

# WATER QUALITY MANAGEMENT POLICIES AND STRATEGIES FOR SOUTH AFRICA

## PURPOSE OF NEWSLETTER (No. 2 of 4, July 2016)

The purpose of this newsletter is to:

- update you on the development of the WQM Policy;
- inform you about the way forward;
- invite you to register as a stakeholder; and
- solicit your comments.

Project technical information:

**DWS Project Manager**  
**Mr Pieter Viljoen**

DWS Scientist Manager: Water  
Quality Planning  
Private Bag X313  
Pretoria, 0001  
Tel: +27 (0)12 336-7514  
Cell: +27 (0)82 808 0497  
Email: [ViljoenP2@dws.gov.za](mailto:ViljoenP2@dws.gov.za)

To comment on the project or  
register as a stakeholder:

**Project Team Leader**

**Derek Weston**

Pegasys Strategy and  
Development  
PO Box 14362, Hatfield, Pretoria,  
0028  
Tel: +27 (0)12 342 0815  
Cell: +27 (0)82 964 9461  
Email: [iwqms@pegasys.co.za](mailto:iwqms@pegasys.co.za)

**Project Team Manager**

**Traci Reddy**

Pegasys Strategy and  
Development  
PO Box 14362, Hatfield, Pretoria,  
0028  
Tel: +27 (0)12 342 0815  
Cell: +27 (0)82 557 2878  
Email: [iwqms@pegasys.co.za](mailto:iwqms@pegasys.co.za)

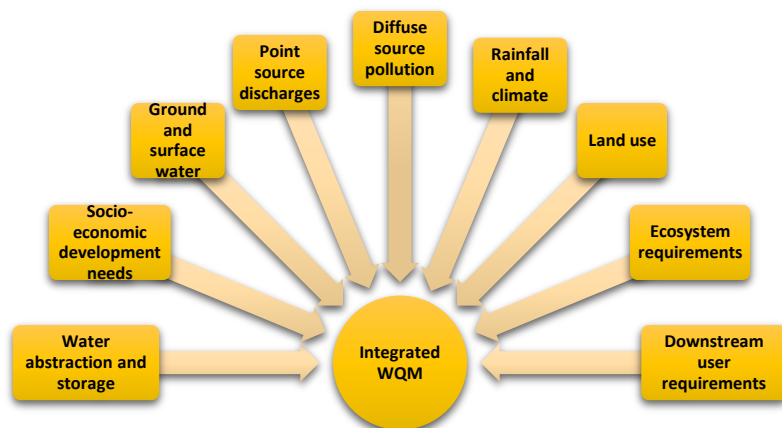
For more information on the  
project, please refer to the  
dedicated project website on  
the Department's website:

[www.dws.gov.za/projects/iwqms](http://www.dws.gov.za/projects/iwqms)

## WATER QUALITY IS A DEVELOPMENTAL ISSUE

South Africa is facing a multi-faceted water crisis, which, if not addressed effectively, has the potential to significantly limit the economic growth potential of the country. Poor water quality, which is a key factor of the crisis, has significantly negative impacts on the country. It reduces the amount of water available for use in that more water must be retained in our river systems to dilute the pollution to acceptable standards. It increases the costs of doing business such that many enterprises are forced to treat water before being able to use it in their industrial processes, and the cost of municipal water treatment increases. It reduces productivity as more work days are lost due to water-related illnesses and finally, it threatens several economic sectors by impacting on crop yields and makes crops vulnerable to import restrictions. The deterioration of water quality in rivers, streams, dams, wetlands, estuaries and aquifers impacts on the economy, on human health, and on aquatic ecosystems. Some of these impacts are clearly visible, such as major fish kills, while others are more insidious and long term. Combined, however, they are having a significant negative impact on socio-economic development proving that **water quality is clearly an economic and developmental issue**.

The current picture is not encouraging and without a change in how we manage water, worsening water quality will continue to decrease the socio-economic benefits from and increase the costs associated with use of the country's water resources. The fundamental tenet of this policy is that integrated water quality management (IWQM) (Figure 1) is a government wide task, under the leadership of the Department of Water and Sanitation (DWS).



**Figure 1: Key elements of IWQM**

Historically, water quality management (WQM) has been the mandate of the DWS alone, and yet there are many government departments whose mandates impact profoundly on water quality, most critically, the Departments of Environmental Affairs, Mineral Resources, Agriculture, Co-operative Government and Traditional Affairs, Health, National Treasury, Trade and Industry, their provincial counterparts where relevant, and municipalities. A joint approach between these government departments forms the basis of tackling the water quality challenges facing the country.

