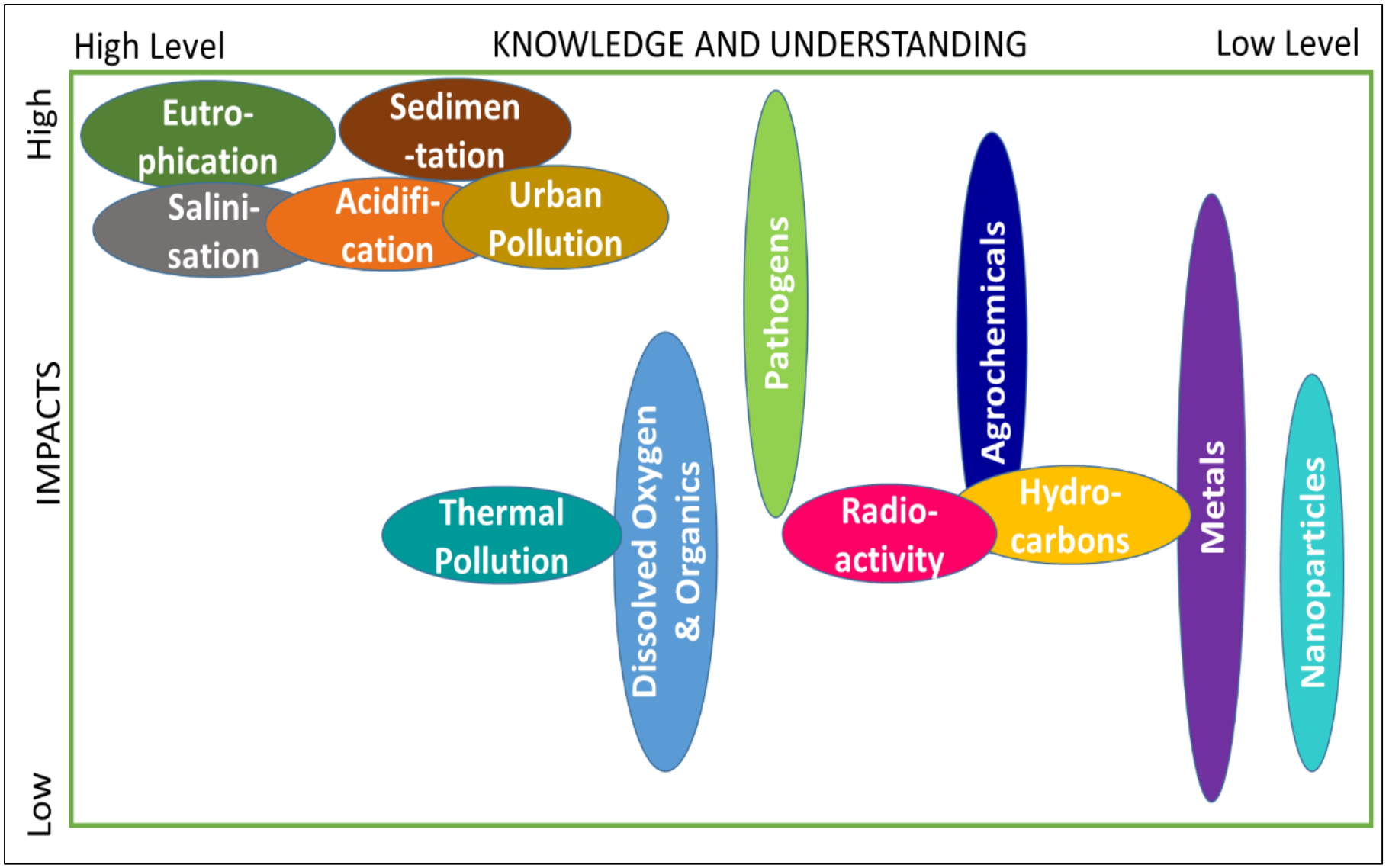
WATER QUALITY ISSUES

- Salinisation
- Nutrient enrichment and eutrophication
- Acidification & acid mine drainage
- Erosion and sedimentation
- Urban runoff pollution, litter and solid waste
- Microbial pollution, waterborne pathogens and human health
- Agrochemicals and toxic substances
- Dissolved oxygen and organic pollution
- Trace metals
- Hydrocarbon pollution
- Thermal pollution
- Nanoparticles
- Radioactivity

