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AFRICA, WASH, AND THE MILLENNIUM DEVELOPMENT GOALS

A Local Systems Case Study of How South Africa Achieved MDG Target 7c

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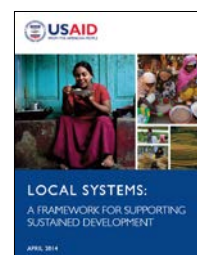
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FOREWORD

The world was successful in meeting Millennium Development Goal (MDG) Target 7c for water by 2015, reducing the population without access to improved water systems by half. This success was largely driven by a few high-achieving countries and was not universally achieved by all countries, particularly by poverty-stricken and fragile states. In reflecting on the progress of the MDGs, a key observation made by many agencies is that success in water and sanitation service delivery and hygiene behavior change requires the development of robust local systems. They can operate at all levels from small, rural communities to national programs.

“Local system refers to those interconnected sets of actors—governments, civil society, the private sector, universities, individual citizens, and others—that jointly produce a particular development outcome.”

—USAID, *Local Systems Framework 2014*¹



Local water, sanitation, and hygiene (WASH) country systems can include a wide range of components that allow it to function and thrive, including policy development; planning; financing, expenditure, and cost-recovery; implementation; service maintenance and management; and monitoring. Having effective country system components can drive a virtuous cycle of achievement. Understanding and adopting effective systems can assist countries in the transition to the era of the Sustainable Development Goals (SDGs) and the specific WASH targets in Goal 6. The USAID Water for Africa through Leadership and Institutional Support (WALIS) project undertook a review of successful countries in Africa to uncover the combination of pathways, processes, policies, and people that improved WASH access and services sufficient to meet its MDG targets at a national scale. The review analyzed four countries in Sub-Saharan Africa—Ethiopia, Rwanda, Senegal, and South Africa. These countries developed country system components, which helped make far-sighted policies, develop excellent plans, adopt effective financing strategies, and build innovative monitoring systems that resulted in evidence-based decisions and helped WASH leaders to lead. The review used the “Appreciative Inquiry” methodology. Appreciative Inquiry is a method that:

- Sets out to discover the elements and factors in an organization or system that enabled it to achieve success in the past.
- Builds on those elements and factors to help the organization or system create a positive future.

The authors of each case study evaluated the outstanding country systems and key driving factors that led to the national government’s ability to reach their MDG Target 7c. Each case study breaks down the country’s WASH sector into individual system components, based on the USAID Local Systems Framework and the 5Rs (relationships, resources, roles, rules, and results), to capture how each component contributed to the system’s success as a whole. The Local Systems Framework will also allow for cross-country comparison and determine if there is one or many critical paths to streamline WASH service improvement.

¹ USAID. (2014). *Local systems: A framework for supporting sustained development*.

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This report was prepared under the overall guidance of Ben Mann. The late and dear colleague, Piers Cross, led and coordinated the case study. Helgard Muller was the core author and led the drafting of the study. In this, he was supported by the considerable contributions of Mike Muller, Neil Macleod, Ian Palmer, and Geraldine Schoeman. The authors thank all of the water and sanitation professionals who were interviewed or contributed their experience and observations to the findings of the study.

ABBREVIATIONS AND ACRONYMS

AMCOW	African Minister’s Council on Water
BD	Blue Drop
BoTT	build, operate, train, and transfer
COGTA	Department of Cooperative Government and Traditional Affairs
CSO	civil society organization
DCoG	Department of Cooperative Government
DWA	Department of Water Affairs
DWAF	Department of Water Affairs and Forestry
DWS	Department of Water and Sanitation (previously DWAF)
EWS	eThekweni Water and Sanitation
GD	Green Drop
GHS	General Household Survey
IWA	International Water Association
JMP	Joint Monitoring Programme
m ³	cubic meter
MDG	Millennium Development Goal
MISA	Municipal Infrastructure Support Agency
NGO	nongovernmental organization
NWA	National Water Act
NWRS2	second National Water Resource Strategy
RDP	Reconstruction and Development Programme
SCOWSAS	Standing Committee on Water Supply and Sanitation
SDG	Sustainable Development Goal
SFWSS	Strategic Framework for Water Supply and Sanitation
UN	United Nations
UNICEF	United Nations International Children’s Emergency Fund
WALIS	Water for Africa through Leadership and Institutional Support
WASH	water, sanitation, and hygiene
WHO	World Health Organization
WRC	Water Research Commission
WSA	Water Services Act