***This policy sets out a concerted, inter-governmental approach to managing source and resource water quality, in partnership with civil society and the private sector, as part of the process of ensuring that there is enough water of an appropriate quality to meet the demands of a healthy population and a prosperous economy.***



**water & sanitation**

Department:  
Water and Sanitation  
**REPUBLIC OF SOUTH AFRICA**

## DEVELOPMENT OF THE WQM POLICY PRINCIPLES

To support the development of this Integrated Water Quality Management Policy for South Africa a number of steps were followed. Initially the WRC hosted a workshop of experts and hosted a community of practice to review the existing strategies and frameworks for water quality management (See Figure 1). A series of papers examining the current situation and international experiences were then drafted, focused on: a situation assessment of water quality and water quality management challenges in South Africa (DWS, 2016); institutional arrangements for WQM in South Africa (DWS, 2016b); a review of water quality management instruments for South Africa (DWS, 2016c); South African policy and strategy for water quality management (DWS, 2016d); and lessons from international experiences on dealing with WQM (DWS, 2016d).

On the basis of this work, a set of policy principles for integrated water quality management were developed, and approved by DWS management. These policy principles served as the basis for the development of the Integrated Water Quality Management Policy.

### Governance

#### **Principle 1: Government-wide water quality management**

It is the Constitutional duty of all spheres of government to protect the quality of water resources.

#### **Principle 2: Subsidiarity and accountability**

Water quality should be managed at the lowest appropriate level and the institutions responsible for managing water quality must be held accountable.

#### **Principle 3: Transboundary water quality management**

Water pollution is a transboundary water management problem must be managed within the principles of the SADC Protocol on Shared Watercourses

#### **Principle 4: Partnerships**

In order to manage water quality effectively, partnerships should be developed between government, the private sector and civil society

#### **Principle 5: Administrative fairness and implementability**

Regulation must be administratively fair, and effectively implementable within technical and financial resource constraints

### Economic and Financial

#### **Principle 6: Water quality is a developmental issue**

In addressing the management of water quality, the developmental, economic, social and ecological impacts of deteriorating water quality must be taken into account.

#### **Principle 7: Broadened funding mechanisms**

The mechanisms for funding water quality management should be broadened, given that water quality is impacted on by, and impacts on, many different sectors, and recognising the developmental impact of declining water quality.

#### **Principle 8: Polluter pays**

The costs of remedying pollution, degradation of resource quality and consequent adverse health effects, and of preventing, minimising or controlling pollutions is the responsibility of the polluter.

### Operational

#### **Principle 9: An integrated approach**

An integrated resource, remediation and source directed approach which manages sources of pollution and the water resource system as a whole at catchment or sub-catchment scale will be adopted.

#### **Principle 10: Hierarchy of decision-making**

Water pollution management should follow the hierarchy of decision-making of prevention, minimisation and re-use, applying the precautionary principle, differentiated approach, reclassification of the resources and rehabilitation.

#### **Principle 11: Green/Ecological Infrastructure and Restoration and Rehabilitation**

Rehabilitation & restoration of catchments should be pursued, incl. the use of green/ecological infrastructure.

#### **Principle 12: Risk-based approach**

A risk-based approach to regulation should be adopted based on the magnitude of potential impacts

### Data and Information

#### **Principle 13: Collection and protection of data**

Data on water quality must be standardised, collected, managed and protected as a strategic asset for monitoring, management and research purposes

#### **Principle 14: Publicly available information**

Information and data on water quality and waste discharges must be available in the public domain

#### **Principle 15: Administrative Penalties**

A system of effective administrative penalties for water pollution offences must be adopted

## THE VALUES FOR THE WQM POLICY

In addition to the policy principles set out, the successful implementation of the Integrated Water Quality Management Policy is premised on the following values:

### ***Value system – justice, ethics, equity, integrity, fairness***

Coherent action without a value system is at risk of floundering in the face of demands from competing sectors. The Bill of Rights and the Constitution provide clear value-based principles for action in implementing the IWQM policy.

### ***Courage***

The courage to act decisively, within a cycle of monitoring and review governed by a strategic adaptive management approach.

