



## **WATER SERVICES DELIVERY: IS IT PUMPS AND PIPES OR RELIABLE ACCESS TO WATER?**

### **1. INTRODUCTION**

The 2011 South African Census Report estimated that 8.8% of the South African population has no access to piped water. In such instances, people then rely on other water sources such as springs, rivers, streams, and boreholes. In South Africa, water services delivery is framed by the provisions of the Constitution (Act 108 of 1996); National Water Act (Act 36 of 1998); The Water Services Act (Act 108 of 1997); Municipal Structures Act and the Public Finance and Management Act/ Municipal Finance Management Act.

The national government, through the Department of Water Affairs (DWA) is the custodian of South Africa's water resources. It is primarily responsible for the formulation and implementation of policy governing this sector. It also has overriding responsibility for water services provided by local government. While striving to ensure that all South Africans gain access to clean safe drinking water, the sector also promotes effective and efficient resource management to ensure sustainable economic and social development. The National Water Act (NWA) is primarily concerned with the water resources such as rivers, dams, streams and ground water. The Water Services Act then addresses water services supplied by municipalities to

households and other water users. It contains the rules for the provision and supply of water and sanitation services respectively.

The 1996 White Paper on Science and Technology and the 2011 National Development Plan are explicit regarding the role of science and technology to improve the quality of life. On this basis, the Department of Science and Technology has been implementing various initiatives focussing on the use of science, technology and innovation to improve the quality of service delivery. One such undertaking is the Accelerating Sustainable Water Services Delivery (ASWSD) initiative. The aim is to pilot alternative approaches to accelerate sustainable access to water services through technological innovation. A number of valuable lessons have emerged from the ASWSD initiatives that have implications for water services policy in South Africa.

### **2. CONTEXT OF THE PROBLEM**

The water service delivery functions have been decentralised to local and district municipalities as Water Service Authorities (WSAs) and Water Service Providers (WSPs). However, evidence available indicates that the water services delivery implementation framework is facing challenges in the rural, poorer and second economy contexts. To redress the social injustices from the country's history, service delivery has been characterised by a strong focus to deliver as quickly as possible with a number of accelerated programmes in place. Recently, the Cooperative Governance and Traditional Affairs (CoGTA) the department responsible for the efficient functioning of local government introduced the Municipal Infrastructure Support Agency (MISA) to

support WSAs and WSPs to fulfil their functions. MISA, together with the South African Local Government Association (SALGA) is expected to render technical advice and support in order to optimize municipal infrastructure provisioning. Thus, MISA is to assist in coordinating the development and implementation of programmes designed to strengthen the capacity of municipalities in planning, developing, operations and maintenance of water infrastructure.

Furthermore, to facilitate the planning, acceleration and implementation of various projects that will ensure water supply to communities identified as not receiving the basic water supply service, government has put in place financing instruments such as the Municipal Infrastructure Grant (MIG), Municipal Water Infrastructure Grant (MWIG) and others. MWIG, the most recent water services focussed grant was conceptualised to address the deficiencies of MIG in support of the Interim/Intermediate Water Supply Programme (IIWSP). It also seeks to address the issues around operations and maintenance. IIWSP goals are that “all communities living in settlements greater than 50 households must receive a minimum interim water supply before 30 June 2015 either through a permanent water supply scheme or an interim or intermediate water supply intervention” (PMG, 2013).

The government's response to the challenge of poverty and affordability in rural water supply has been to give an undertaking, on behalf of local government, that every family is entitled to 6 kl of water per month free of charge. In rural areas this undertaking is to be financed by local government primarily by using a portion of a grant (the Equitable Share) which has been made available to

them for the purpose of making basic services affordable to the poor. This is the roll out of the country's free basic water policy that recognises water as a basic human right. The WSPs are expected as part of their Integrated Development Plans (IDPs) and Water Services Development Plans (WSDPs) to document all indigent households to enable allocation of the equitable share grant by the National Treasury Department.

The government is following an outcomes based monitoring framework for service delivery. The provision of and access to water services is highlighted as a key output in four of the 12 government outcomes tabled in 2012 (DPME, 2012). The three are outcomes 6, 7, 8 and 9, that is, infrastructure, rural development, sustainable human settlements and local government respectively. The key outputs of the outcomes in terms of water services are improvements in water supply where coverage is expected to increase to 90% in rural communities and 100% in urban centres as well as reduction in backlog on rehabilitation/refurbishment of the water infrastructure from 15% of asset value to 10% of asset value by 2014 (DPME, 2012). These efforts are in line with government National Development Plan (NDP) that prioritizes water as a key basic service required to stimulate economic development and at the same time address poverty in the country.