SUMMARY

Democratic dispensation in 1994 created a political and social platform that reshaped life in South Africa. There was a surge in common belief that the inequity and wrong of Apartheid should and could be rectified. Equity of access to water and sanitation were obvious targets for improvement. In 1994, an estimated 14–15 million South Africans were without access to an improved water supply, while close to 21 million—more than half of the population at that time—did not have access to improved sanitation facilities. These problems were most severe in poorer rural areas. The water and sanitation sector became unified by the vision of universal access for all South Africans. This case study documents the progression of the sector between 1994 and 2016, and analyzes the impact of local systems created in South Africa to respond to the water and sanitation challenge. It identifies three periods in the development of the sector:

- 1994–2003: A “Golden Era” when huge steps forward were made.
- 2003–2010: A period of major decentralization to many under-capacity local authorities.
- 2010–2016: A tough time of losing traction in implementation, leadership, and governance.

A systematic process was followed in the early years to create a solid policy and legal platform for the WASH sector. Experts and institutional support from a wide range of entities were drawn in to prepare new and innovative policies captured in a White Paper on Water and Sanitation (1994). Once adopted, the White Paper was crafted into legislation through the Water Services Act (1997), the National Water Act (1998), and a policy of “free basic water” to all households. National standards for water and sanitation were issued as secondary legislation (regulations) in 2001.

Implementation of these policies started in parallel with mobilization of available resources on a scale that had not been seen before in the country. This was possible because political will and commitment were aligned with technical competence. Together, they coordinated thinking and led implementation. Cooperation was strong across different entities with clear roles and responsibilities assigned. Every individual and organization saw themselves as part of the solution. All actors were engaged as partners and were held to high standards of commitment, responsibility, and accountability. Politicians followed up on their commitment by voting for significant funding from the national budget as grants for capital finance of water and sanitation infrastructure. The larger cities and some smaller municipalities also raised debt finance through loans or bonds to extend services.

This Golden Era delivered positive results. Fund allocation and construction made it possible for South Africa to meet MDG Target 7c for drinking water in 2005. Unfortunately, this exceptional period of rapid development lost traction. The first nationwide local government elections were held in 2000. With the resulting emergence of new democratic local governments, the Department of Water Affairs and Forestry (DWAF) entered a period in which its mandate for the provision of water supply was exercised with local government. Accordingly, DWAF revised national water and sanitation policies, creating the Strategic Framework for Water Services (2003). From the 2003–2004 fiscal year, the DWAF was no longer the main budget holder and implementer for the sector because a new capital grant (Municipal Infrastructure Grant) was introduced, which allocated funds directly from the treasury to municipalities. While the large municipalities and secondary cities had the capacity and resources to continue the earlier momentum, this was not the case for many smaller and rural municipalities, with subsequent negative implications for access and delivery.

The prevailing policy of “free basic water” drove the provision of high levels of reticulated household water supplies, but the country neglected to pursue corresponding tariff policies to constrain demand or develop sufficient water sources, leading to increasingly widespread supply failures. These trends resulted in a significant reduction in the proportion of the population having access to improved drinking water, even as access to physical infrastructure increased.² There were also more operational service failures associated with drought, but these were usually occasioned by poor management. Valuable lessons can be learned by interpreting these different stages of development:

- It was essential to have an enabling environment created by political will and commitment, clear targets, and a foundation of concise and practical policies and legislation.
- The Government was prepared to commit significant, multi-year funding from the national treasury to ensure equity and access.
- The Golden Era was comprehensively based on collaboration, cooperation, and a keen sense of being part of a team working toward a greater good.
- DWAF was technically competent with solid, committed, and professional staff.
- Because the municipalities were well staffed and competent, DWAF could focus on extending water supply to the underserved in weaker municipalities and more rural areas.
- Water Boards could take on an extended range of tasks.
- Private sector capacity developed innovative implementation models, such as build, operate, train, and transfer (BoTT) procedures for infrastructure delivery and operation.
- Water resource planning and development were of sufficiently high standards that multiple new supply systems could be constructed and launched.
- Proper planning made execution easier and ensured efficient application of funds.
- Progress was monitored continuously and reported through extensive communication programs.

The final part of this report focuses on the important shifts being taken to get the South African water sector back on track toward a vision of the SDGs. The resolution is complex, with many issues that need urgent attention, and priorities and capacity may not be available to the same extent as occurred during the Golden Era. Key changes are needed to increase transparency, improve governance, and simplify institutional relationships. A “back-to-basics program” is needed, especially with respect to sectoral leadership, coordination, and management. An essential step is for municipalities and Water Boards to improve their financial viability.

South Africa’s water sector needs an open discussion and a robust debate on the changes that are needed, including a forum for public review of policies and reports. A rejuvenation of the processes in which system actors would think together in constructive and productive ways is necessary, including opportunities to debate and engage in productive dialogue while suspending preconceptions and actively listening and learning from each other.