SPATIAL DISTRIBUTION OF WATER QUALITY ISSUES



PRIORITISATION OF WATER QUALITY ISSUES



SECTORS CONSIDERED

- Industry

- Agriculture

- Municipalities

- Mining

- Urban washoff

MUNICIPALITIES

Lack of maintenance of wastewater infrastructure

Inappropriate technologies

Unsexy infrastructure

Financial incentives to attract industry

Lack of enforcement

Lack of ownership by affected communities

Lack of appropriate bylaws

Lack of adequate / appropriate urban planning

Insufficient resourcing

Understanding of mandates is confused

Capacity challenges

Labour challenges

Poor budgeting/ not ring-fencing budgets

Lack of political support

Politically embarrassing

Poor understanding of importance

Unsustainable financial model

Rapid urbanisation

Supply trumps quality

INDUSTRY

Not meeting discharge standards in municipal environments

Legacy WQ issues

WWTW technology inappropriate

Municipalities treat industry as source of revenue

WWTW removes incentives to pre-treat

Political pressure to attract industry

WDCS on hold

No incentives to treat

Transfers responsibility to meet standards to LM

Lack or trust between industry & Govt

Lack of enforcement

Inappropriate license conditions

Lack of capacity

Ineffective monitoring

Limited comms

Poor cooperative governance

AGRICULTURE

Poor land use practices

Over-irrigation

Over-fertilisation

Over -abstraction

Varying contexts ie small vs commercial, communal

Extension services weak

Poor enforcement

Capacity challenges

Disbursed spatial nature of agriculture

Lack of financial resources

Lack of accountability

Govt

Farmers

Jobs trump environment and water quality

Not understood to be a priority

Poor cooperative government

URBAN RUNOFF POLLUTION

Degradation of wetlands, canalisation of rivers and the degradation of riparian areas and developments in floodplains

Lack of maintenance of infrastructure

Rapid growth in poorly serviced peri-urban dense settlements

Lack of enforcement

Lack of ownership by society

Lack of bylaws

Mindset of we don't need to treat

Lack of adequate / appropriate urban planning

Spend requirements are huge

Understanding of mandates is confused

Capacity challenges

Insufficient resourcing

Unsustainable financial model

Lack of political support

Poor understanding of importance

Rapid urbanisation

MINING

- Existing mines not meeting WQ discharge standards
- Abandoned mines…Govt facing significant challenges in managing impact
- Closing mines have uncertainty around closure funds and meeting new closure requirements
- Insufficient CME function at DWS (at national through to local level – also linked to capacity to implement and know how to hold someone accountable and ability to write proper licence conditions)
- Weak technical capacity …WQ officers don't know how they fit in, inaccurate WUL, not sure how to enforce, cannot read and interpret WQ data, lack of knowledge around protected areas.. understanding what that really means
- Political interference in establishment of mines ie unlicensed mines (establishment, mining in areas that are protected etc – in competing mandates… DWS mostly loses, short term benefit overshadows long term sustainability)
- Poor cooperative government…mismatch in departmental mandates
- Insufficient financial resources

FUTURE TRENDS AND WATER QUALITY IMPACTS

- Climate change
  - Overview of the trend
  - Description of water quality challenges
- Hydraulic fracturing
- Renewable energy
- Water-energy-food security nexus
- Growth of inadequately serviced densely populated settlements
- Water re-use

WQM SWOT ANALYSIS

28	S	**Strengths**	Internal	Positive factors with respect to WQM in the Department e.g. Good statutes and regulations
62	W	**Weaknesses**	Internal	Negative factors with respect to WQM in the Department e.g. Inadequate implementation or enforcement
32	O	**Opportunities**	External	Factors outside the Department that can be exploited to the advantage of WQM e.g. Renewed focus on cooperative governance
45	T	**Threats**	External	Factors outside the Department that endanger effective WQM e.g. Fragmented planning in different government departments