However, in spite of all these efforts and initiatives, the expected results and impact are yet to be realised and this has contributed to creating an almost permanent state of emergency in the sector as efforts increase to reach the unserved and under-served. Large numbers of people still do not have access to water services. Furthermore, there are widespread cases where, although some level

of service is delivered, it is often unreliable with long interruptions for various reasons and/ or there are no guarantees on the quality of the water. This observation is partly validated by the increase in service delivery protests over the past years.

### 3. EVIDENCE

The first phase of the ASWSD initiative was implemented in the Eastern Cape Province. It revealed that communities were relying primarily on springs (protected and unprotected) and rivers for drinking water while service providers battled with financial and technical resources to provide piped water to sparsely distributed communities on hilly terrain. This is contrast to the Phase II experience where despite previous infrastructure development interventions; communities still do not have access to a reliable water service. Phase II is currently being implemented in 11 villages across 4 district municipalities (Ehlanzeni, Vhembe, Mopani and Sekhukhune) in Limpopo and Mpumalanga Provinces.

### 4. FINDINGS

The Phase II water service delivery assessment in the project areas indicated that communities were using a variety of unsafe water sources. The main water sources included rivers, springs, street and yard taps (mostly municipal supply). In Meidingen, the street taps were largely informal connections done by the community to reduce walking distances. The connections were made to a formal municipal scheme that had become redundant because there was insufficient water from the boreholes. The reservoir was thus bypassed, and water was being pumped

from the borehole directly into the distribution network of formal and informal connections to street taps.

Services were also unreliable with the majority of users unable to access water from what they considered their main source more than 50% of the time. In two villages, where the main sources were municipal street taps, the reliability of the service was lowest at 3%. In Meidingen, where the street taps comprised of both formal and informal connections as the main source, the reliability was higher at 38%. As a coping mechanism in all the areas, communities resorted to the use of multiple water sources, the majority of them unprotected springs and wells. In one village, Kgotlopong in Sekhukhune District, the community resorted to constructing a small reservoir with pipes leading to different parts of the village. Due to poor workmanship, large volumes of water were being lost to leakage and the quality of the water was unmonitored.

The current focus on delivery of infrastructure as a measure of competence of service providers appears to underpin the issues identified above. ***Performance measurement is not linked to impact, that is, the access to a reliable water service.*** The water services delivery framework is currently underpinned by an infrastructure roll out drive as opposed to access to service, and this is where the paradigm needs to shift. Such a shift will enable the realisation of impacts as detailed in the government outcomes.

The ASWSD initiative has provided insights into the challenges in the current delivery framework that are impeding the sustainable

delivery of reliable water services in the rural and second economy areas. These are:

1. ***There is a large amount of infrastructure (boreholes, pipes) that is non-operational for a variety of reasons.*** Many communities have some kind of infrastructure but the bulk of this is non-functional. Municipalities attend to infrastructure maintenance on an ad hoc basis, when it becomes critical or an emergency. There is a need to incorporate capital investment as well as operations and maintenance costs of delivery options to ensure the best value for money on investments made on water services infrastructure.

2. ***There is poor record keeping of assets.*** In a number of municipalities, the information on the boreholes and other infrastructure as well water quality information could not be located. This ranged from borehole numbers to built drawings for schemes.

3. ***Service providers are facing numerous challenges in their efforts to provide water services to communities.*** These are both internal and external. Internally, capacity in terms of numbers and skills is a challenge with some municipalities operating without registered engineers. Further, there is a high staff turnover that affects continuity especially as the record keeping is poor. Externally, vandalism of infrastructure, notably, street taps and the informal connections is rampant in most communities. This reverses gains from the capital investments.

4. ***Water services development plans are not linked to the day to day business of most municipalities.*** This was particularly highlighted by Water Services Development

Plans that were often incomplete and did not necessarily correspond with other planning and financing tools in municipalities. The plans were thus not fulfilling their intended role to assist municipalities in their service delivery function.