² Statistics South Africa. (2015b). *Millennium development goals 2015 country report*.

CHAPTER I: BACKGROUND

INTRODUCTION

WALIS reflects USAID's latest thinking on achieving transformative improvements in access to clean water and improved sanitation. The project supports national and regional institutions and their development partners to improve the capacity of African water sectors to implement policies, strategies, and plans that will deliver sustainable WASH services consistent with the SDGs. WALIS, in collaboration with the African Ministers' Council on Water (AMCOW), is conducting a series of case studies in Africa related to local systems for water supply and sanitation.

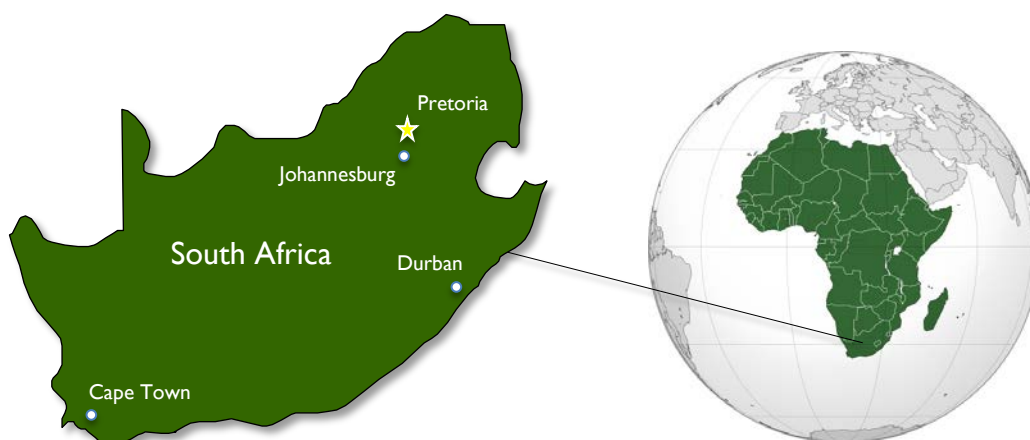
South Africa has been selected as one of the case studies for this Appreciative Inquiry to learn from the country's progress in water supply and sanitation service development from 1994 through the end of the MDG era in 2015. During this time, 24.9 million people gained access to improved services. Since the early, rapid development in water and sanitation in the first decade of this era, much traction has been lost. Many lessons can also be learned from both the success and the subsequent decline.

This report shares the achievements and lessons learned that contributed to achievements and objectively highlights the challenges, risks, and failures that became evident during the declining stages. By describing one country's pathway toward the SDGs, the case study can support South Africa as well as other African countries to bring about the necessary system development to meet the challenging SDG targets.

VALUE OF APPRECIATIVE INQUIRY IN SOUTH AFRICA

Utilizing the Appreciative Inquiry approach, WALIS examined four countries in Sub-Saharan Africa that developed WASH system components that are sufficient to meet their MDG targets. These components helped countries develop and operationalize far-sighted policies, carefully plan, adopt effective financing strategies, and build innovative monitoring systems that have resulted in evidence-based decisions and helped WASH leaders to lead. This case study is intended to capture the components of the system that enabled South Africa to expand urban and rural water supply access through a combination of major external investment, incremental privatization, rigorous financial modeling, and harmonized monitoring and reporting delivered on a foundation of consensus and social dialogue.

FIGURE 1: SOUTH AFRICA MAP



Between 1990 and 2015, the South African WASH sector provided an impressive 24.9 million people with an improved water supply. During this same period, sanitation facilities were improved for an additional 22.6 million people. With the end of Apartheid in 1994, and a strong sense of unity, the country turned toward providing all South Africans with basic access to water and sanitation services. This “Golden Age” (1994–2003) for the sector even went so far as to influence the world by introducing the “human right to water.” South Africa, however, has stalled in the past few years due to full decentralization and the accompanying weaknesses inherent in local capabilities and financial capacity to keep up the momentum of the prior decade.

After achieving the MDG target for water supply, the Republic of South Africa (RSA) will need to reinvigorate its national sector management capabilities to support municipalities and other service providers along with their varied approaches for providing services. Good governance at local service levels is especially important to get back on track toward the SDGs. Lessons from past successes suggest that the country desperately needs moral and accountable government and private sector leaders. Consequently, the WALIS project’s effort to learn from the past and look forward to the options of the future is timely.

