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MAXIMIZING THE BENEFITS FROM WATER AND ENVIRONMENTAL SANITATION

South Africa's water and sanitation sector reform: Progress and challenges

Ola Busari and Barry Jackson, South Africa

Some ten years back, South Africa's newly elected government inherited huge services backlogs with respect to access to water supply and sanitation. About 15 million people were without safe water supply and over 20 million without adequate sanitation services. Since then, the country has made a remarkable progress with regard to accelerating the pace of services provision and restructuring and refocusing the entire water sector. Having ensured access to an additional population of over 10 million people, South Africa is well on track to wipe out the infrastructure backlog for basic water supply by 2008, exceeding the MDG target. But, first, with respect to sanitation for which the national target is universal access to a functioning facility by 2010, the picture is somewhat different. Second, substantial challenges remain in addressing historical inequalities in access to both water supply and sanitation, and in sustaining service provision over the long term.

Introduction

South Africa has made significant progress in providing safe water supply and sanitation to its population. The water and sanitation services policy reform of the post-1994 government and implementation of a national community water supply and sanitation programme, in the context of the Reconstruction and Development Programme (RDP), were characterized by an emphasis on service delivery, with special focus on a rapid roll-out in unserved and under-served rural areas. In 1994, while everyone in the new South Africa accessed drinking water and sanitation services of some sort, well over 15 million people had no access to defined basic service levels of safe water and about 20 million did not have adequate sanitation services (Tables 1 and 2).

Tables 1 and 2 show that the urgency attached to reducing backlogs in service delivery has resulted in expanded access to an additional population of over 10 million people for water supply, and additional 6 million for sanitation, although with a varying success story from province to province. While the country is on track to eradicate the service backlog for basic water supply by 2008, exceeding the Millennium Development Goal (MDG) target, progress towards the national target of universal access to a basic sanitation facility by 2010 is quite slow. Whether with respect to water supply or sanitation services, there remain serious concerns with the proportion of poor households without an acceptable level of service, provincial disparities in access, and the historical inequalities inherent in those trends.

As service delivery focus shifts to local government, and as national government commits itself to progressively improve levels of service beyond the basic in line with the original RDP aims, the sustainability of service provision will remain a huge challenge from a number of intricately

interwoven perspectives. There is increasing need to place greater emphasis on sustaining the infrastructure and institutions providing water and sanitation services, and on sustaining the use of the water resource itself across competing demands, in a region where climate variability frequently leads to severe droughts interspersed with floods, with impacts on water resource availability, livelihoods and overall quality of life.

Regional sector overview

The status of country coverage for water supply and sanitation in Southern Africa, based on data from the WHO Africa Regional Sector Assessment in 2000, is shown in Table 3. Access to improved water supply services averages 61% for the region, while 60% of its population have access to adequate sanitation services. In nearly half of the countries

Table 1. Access to basic water supply in South Africa

Province	Population unserved (1994)	Increase in population served (2003)	Population unserved (2003)
Eastern Cape	4 211 936	2 195 509	2 017 878
Free State	708 818	557 810	236 203
Gauteng	310 664	230 612	98 865
KwaZulu Natal	2 576 525	1 394 553	1 185 168
Limpopo	4 183 901	2 879 901	2 055 800
Mpumalanga	1 285 343	1 288 491	135 902
North West	2 224 155	1 835 011	556 861
Northern Cape	284 282	232 165	76 854
Western Cape	102 733	58 368	31 402
Total	15 888 357	10 672 420	6 394 933

Source: DWAF, 2004

Table 2. Access to basic sanitation in South Africa

Province	Population unserved (1994)	Increase in population served (2003)	Population unserved (2003)
Eastern Cape	4 855 239	860 415	4 728 887
Free State	1 855 104	1 211 105	905 690
Gauteng	282 069	231 435	78 136
KwaZulu Natal	4 008 498	616 288	3 831 921
Limpopo	3 590 328	993 269	3 608 258
Mpumalanga	1 916 901	556 258	1 592 555
North West	3 313 351	1 167 430	2 284 001
Northern Cape	326 062	106 050	166 143
Western Cape	252 131	136 224	133 883
Total	20 399 683	5 878 474	17 329 474

Source: DWAF, 2004

reporting water supply coverage statistics – Lesotho, Mauritius, Namibia, South Africa and Zimbabwe – over 75% of the population have access to safe drinking water. However, the situation is far worse in Angola and the Democratic Republic of Congo where more than half of the people are without access to safe water. Whereas Mauritius is on the verge of attaining universal access to adequate sanitation services, the situation in the Democratic Republic of Congo is the most problematic at only 20%. What is most interesting is the fact that about half of the countries – Angola, Lesotho, Malawi, Tanzania and Zambia -- report access to sanitation as exceeding that to water supply, in contrast to the long-standing bias towards the provision of water systems in developing countries.