5. ***Communities are not realising the maximum benefit from innovation and alternative technologies.*** An analysis of the non-functional hardware indicates a preference for certain technologies by mostly service providers. This at times was linked to expectations of piped water in the household by users. These expectations, together with the national performance management measures appear to lead municipalities to prefer certain technologies. Some technologies such as household filtration are viewed as inferior although they may suit the resources and capacity contexts particularly from an operations and maintenance perspective. However, some communities expressed a willingness to use alternative technologies. Nonetheless, there were instances where despite a community's willingness; the service provider would be reluctant. There are municipalities that are willing to roll out alternative technologies and take these up. In ASWSD I, the feedback from the municipalities was that they were pleased to realise that there were other options to piped water that could serve as an 'interim' solution in light of the terrain and financial challenges. Thus, even then, alternative technologies are viewed as inferior.

## **5. POLICY IMPLICATIONS, OPTIONS AND RECOMMENDATIONS**

South African water policy and regulatory frameworks address the key issues to facilitate delivery of water services in the

country. The issues of sustainability linked to protection, management, development and conservation of water resources are clearly defined in the National Water Act.

The sector needs to shift the focus towards effective infrastructure delivery that facilitates access to service. Thus, monitoring and evaluation needs to shift its focus to measure access to service as opposed to focusing on the roll out of infrastructure. At present, there are no clear monitoring and evaluation procedures in place that link infrastructure provision to service delivery, yet it's very clear that the presence of water infrastructure in a community is not a guarantee of supply. To facilitate this shift in monitoring, this needs to be included in the indicators that are outlined in the government outcomes. This should further be translated into the requirements/conditions for grants such as MWIG. As presently specified, the MWIG conditions lay a good foundation addressing the challenges that lead to the failure of infrastructure. However to ensure that service providers adhere to the agreements to keep the infrastructure operational after construction, impact focussed measurement needs to be adopted.

Operations and maintenance is a huge challenge that MWIG has taken measures to address through requirements such as asset management plans and provision for the outsourcing of the operations of water schemes by WSAs. SALGA is also mooting plans to motivate an infrastructure rehabilitation fund to address the issue of non-operational infrastructure (Moraka, Oral Communication, 2014). The plans by SALGA need to be viewed with a broader asset management programme that will not only rehabilitate infrastructure but ensure that it is

managed well after that. There is a need for asset management skills in the municipalities to support both the SALGA initiative as well as the provisions in MWIG as the responsibility for the sustainability of the infrastructure will ultimately still rest on the WSAs.

The emphasis on the production of WSDP and IDPs continues. To enhance the effectiveness of these tools, they need to be aligned with the operational challenges that exist in the delivery framework. For example, MWIG requires that projects are included in the WSDP and IDPs. This may run the risk of these tools continuing to be used simply as compliance documents. The relevance of the tools to the effectiveness of service providers needs to be assessed.

There is strong emphasis on stakeholder participation including the involvement of community based organisations. This need to be strengthened and the current efforts by DWA to strengthen the role of Catchment Management Agencies (CMAs) as well as the requirements for MWIG funding could provide key platforms for this. This is particularly important as it will give the domestic user a platform to raise challenges they face in accessing the resource as the current institutional arrangements have neglected the user especially with respect to technology choice. As part of ASWSD stakeholder engagement that communication between CMAs and water users represented by WSPs is limited and non-existent in some cases.

The policy on technology choices needs to promote and recognise alternative technologies as service coverage. The Reconstruction and Development Programme standards need to recognise the technologies so that service providers can adopt them.

This can be facilitated as part of the current drive by DWA on alternative technologies. IIWSP and MWIG refer to alternative technologies as 'interim' interventions. This needs to be reviewed as these may be the more appropriate technologies in some contexts. Or perhaps interim needs to be understood as a long term period until such a time as resources permit the extension of piped water to all communities where the engineering costs are prohibitively high.

The Municipal Services Act that guides the delegation of the water service provisioning role by WSAs to WSPs lacks clearly defined, step by step procedures that a WSA need to undertake to access the ability of WSPs to carry out its provider role. This leads to WSPs that lack the technical and financial capacity to provide the required service being appointed. There is therefore a need for a more robust, impact focussed assessment system before appointment of a WSP and the introduction of an accreditation system to be renewed periodically. This could be built into the functions of the economic regulator currently being planned by DWA. In addition, DWA as the national custodian of the resource need to have a closer and firmer oversight and regulation relationship with WSAs and WSPs. There is further need for regulatory clarification in cases where an institution acts as both the WSA and WSP.

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