As with any effort conducted over multiple decades with significant inputs of expertise and external funding, South Africa’s WASH sector achievements have been diligently measured and reported. Reviews of those reports form one aspect of the creation of this case study. They are, however, limited to reporting what was achieved in terms of inputs and outputs. In preparing this document, the authors reviewed those reports, but more importantly held conversations with those who were directly responsible for managing those inputs and delivering the outputs. Through Appreciative Inquiry, the authors asked sector actors to reflect on the achievements of the past 25 years and describe how the lessons the sector learned during that time will help the country pivot toward the SDGs. Furthermore, the authors asked how South Africa’s lessons could help other Sub-Saharan African countries accelerate the access and provision of WASH services for all.

This document is intended to give full credit to those who generated the South African success. This major achievement could not have been completed without diligent and flexible collaboration between those inside and outside of government. South Africa has shown time and again that small steps in creative and more equitable governance can deliver large impact. Moving toward the more complex

SDGs, a back-to-basics approach to implementation, leadership, and management, along with optimized funding, is necessary to deliver functional systems that serve the people of South Africa equitably, instead of simply delivering new infrastructure.

CASE STUDY METHODOLOGY

Appreciative Inquiry is a research method that:

- Sets out to discover the elements and factors in an organization or system that enabled it to achieve success in the past.
- Builds upon those elements and factors to help other organizations or systems create a positive future.

Appreciative Inquiry was used for this review to evaluate country systems and key driving factors that led to the national government's ability to reach MDG Target 7c. Appreciative Inquiry is an approach that allows investigators to move beyond the simple and all-too-common identification of challenges to success or achievement. A much more vital effort, Appreciative Inquiry does not stop at describing the challenges, which is simple to do and not particularly beneficial. Instead, Appreciative Inquiry captures how challenges were met, how messy and complex conditions were addressed, and how lessons learned from success and failure were adapted into new efforts and management approaches.

RESEARCH QUESTIONS

Any story of national achievement and the system of actors that generated the achievement is multifaceted and potentially complicated if a wide-reaching, multi-sectoral, holistic description is attempted. Yes, all things are connected, but at the operational core of a holistic view are the pathways, processes, policies, and people who advanced each component of the whole. For the effort described in this case study, the authors focused on two primary research questions and four supplemental questions to clearly understand core achievements.

PRIMARY RESEARCH QUESTIONS

- What are the country systems and/or innovations that were most effective in pushing the country toward success during the MDG era?
- What are the self-identified, key changes or shifts within the local country system that must be made to achieve SDG Targets 6.1 and 6.2?

SUPPLEMENTAL RESEARCH QUESTIONS

- How did the progress to achieve MDG Target 7c change over time?
- Was there a tipping point or watershed moment during the process?
- What role did technology systems or technological innovation play in the success of the local system?
- What contributing factors or processes can be replicated by other countries to support progress toward SDG 6 targets?