SWOT MUST-DO'S

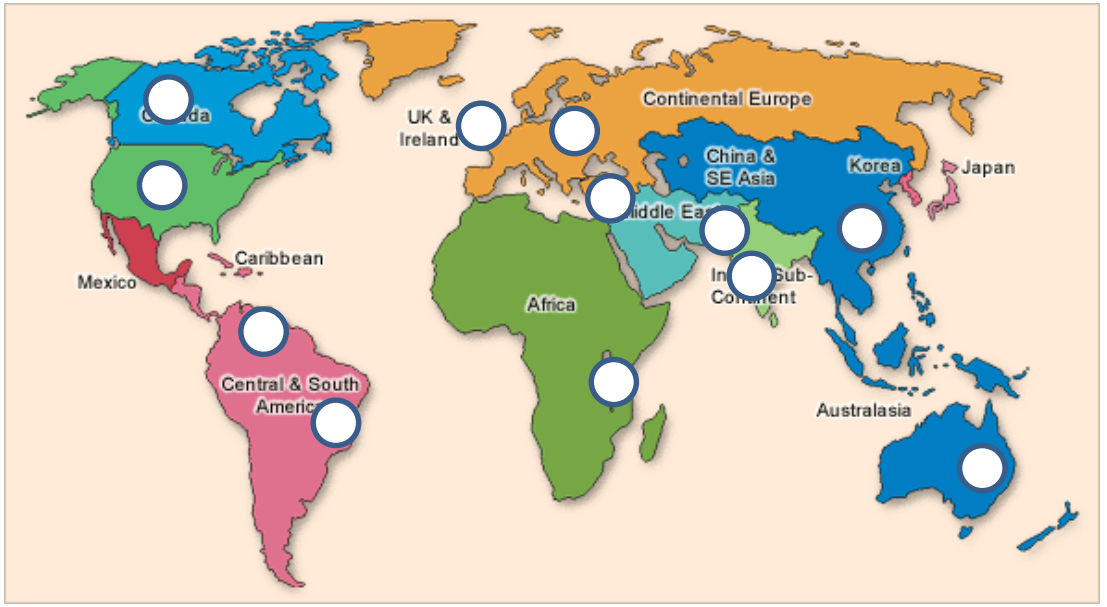
1. Promote integration of water quality & quantity
2. Formalise cooperative governance structures, processes and resources for WQ regulatory actions
3. Formally address overlaps of statutory/regulatory/oversight mandates that affect WQM
4. Formalise institutional/legal framework for intervention in municipalities with failing W&S functions
5. Strategy and Plan for Sectoral Partnerships and PPPs
6. Rolling engagement with DWS senior management on WQM
7. Rolling Public engagement on joint custodianship of the resource
8. Intensify WQM capacity development across sectors
9. Overhaul all aspects of WQ monitoring and data management
10. Intensify all aspects of CM&E
11. Mobilise ex-DWS Budget funding of WQM initiatives

INTERNATIONAL CONTEXT

Good water quality is the foundation for **achieving the SDGs** and further drives the need for an integrated WQM policy and strategy for SA

INTERNATIONAL EXPERIENCE

1. Strategic alignment
2. Coherent instruments
3. Innovative Partnerships



STRATEGIC ALIGNMENT

- Water quality problems are increasingly **shifting to NPS** related to failing infrastructure
- Basin **WQ rehabilitation** / management is a long term process requiring institutional capacity and financial sustainability, within broader water resources management
- Water resources **crisis provides opportunity** to gain political will and momentum, but needs to be sustained
- Catchment WQ management requires a **combination** of technical, regulatory, economic, financial and institutional **interventions**
- Influencing **government financing mechanisms** provides a critical means of enabling WQ action
- The **SDG indicator process** provides an opportunity to address WQ issues

COHERENT INSTRUMENTS

- Regulatory and strategic approaches are increasingly focusing on minimising pollution by being stringent on **priority sectors**
- **Clean tech** supported by green economy initiatives and financing mechanisms provides targeted ways of reducing pollution at source
- **Coherent** regulatory regimes and strategic institutional approaches supported by appropriate financial mechanisms and cooperative actions
- **Natural (green) infrastructure** is recognised as critical aspect of integrated management of water quality in urban and rural settings
- Various **economic (and financial) approaches** have been attempted, the selection of which should be depend on the individual context and may be targeted
- Good water quality **monitoring** enables enforcement and compliance, but this can be incrementally developed and funded

PARTNERSHIPS

- Government needs to play a **lead role** in driving, coordinating and often financing the remediation – not always just water quality managers
- Building **long-term partnerships** is fundamental to sustained and effective local solutions
- **Basin institutions** lead catchment rehabilitation / protection , through a range of rural and urban measures
- Alignment and consistency is an emerging challenge that requires **cooperative governance** and regulatory/strategic approaches (vertical and horizontal)
- Private sector has a crucial role to play in minimising its impacts on water resources, and collaborating through **water stewardship partnerships**

DISCUSSION POINTS

1. Introduction and Progress
2. Background to WQ and WQM in South Africa
3. WQM Policy
4. Developing the IWQM Strategy
5. IWQMS Workshops
6. Way Forward

water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Thank you

For more information, please refer to

https://www.dws.gov.za/projects/iwqms/default.aspx