### ***Communication and team work***

Recognition of an interconnected water system of which water quality is a part, supports the needs for transparent communication and the ability to work as a team within government and with the private sector and civil society.

### ***Competence***

There are many aspects to IWQM, particularly technical aspects, that require competence. The appointment of competent staff must be supported by capacity building programmes.

### ***Empowerment***

Officials are empowered to act (that is, to use their courage and competence) where there is effective leadership.

### ***Informed civilians***

Informed civilians are a key element of effective delivery of integrated water quality management. The emergence of an informed civilian population requires investment in effective public information processes.

### ***Responsibility***

Responsible action emerges when there is competence, trust, and an active, shared, value system.

### ***Listening***

Responsive implementation of the policy will require water quality managers to listen to water resource users and protectors, individually and institutionally.

## THE VISION, GOAL AND APPROACH FOR THE WQM POLICY

The policy responses to the challenges aim to support the vision for water management captured in the National Water Resource Strategy 2:

### ***Sustainable, equitable and secure water for a better life and environment for all***

By adopting “*An inter-governmental approach, in alliance with the private sector and civil society, that will improve resource water quality in South Africa in order to prevent pollution and ecological degradation and support ecologically sustainable economic and social development and use of the nation’s water resources.*”

The goal of this WQM Policy is to

- Align water quality management policy with current legislation and relevant overarching policies.
- Provide guidance on sustainable water use, especially as far as it relates to water quality management.
- Inform the water resource management function as well as the required framework for the development of related policies and sub-strategies related to water quality management.
- Address operational aspects such as decision-making in the execution of the water quality management function.
- Provide resolution on matters related to water quality management that are not adequately addressed in current policy.
- Guide further development of legislative instruments and measures.

The approach to integrated water quality management is crucial if we are to achieve equitable and environmentally sustainable social and economic development in South Africa. It will enable us to achieve our social and economic goals, and to give force to the right to water and the right to an environment not harmful to health or wellbeing, as enshrined in the Bill of Rights in the Constitution.

Some of the elements of the policy are implementable within the current legislative framework, other elements will need amendments to the National Water Act (Act 36 of 1998), and possibly to the National Environmental Management Act (Act 107 of 1998) and the Conservation of Agricultural Resources Act (Act 43 of 1983). Such legislative amendments are a critical part of protecting and restoring water quality in South Africa. In addition, successful implementation of this policy will require the establishment of effective inter-governmental structures and systems, and possibly the development of Memoranda of Understanding between key government departments and entities.

## THE WQM POLICY RESPONSE

The integrated water quality management policy framework that is required to achieve this vision is:

- **Inter-governmental water quality management:** deals with the need for an inter-governmental response to the WQM challenges in the country, some of the key policy aspects that must be addressed in achieving such an approach, as well as the need to build partnerships between government, civil society and the private sector in order to be able to successfully address the challenges.
- **Integrated water quality regulation and management:** spells out the nature of an integrated approach to WQM and key policy framings of the integrated approach to regulation and management of water quality, including integrated catchment planning, taking risk-based approach; and applying a hierarchy approach to decision-making.
- **Financing integrated water quality management:** examines the financial underpinnings of integrated WQM, looking at tools for financing the required actions, as well as the role of the private sector in this regard.
- **Knowledge and information management:** describes the policy with regard to the knowledge and human resource capacity base required to be able to implement the policy approaches.



## MAPPING THE WQM POLICY PRINCIPLES TO THE POLICY RESPONSE

### INTERGOVERNMENTAL WATER QUALITY MANAGEMENT

#### Problem Statement:

- Constitutional imperative;
- The national economic impacts of poor water quality are insufficiently quantified in the South African context;
- Water pollution arises from a range of sectors (private, public, individuals/households) resulting in managing the quality complex;
- DWS is primarily responsible for the management of water quality; however, many institutions have a role to play in managing the country's water quality;
- Poor co-ordination and conflicting approaches between government departments and spheres hamper WQM;
- WQM structures of the DWS itself are fragmented;
- Far too many enterprises that are contravening legislation and polluting our water resources
- Compliance, monitoring and enforcement challenges; and
- Civil society and private sector can play a stronger role in supplementing government's capacity.