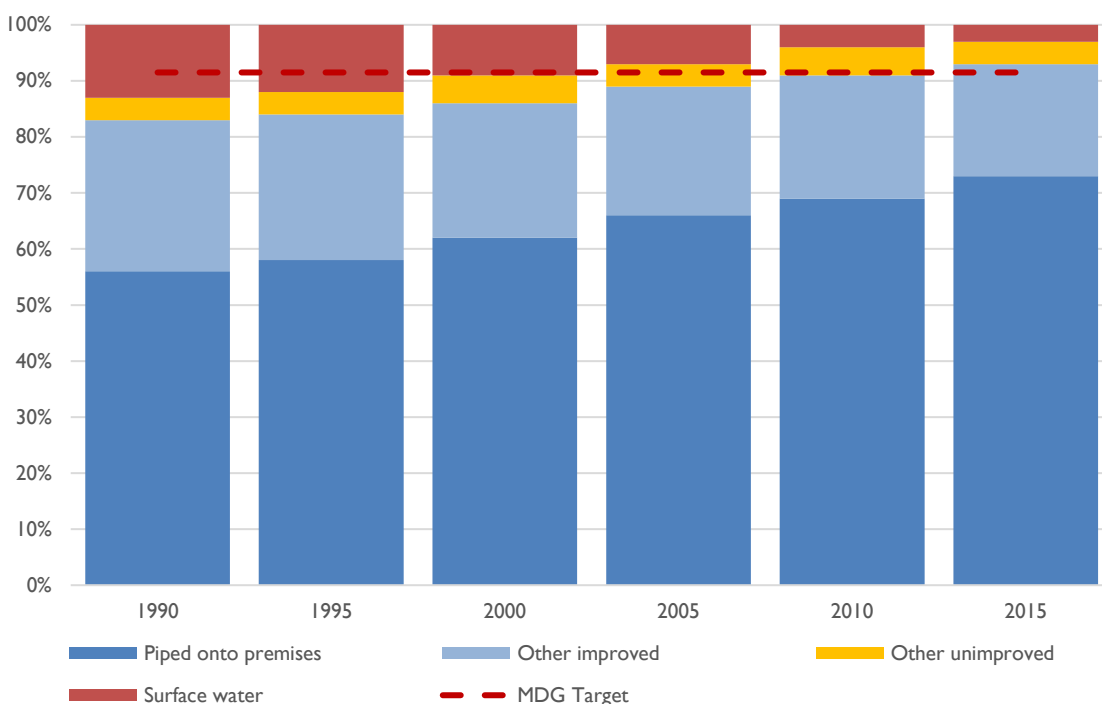
CASE STUDY ORGANIZATION

This case study is organized into four chapters and is focused on South Africa’s achievement of its MDG target for water access. It does not include information related to sanitation except insofar as it concerned or was related to its achievement of its MDG target for water access. Chapter 1 presents the research methodology used to complete the case study and how the rest of the case study is organized. It describes the sequence of incremental events and interrelated components (i.e., “the system”) that made achievement of the target possible. The chapter is further divided into “sub-periods” to capture the most salient events that ultimately led to South Africa achieving the MDG for access to water. At the end of each sub-period, a table captures key challenges and the sector’s response to the challenges. Chapter 2 presents the lessons that key actors learned between 1990 and 2015. Chapter 3 contains a description of how the Government of South Africa is translating these lessons toward achieving SDG Targets 6.1 and 6.2. Chapter 4 presents the conclusions drawn from this case study in the language of USAID’s Local Systems Framework.

PERIODIZATION OF WATER AND SANITATION SECTOR PROGRESS IN SOUTH AFRICA

This analysis suggests that South Africa’s WASH sector has gone through three distinct periods since its rejuvenation in 1994. The dates are indicative, but are framed by 1994 (the start of the modern democratic era), 2003 and the implementation of decentralized governance, and 2010 when earlier systematic achievements lost traction.

FIGURE 2: SOUTH AFRICA DRINKING WATER TRENDS 1990–2015³



³ World Health Organization (WHO)/United Nations International Children’s Emergency Fund (UNICEF) (2015). Joint Monitoring Programme (JMP). (Note: This report was created using the 2015 JMP Country Files, and does not reflect the updates released July 12, 2017.).

MDG ERA IN SOUTH AFRICA

GOLDEN ERA: 1994–2003

Before the first democratic election in South Africa in 1994, there was no formal WASH policy at the national level. In “white” South Africa, responsibility for service provision lay at the local level with municipalities. The plethora of racially defined administrations contained a range of different approaches with very different levels of resources. The service standards in place primarily addressed wealthy white communities.

One consequence of the Apartheid administrative structures was that there was little coherent information about the overall status of water supply and sanitation services at the national level. Statistics were not collected at the national level, and were only partially available at lower levels. As it became more likely that the balkanized “homelands” would be reincorporated into a unitary South Africa, some WASH sector actors started a dialogue about the implications of this transition. They convened Water and Sanitation 2000, a multidisciplinary South African working group formed to promote strategies and approaches to improve water supply and sanitation on an integrated, affordable, and sustainable basis for all.

There was a consensus that nearly 12 million South Africans lacked adequate water supplies, and almost 21 million did not have adequate sanitation. These included 4 million urban residents and 8 million rural residents without adequate water supply. For sanitation, the figures were 7 million and 14 million respectively. Neither cost estimates nor policies were available to give direction to meeting these needs.

Water and Sanitation 2000 was constituted primarily of white people from the national government, utilities, cities, and civil society organizations (CSOs). It was not in any way representative of the country as a whole. Given the urgent need to establish broadly acceptable approaches, those involved in Water and Sanitation 2000 agreed to establish a more representative national steering committee to begin a process of policy formulation.

As a result, a national Standing Committee on Water Supply and Sanitation (SCOWSAS) was established. It had representation from the major emerging democratic parties, as well as from the non-racial trade unions and CSOs. It also included formal representation from the drinking water sector—utilities, major municipalities, and national government. It provided a forum at which policy alternatives were discussed and policy approaches proposed. And, at a time when similar processes were occurring across sectors, SCOWSAS gave the water sector a voice in the wider policy discussions that were taking place as the broad democratic movement prepared to govern.

Some of SCOWSAS’s work was underpinned by a group of nongovernmental organizations (NGOs) that brought policy practitioners together to support community-based development. This network was expanded with the establishment of the Mvula Trust by the European Union, the Independent Development Trust, and the Kagiso Trust. These functioned as a donor project that brought together government and democratic movement agencies to evolve common approaches to water and sanitation provision. Funded jointly by the European Union and The Republic of South Africa, the Mvula Trust implemented a variety of community-based, rural WASH projects. The “feet-on-the-ground” perspectives of the network actors supported the legitimacy of SCOWSAS and its work.