In the larger African continent, 38% of the population are without access to safe drinking water supply, compared to a global average of 18%. At this level of access, Africa has the lowest water supply coverage of any region in the world. Between 1991 and 2000, the increase in the number of people served was only enough to match the growth in population. At only 60% continental coverage, access to sanitation is even worse, accounting for the fact that nearly 50% of all Africans suffer from at least one of the main water-related diseases, with the worst statistics recorded for cholera and infant diarrhoea (AfDB, 2003). Apart from the issue of a low aggregate level of access to water supply and sanitation, there is considerable rural-urban disparity on the continent. Only 47% of rural residents have access to safe water, compared to 85% in urban areas. In the case of sanitation, the corresponding levels of access are 44% and 85%, respectively.

Water and sanitation investments in Africa are made predominantly by external support agencies. For sub-Saharan Africa, WHO-AFRO (2000) reports that compared to a total external sector investment of US\$1.5 billion per year during the preceding 10 years, annual internal investments amounted to only US\$700 million. Whether externally or internally sourced, investments are concentrated on urban systems, and remain tilted to water, as opposed to sanitation,

Table 3. Water supply and sanitation coverage in Southern Africa

Country	Water supply (%)	Sanitation (%)
Angola	38	44
Botswana	No data available	No data available
DRC	45	20
Lesotho	91	92
Malawi	57	77
Mauritius	100	99
Mozambique	60	43
Namibia	77	41
Seychelles	No data available	No data available
South Africa	86	86
Swaziland	No data available	No data available
Tanzania	54	90
Zambia	64	78
Zimbabwe	85	68
Total	61	60

(Adapted from WHO-AFRO, 2000)

systems, in both rural and urban areas. Across the continent, national investments in water resources development have been constrained by a number of factors, including slow economic growth and high levels of indebtedness, internal and external conflicts, and weak sector policy and institutional frameworks. Irrespective of the source of investment, sub-optimal and intermittent system operation and maintenance remain a problem in most countries, especially in rural communities.

In recent years, African nations have collectively made encouraging moves towards meeting the MDGs relating to the water and sanitation targets. The 2015 targets are an important springboard for pursuing universal access by 2025, as articulated in the African Water Vision and Framework for Action presented at the World Water Forum at The Hague in 2000. Responding to the overarching gaps on the continent, the framework calls for strengthening the governance of water resources, improving water wisdom, meeting urgent water needs, and strengthening the financial base for the desired water future.

South Africa is a testimony to the successful implementation of elements of the foregoing framework, even though it lies in a semi-arid region and arose from an apartheid past. While the fact that water is essential and scarce may not be unique to South Africa, its poor distribution from the perspective of widening socio-economic requirements is striking. Also, water resource development options are constrained by both climatic and topographic conditions, and droughts and floods are normal occurrences.

Policy and legal reform in South Africa

As part of the 1994 Reconstruction and Development Programme that emerged from a thoroughly consultative process, the newly elected South African government committed

itself to the short-term goal of providing every household with adequate and safe water supply and sanitation. The great strides made in reducing gross inequalities in access to water and sanitation services over the years owes much to the enabling framework provided by the White Paper on Water Supply and Sanitation published in November 1994. The policy focus was on direct national government delivery of services primarily in rural areas with the greatest backlogs, and the role of a new national water department.

The South African Constitution, adopted in 1996, affirmed the right of all citizens to a healthy living environment, including the provision of affordable and adequate water and sanitation services. The responsibility for water services provision was given to local government, with provincial and national support. With the local government elections in 2000, local government is now able to assume full operational responsibility for water and sanitation services as provided for in the Constitution.