#### Principles Applied:

*Principle 1: Government-wide water quality management*

*Principle 3: Subsidiarity and accountability*

*Principle 5: Partnerships*

*Principle 6: Water quality is a developmental issue*

### INTEGRATED, ADAPTIVE WATER QUALITY REGULATION AND MANAGEMENT

#### Problem Statement:

- Water pollution arises from a number of sources in a catchment (direct discharges or diffuse sources), arises from a number of factors and is complex;
- Catchments are complex social ecological systems (SES), subject to continual change arising from external influences and internal system changes;
- SA's watercourses are shared with other countries → Water Quality is a transboundary issue;
- Made more complex by the range of institutions responsible for intervention and dire need for cooperative governance; and
- Challenges with Compliance, Monitoring and Enforcement (CME):
  - Inadequate integration within DWS
  - Capacity challenges
  - Lack of enforcement by DWS regarding other sectors
  - Lack of guidance and enforcement on sectoral roles

#### Principles Applied:

*Principle 4: Transboundary Water Quality Management*

*Principle 5: Partnerships*

*Principle 9: An integrated approach*

*Principle 10: Hierarchy of Decision-making*

*Principle 11: Green/Ecological Infrastructure and Restoration and Rehabilitation*

*Principle 12: Risk-based approach*

## FINANCING INTEGRATED WATER QUALITY MANAGEMENT

### Problem Statement:

- Financial resources available are insufficient and do not recognize the investment required to counteract economic harm;
- Pollution allows externalization of business costs;
- Funding challenges:
  - inadequate funding raised through the regulatory mechanisms available to DWS due, for instance, to delayed implementation of the Waste Discharge Charge Strategy (WDCS);
  - the lack of sustainable financial models for local government, leading to inadequate funds to maintain Waste Water Treatment Works;
  - inadequate implementation of environmental provisions related to mine rehabilitation;
  - poor co-ordination and planning across the sector, and v) the unsure political climate which has resulted in limited investment by private sector companies, including in WQM.
- Innovative funding mechanisms/models required for improved regulatory activities (authorisation, CME), rehabilitation, construction and management of facilities, monitoring of water quality, research, etc.

### Principles Applied:

*Principle 5: Partnerships*

*Principle 7: Broadened funding mechanisms*

*Principle 8: Polluter pays*

*Principle 15: Regulatory Framework and Administrative Penalties*

## KNOWLEDGE AND INFORMATION MANAGEMENT

### Problem Statement:

- Desperate need for good data and information to support WQM;
- Monitoring and enforcement constrained by limited financial resources, lack of skilled staff, limited access to laboratories, and complexity;
- Challenges around data sharing, and access to user-friendly information (public, transboundary contexts);
- Insufficient funding and support for research and innovation requirements as well as the lack of uptake of the research outcomes; and
- Limited creation of awareness around WQM resulting in challenges to change behaviour and curb pollution.

### Principles Applied:

*Principle 13: Collection, use and protection of data*

*Principle 14: Publicly available information*

## STAKEHOLDER ENGAGEMENT

Consultation and communication with stakeholders form an essential part of the project. Thus far, two targeted stakeholder workshops were held in February and June 2016. The aim of these workshops were to get input and guidance from a select group of stakeholders that were had knowledge and experience in the field of WQM challenges and the policy development. Additional focus group meetings and one-to-one meetings were held with specific individuals to garner their inputs during the development of the WQM Policy.

Once the WQM Policy is gazetted for comment in September, wider consultations are planned which includes 9 provincial workshops and a national government workshop during October and November 2016. Furthermore, and a National Symposium is planned for April 2017 which aims to address implementation of the finalised WQM Policy and IWQM Strategy.

**To ensure that you are kept informed of progress with the project and the opportunity to participate, please register on the project's stakeholder database by either**

- emailing the project team ([iwqms@Pegasys.co.za](mailto:iwqms@Pegasys.co.za));
- registering on the IWQMS DWS website ([www.dws.gov.za/projects/iwqms](http://www.dws.gov.za/projects/iwqms)); or
- responding to the accompanying reply sheet.

## THE WAY FORWARD

This policy is based on the recognition that water quality is a developmental issue, with significant economic implications. The policy outlined in this document, and the legislation that will arise from it, is therefore vital for all South Africans. It will provide government at all levels with the tools required to fulfil its role as custodian of our valuable and limited water resources.

The policy will form the basis of an Integrated Water Quality Management Strategy which will set out how the policy imperatives set out here will be implemented, by whom, and over what time frames. It is critical, given the inter-governmental framing of the water quality management policy, that the Strategy is developed in consultation with the relevant departments and entities that will be responsible for its implementation.