“One significant action, started in 1990, was the formation of an inclusive group of concerned technocrats who began to plan for the new South Africa. This initiative laid the foundation for a democratic dispensation in the water sector and it brought together people from different political backgrounds with a common purpose...so that when the new government was formed in 1994 there was already a group of people who had learned to work together and who drove the policy development process. That was why the new SA Government—formed in May 1994—was able to table a white paper on water and sanitation in November of the same year.”

—Barry Jackson, *Water Supply and Sanitation Coordinating Committee*

One outcome of this process was the preparation of the Reconstruction and Development Programme (RDP), which became the development manifesto for the broad Democratic Movement and in particular for the African National Congress (ANC) when it came to power after the first democratic elections in 1994.

PUTTING WASH POLICY AND LEGISLATION IN PLACE 1994–1998

The RDP was the policy foundation of the new government and set out a vision focused on addressing poverty and deprivation across a range of sectors and scales.

“Attacking poverty and deprivation is the first priority of the democratic government, and the RDP sets out a facilitating and enabling environment to this end. We acknowledge the crucial role of provincial and local governments in adopting and implementing what is described here mainly as national-level programs to meet basic needs.”⁴

This policy was made widely available to the public, with booklets printed and sold in bookstores across South Africa. The preparatory work discussed above provided a basis for the relevant section of the RDP, which used SCOWSAS’s figures for its problem statement and reflected its recommendations in its policy proposals. Specifically, it stated that:

- **2.6.6:** The RDP’s short-term aim is to provide every person with adequate facilities for health. The RDP will achieve this by establishing a national water and sanitation program that aims to provide all households with a clean, safe water supply of 20–30 liters per capita per day (LCD) within 200 meters, an adequate/safe sanitation facility per site, and a refuse removal system to all urban households.
- **2.6.7:** In the medium term, the RDP aims to provide an on-site supply of 50–60 LCD of clean water, improved on-site sanitation, and an appropriate household refuse collection system. Water supply to nearly 100 percent of rural households should be achieved over the medium term, and adequate sanitation facilities should be provided to at least 75 percent of rural households.

⁴ ANC. (1994). *The reconstruction and development programme (RDP)*, p. 15.

- **2.6.8:** The RDP’s long-term goal is to provide every South African with accessible water and sanitation.”⁵ The RDP also provided some high-level guidance on the financing of water services. It proposed “a lifeline tariff to ensure that all South Africans are able to afford water services sufficient for health and hygiene requirements,” progressive block tariffs in urban areas “to ensure that the long-term costs of supplying large-volume users are met and that there is a cross-subsidy to promote affordability for the poor,” as well as rural tariffs that would cover “operating and maintenance costs of services and recovery of capital costs from users on the basis of a cross-subsidy from urban areas in cases of limited rural affordability.”⁶

DWAF, DWA, and DWS

Note that the abbreviations DWAF (Department of Water Affairs and Forestry), DWA (Department of Water Affairs), and DWS (Department of Water and Sanitation) are all being used for the national department responsible for water resources, as well as water service policy, regulation, and partial implementation

Two name changes occurred in the period 1994 to 2015. First, as DWAF, then DWA when forestry was separated and the sanitation function was transferred to the Department of Human Settlements), and finally DWS when the sanitation function was reincorporated.

Finally, and perhaps most importantly, it addressed institutional arrangements, informed by the wider policy process. It proposed that the national Department of Water Affairs (DWA) should “take sanitation facilities and waste removal, and the financing of these services through appropriate tariff and local tax mechanisms.”⁷

As part of the negotiated settlement, an RDP office was established with a separate budgetary allocation (the RDP Fund). This was intended to kick-start the implementation of policies across the sectors by providing additional budgetary resources rather than attempting reallocation within existing budgets. As a consequence, when the RDP Office was closed in 1996, the initial allocations received by DWAF provided the baseline for the department’s ongoing budget, which underpinned the department’s new policy role.

To provide a formal policy framework for these activities, the new Minister of Water Affairs and Forestry published a Water Supply and Sanitation Policy White Paper⁸ that went into more detail. It formally clarified that the DWAF would now have two roles: 1) managing the nation’s water resources in the public interest (which had been its previous mandate); and 2) ensuring that all citizens have access to adequate water and sanitation services, which was a new role.⁹

The White Paper clearly explained this new role of DWAF by stating that, in water and sanitation services, central government must have “the capacity to establish national policy guidelines, a national water and sanitation development strategy, the formulation of criteria for state subsidies, the setting of minimum services standards, as well as monitoring and regulating service provision.”¹⁰

It further noted that, in the terms of the interim Constitution “[w]here it is necessary for the maintenance of essential national standards, for the establishment of minimum standards required for

⁵ ANC. (1994). *The reconstruction and development programme (RDP)*, p. 29.