The 1997 Water Services Act introduced vital policy dimensions affecting the institutional framework for water services management in general, including the demarcation between the regulatory role of water services authorities (WSAs: local government) and that of the water services providers (WSPs) directly involved in actual provision. The twin of the National Water Policy of 1997 and the related National Water Act of 1998 constitute a significant reform of the policies for water resources management. Both are premised on the principle of water as a national resource, held in custodianship by the state but owned by the people.

Government's Free Basic Water policy was introduced in 2000, to assist in promoting sustainable access to a basic water supply by subsidising the ongoing operation and maintenance costs of basic service. A natural follow-up in 2001 was the White Paper on Basic Household Sanitation, to facilitate affordable access by poor households to a basic level of sanitation service. Although much progress has been achieved with the application of free basic services, considerable challenges remain.

The Division of Revenue Act (2002) sets the basis for phasing out the role of the Department of Water Affairs and Forestry (DWAF) in direct operation of water supply and sanitation services, enabling the department to evolve into sector leader, supporter and regulator. This shift implies that government funding for water services is now channelled through grant mechanisms directed to local government. Although mainly confined to tariff structures, the regulations on Norms and standards in respect of tariffs for water services, in terms of section 10(1) of the Water Services Act, were published in 2001. It is required that every water services authority make bylaws which must provide for the standards of the service (subject to national regulations), structure of tariffs, and the payment and collection of monies due for water services, as well as the circumstances under which water services may be limited or discontinued.

Definitions of the costs that must be covered by tariffs, including capital, operating, maintenance, administration and

replacement costs, and interest charges, are covered by the Municipal Systems Act 32 of 2000. Tariffs must facilitate access of poor households to basic services through reduced tariffs that may cover only operation and maintenance costs, lifeline tariffs or other subsidies. Provision may be made in appropriate circumstances for a surcharge on the tariff for a service. The process to be followed by a municipality when deciding on mechanisms for providing municipal services such as water and sanitation is outlined in Section 78 of the Act.

In accordance with the Municipal Structures Act of 1998, metropolitan municipalities and district municipalities have been given the role of service authority with regard to potable water services, and domestic wastewater and sewerage systems. However, the Minister of Provincial and Local Government can authorize a local municipality to perform these functions, and has indeed authorized a number of such municipalities to retain that function. For those not given such authorization, there has been a need to transfer assets and staff to the appropriate district municipality, a process that has created much stress.

Updated sector strategic framework

The country's strategic framework provides a comprehensive update of policy on water supply and sanitation services in response to the new municipal legislation, effectively revising provisions of both the 1994 White Paper and the 1997 Water Services Act. The definition of water services has been changed from its limitation to potable water, to include all water supplied by or on behalf of a WSA. Also, the definitions of water supply services and sanitation services now include all aspects of the service necessary for the provision of an adequate service, specifically the business processes. Prominence has been given to hygiene and water-use education, such that the new definition for a basic water supply includes the provision of appropriate education in respect of effective water use. The key changes introduced in the new umbrella framework for the sector (DWAF, 2002, 2003), addressing the entire gamut of water services and all relevant institutions, are summarized in Box 1.

The new strategic framework defines the sector vision for water services as follows (DWAF, 2003), reinforcing the critical elements of equity, efficiency and sustainability, not just in terms of water use, but also with respect to reform in the entire range of emerging institutional arrangements for service provision:

- All people living in South Africa have access to adequate, safe, appropriate and affordable water and sanitation services, use water wisely and practise safe sanitation;
- Water supply and sanitation services are provided by effective, efficient and sustainable institutions, that are accountable and responsive to those whom they serve. Water services institutions reflect the cultural, gender and racial diversity in South Africa; and
- Water is used effectively, efficiently and sustainably in order to reduce poverty, improve human health and

Box 1. Main changes introduced by the strategic framework for water services

- The local government is now the hub of water supply and sanitation services delivery, and water services authorities are responsible for the delivery of water services.
- Focal national government department, DWAF, evolves into the sector leader, supporter and regulator, rather than an operator.
- An approach to the institutional reform of water services provision is mapped out, with some pointers to reform principles, objectives and national strategy.
- The financial policy framework reflects the consolidation of national government funding to local government through the equitable share, the municipal infrastructure grant and the capacity building grant.
- Increased emphasis is placed on sustainability and financial viability, as well as the provision of efficient and reliable services.
- The concept and vision of the water ladder are clearly articulated in order to ensure the commitment of the sector to enable all people to progressively move up the ladder to higher levels of service.
- Definition of what constitutes a basic water service will be reviewed in future, to consider increasing the basic level from 25 to 50 litres per person per day.