⁶ Ibid, p. 30.

⁷ Ibid, pp. 30–31.

⁸ RSA, DWAF. (1994). *White paper: Water supply and sanitation policy*.

⁹ Ibid.

¹⁰ Ibid.

the rendering of services...the Constitution shall empower the national government to intervene through legislation or such other steps as may be defined in the Constitution.”

The White Paper additionally provided more precise definitions of key parameters, such as basic water supply, for which quantity and cartage distance, quality, availability, and assurance of supply were specified. For sanitation, it was recognized that further consultation was needed because of the strong linkage between sanitation services and public health. However, interim guidelines were presented. It was recognized that conventional waterborne sanitation was in most cases not a realistic, viable, or achievable minimum service standard in the short term. Due to its cost, the ventilated improved pit latrine was considered an appropriate and adequate basic level of sanitation service.

Finally, recognizing that basic levels of service would necessarily be a stepping stone to better things, explicit attention was given to the challenges of upgradeability. “The desire of many communities to upgrade a basic service to provide for household connections should be considered during planning. If this is not done, the system could either fail due to illegal connections or must be expensively upgraded when there is a demand for house connections. Any additional infrastructure required to provide upgraded services will not be considered as part of the basic needs infrastructure.”¹¹

The White Paper was drafted and widely discussed in the sector as a result of excellent collaboration between government and CSOs. Platforms were created where roles and responsibilities between key government departments could be sorted out for optimum collaboration. DWAF could fund and implement water schemes under the general provisions of pre-1994 legislation. But, to ensure that policy approaches were followed by other institutions in a rapidly changing institutional environment, it was necessary to legislate.

The new Constitution of the Republic of South Africa, which came into effect as Act 108 of 1996, was a product of successful negotiations and careful drafting by constitutional experts. Chapter 2 of the Constitution¹² is devoted to the Bill of Rights and sets an international example on the right to water and sanitation. There are three clauses that are of particular importance: 1) Clause 24 deals with the environment, as well as sanitation, “Everyone has the right...to an environment that is not harmful to their health or well-being”; 2) Clause 27(1)(b) deals specifically with health care, food, water, and social security, “Everyone has the right to have access to...sufficient food and water”; and 3) the Constitution also puts responsibility solidly with government by stating in Clause 27(2), “The state must take reasonable legislative and other measures within its available resources, to achieve the progressive realization of these rights.” What is important here is that while the right to water and sanitation is enshrined, it is clearly acknowledged that this is not an unfettered right and that it must be realized that the full effect of such rights will only happen over time and progressively.

The roles and responsibilities of the different spheres of government in the realization of these rights are also set out in the Constitution by specifying which functions are local government matters.

¹¹ RSA, DWAF. (1994). *White paper: Water supply and sanitation policy*, p. 16.

¹² RSA, Department of Justice and Constitutional Development. (1996). *Constitution of the Republic of South Africa: Act 108 of 1996*.

The Constitution declares that “water and sanitation services limited to potable water supply systems and domestic wastewater and sewage disposal systems” are listed as a function of local government.¹³

While the Constitution gave local government the direct responsibility for water services, this did not mean that the national government could simply step away, particularly in the early stages: “The dilemma facing the DWAF is that it is unlikely that effective local government will be established in all areas for some time. The moral and political demand for water, however, requires immediate action of the department.”¹⁴

To enable the department to intervene, they tabled legislation that first expanded the mandate of Water Boards. This enabled them to provide water supply and sanitation services to the consumer, and empowered the Minister “to establish statutory Local Water Committees to undertake the task of local water and sanitation service provision.” While many Water Boards were involved in the implementation of water supply projects, no Local Water Committee was formally established.

The Water Services Act (WSA) was passed in 1997. Its objectives were to: 1) provide for the right of access to basic water supply and basic sanitation; 2) set national standards and norms for tariffs in respect to water services; 3) deliver a regulatory framework for water service institutions and water service intermediaries; 4) establish and disestablish Water Boards and water committees and their duties and powers; and 5) provide financial assistance to water services institutions. Separate legislation for water resources, the National Water Act (NWA), was passed in 1998. The NWA introduced a critical concept, namely the “reserve” as a quantity from any water resource that must be set aside first “to satisfy basic human needs by securing a basic water supply,” as well as a quantity “to protect aquatic ecosystems.”¹⁵ One of the challenges for the WSA was that its promulgation preceded those for local government and had to anticipate the requirements of such legislation. Thus, it distinguished between water service authorities and water service providers (providing structured opportunities to separate the constitutional role of local government and the operational delivery of services).