(Adapted from DWAF, 2002, 2003)

promote economic development. Water and wastewater are managed in an environmentally responsible and sustainable manner.

Principal sector role-players

The main organizations involved in water supply and sanitation services in South Africa are spelt out in the new strategic framework for water services. The key actors are as follows:

- Department of Water Affairs and Forestry takes responsibility for sector policy, support, regulation and information management. Currently, DWAF operates water resource infrastructure, some bulk water supply schemes and some retail infrastructure, providing services directly to consumers.
- Water Services Authorities, basically metros, some district municipalities and authorized local municipalities, are responsible for ensuring provision of water services in their area of jurisdiction.
- Municipalities operate some local water resource infrastructure and bulk water supply schemes, supply water and sanitation to consumers, and operate wastewater collection and treatment systems.
- Department of Provincial and Local Government has overall responsibility for the affairs of local government, and regulates and oversees their activities. Many of the responsibilities are exerted through provincial government. The important responsibilities with regard to water services include:
 - Oversight over the municipal requirement to prepare integrated development plans (IDPs), with which water services development plans (WSDPs) need to be integrated.
 - Regulation of municipal service partnerships, including those between water services authorities and external providers.
 - Allocations of funds to local government, including the equitable share, the municipal infrastructure grant (MIG) and the capacity building grant.

- Regulation of municipal affairs, with provisions for intervention in the case of non-performing municipalities.
- Water Boards are organs of state and have bulk water supply as their core activity. They operate some water resource infrastructure, some retail water infrastructure and some wastewater systems.
- Community Based Organizations are involved in the management of some small water schemes in rural areas.
- Publicly or privately owned companies provide water supply and sanitation services in terms of specific contracts. There are currently four such partnerships with privately owned companies. Two local government-owned companies, both located in Gauteng Province, the economic nerve-centre of the country, also currently provide services: Johannesburg Water owned by the City of Johannesburg Metropolitan Municipality and Erwat, a bulk wastewater company, owned by the Ekurhuleni Metropolitan Municipality.

Core sector issues and challenges

The water supply and sanitation sector in South Africa is still in a state of flux, with respect to both innovative approaches to service delivery expansion and the actual roll-out of the strategy for national institutional reform. In particular, DWAF is still struggling with the process of transferring water and sanitation schemes to municipalities, whether built by the department or inherited from former homelands. Many municipalities are reluctant to take delivery of the schemes, some of them in different states of disrepair, and the staff that go with them. The Division of Revenue Act has some built-in incentives to encourage municipalities to receive the schemes, but the terms are not very attractive. The offer is a recurrent cost subsidy that reduces to zero over five years, after which the municipality is expected to have sufficient revenue to cover operation and maintenance (O&M). However, many of these schemes generate no income and the equitable share of national revenue is insufficient to meet O&M costs.

Major challenges confronting the sector are summarized as follows:

- The remarkable progress made since 1994 needs to be more visible by translating into reaching the many unserved rural poor, and into efforts to sustain the operation and maintenance of existing schemes.
- Sustainability is at the heart of the transfer of DWAF schemes to municipalities as the drivers of service provision, a process proving to be problematic because of potential liabilities.
- There are already pressures in some areas to provide higher service levels due to non-acceptability of basic levels and conflicting provincial housing standards. While greater flexibility is required, affordability and sustainability are serious concerns.
- Room exists in WSDPs developed through a participatory process by water services authorities (municipalities), to map out a realistic long-term investment plan that prioritizes the provision of basic water supply and sanitation services and promotes affordable and sustainable development, including where practical, the provision of higher service levels.
- Municipalities struggle with designing and implementing workable approaches to financial and institutional sustainability of water and sanitation services, but there are no industry benchmarks. Major problems are lack of income and skills, unaccounted for water, poor customer management and inadequate credit control.
- While some municipalities find government grants insufficient and are in need of loan finance for water supply and sanitation services, some do not even have the capacity to solicit grants to which they are entitled.
- For expanding service delivery to continue to benefit from water resource availability, greater attention is necessary to water conservation and demand management, an area where performance is sub-optimal in many places.

Entry points for accelerated action

The WSDP process in South Africa facilitates the integrated planning of water and sanitation services. The process is appropriate because the choice of the level of service for water predetermines the viable technology choices for sanitation (and grey water disposal), and vice versa. Integrated planning also requires that health and hygiene education be integrated and coordinated with water and sanitation services provision. There is therefore a need to promote effective WSDP processes, within the framework of the IDP, as the key instrument for planning, managing, monitoring and regulating water and sanitation services. This approach will ensure that sustainable, affordable and efficient services delivery is undertaken. Demonstration of integrated water and sanitation planning should be made to be a requirement for accessing funding for water and sanitation services. Greater emphasis on the delivery of sanitation infrastructure is likely to occur as better integration of sanitation and water supply delivery develops.

There are still policy gaps at the local municipal level with regard to specific policy areas affecting service delivery. Many municipalities still need to develop policies on, for instance, appropriate service levels, credit control, tariffs and infrastructure financing. There is, therefore, a need for more action with regard to the design of such policies, as well as for policy reform in other cases. The need remains to continue to engage national government on reform in the water sector in general, but especially with respect to matters that impinge on the ability of municipalities to access finance for capital developments.

The drive to expand services to the poor calls for a stronger sector-wide interest in assisting with revenue improvements. Good customer management provides the basis to collect revenue from consumers who typically provide the primary (or major) source of income to service providers. South Africa's free basic water policy poses particular implementation challenges for water service authorities and providers. In this context, the importance of customer management becomes paramount.

In addition to continuing capacity building support to the preparation of WSDPs, assistance is required to municipalities negotiating with DWAF with regard to the transfer of schemes. Significant value will be added to investments through informed technical support to mechanisms for water demand management, cost-recovery, credit control and metering, in particular. On an ongoing basis, targeted technical assistance is also required in such areas as development of municipal bylaws and WSP contracts.

From information available from National Treasury (2003), the projected investment in the water and sanitation sector over the next decade is about R48 billion (or US\$8 billion). Of that amount, only R25 billion (or US\$4.2 billion) will come from grants, pointing to a huge gap for development financing. This investment is made up of water resource development, bulk water and wastewater infrastructure, and retail water and sanitation infrastructure, including on-site sanitation systems.

There is ample room to couple private and public investments in innovative approaches to the upgrading of informal settlements and the use of labour-intensive techniques, consistent with the job creation framework of government's expanded public works programme. Funding sources include government subsidies, specifically the municipal infrastructure grant, bonds, loans from commercial banks and development agencies, and retained earnings (revenue from consumer charges). In particular, development finance agencies need to ensure that infrastructure loan conditions include attention to institutional and financial shortcomings in the administration of services.

Conclusions

In the short to medium term, achieving universal and sustainable access to water supply and sanitation services is a high priority of government in South Africa, and immense opportunities exist for all sector partners to play a critical role

in bridging both the infrastructure and capacity shortfalls in the march towards that goal (DBSA, 2005). Expanding and sustaining the commendable momentum already achieved in providing access to basic facilities calls for more visible and concerted efforts in the following key areas:

- Supporting water services authorities to develop sound Water Services Development Plans for effectively carrying out their sector mandate (universal access by 2010 for basic sanitation and 2008 for basic water supply), and to produce Infrastructure Investment Plans incorporating financial modelling.
- Assisting municipalities to understand the financial implications of taking over DWAF rural schemes (in particular) and, where necessary, to negotiate scheme transfers, taking into cognizance the inherent risk if transfers cause financial situation to deteriorate.
- Supplementing government grants with targeted infrastructure development finance, but including requirements for institutional reform and performance benchmarking, among others.
- Stabilizing the finances of water services institutions, including the implementation of the findings of the Municipal Revenue Improvement Project, customer management and credit control.
- Packaging institutional support for implementing water conservation and demand management measures, especially the reduction of Unaccounted-for-Water.

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Contact address

Ola Busari
Development Bank of Southern Africa
PO Box 1234
Midrand 1685
South Africa

Barry Jackson
Development Bank of Southern Africa
PO Box 1234
Midrand 1685
South Africa