In addition, the WSA elaborates on the constitutional responsibility of municipalities by setting out that these institutions must make access to safe water and sanitation a reality by specifying that, “Every water services authority has a duty to all consumers or potential consumers in its area of jurisdiction to progressively ensure efficient, affordable, economical, and sustainable access to water services.”¹⁶

The WSA also recognized that water sector planning had to be carried out within the broader framework of local government’s integrated development planning. Thus, it required that water services planning should be carried out “as part of the process of preparing any integrated development plan in terms of the Local Government Transition Act, 1993” and that “[a] water services development plan must form part of any integrated development plan contemplated in the Local Government Transition Act.”¹⁷

¹³ RSA, Department of Justice and Constitutional Development. (1996). *Constitution of the Republic of South Africa: Act 108 of 1996, Schedule 4—Part B*.

¹⁴ RSA, DWAF. (1994). *White paper: Water supply and sanitation policy*.

¹⁵ RSA, DWAF. (1998). *National water act: Act 36 of 1998*.

¹⁶ RSA, DWAF. (1997). *Water services act: Act 108 of 1997, Clause 11*.

¹⁷ Ibid.

While the Constitution established the “right to sufficient water,” this was not specific enough for practical implementation. The WSA went one step further by defining what is now generally termed basic water supply and basic sanitation. Basic sanitation is defined as “...the prescribed minimum standard of services necessary for the safe, hygienic, and adequate collection, removal, disposal, or purification of human excreta, domestic wastewater, and sewage from households, including informal households.”¹⁸ Basic water supply means “...the prescribed minimum standard of water supply services necessary for the reliable supply of a sufficient quantity and quality of water to households, including informal households, to support life and personal hygiene.”¹⁹

DWAF had responsibility for sanitation from 1996 to 2009, after which it was moved elsewhere. Much consultation was spent on sanitation, but it was not given the priority it deserved and was neglected from the outset. The Basic Household Sanitation document had a special focus on rural households.

The first draft sanitation white paper focused on the need to empower households to meet their own sanitation needs and to promote an understanding as to why they need to do this. Government policy shifted, with a new white paper focusing on government-led sanitation that would: 1) provide subsidies for sanitation; and 2) build toilets for everyone. This was approved in 2001 as the White Paper on Basic Household Sanitation. While there was expectation that the resulting program would include user education, this was not successfully implemented. Despite this, because the focus was on measuring constructed infrastructure, the approach made a significant contribution to achieving the sanitation MDG target (in theory only—there was no verification of whether the target was actually met).

During the period following the promulgation of the WSA, the Minister formally published national standards for water services, norms and standards for tariffs, and regulations for contracting water service providers. Model bylaws, model contracts, and other detailed guidelines were also developed as support “tools” for implementation of the new legislation. Although this was a lengthy process due to the extensive consultations involving most municipalities and other sector stakeholders, it had a positive end result, because these standards, once published, were widely accepted and proven to be practical and even able to stand up to scrutiny by the courts. The standard for basic water supply and sanitation as pursuant to law in the South African Government Gazette are as quoted below (see box on next page). The basic (minimum) sanitation standard acknowledges the fact that sanitation is not only about providing toilets. To maximize the health benefits of sanitation infrastructure, it recognizes good health and hygiene practices as an essential component of good sanitation.

IMPLEMENTATION IN THE EARLY YEARS

DWAF was used as the main implementing agent in the early years—it had substantial technical expertise, as well as a strong network of provincial and local offices throughout South Africa. DWAF initially obtained capital from the RDP Fund and later from its own budget allocation, as well as “*Masibambane* funding,” a partnership project, one of the early sector-wide approaches with donor agencies. Actors in the SCOWSAS network also ensured that the water sector’s RDP got off to a rapid start by focusing on capital projects to meet access goals and enhance the department’s credibility.

¹⁸ RSA, DWAF. (1997). *Water services act: Act 108 of 1997, Clause 11, Section 1(ii)*.

¹⁹ *Ibid*, Section 1(iii).

Basic Water Supply and Sanitation Standards (as defined in the WSA)

The minimum standard for basic sanitation services is:

- The provision of appropriate health and hygiene education.
- A toilet that is safe, reliable, environmentally sound, easy to keep clean, provides privacy and protection against the weather, well ventilated, keeps smells to a minimum, and prevents the entry and exit of flies and other disease-carrying pests.

The minimum standard for basic water supply services is:

- The provision of appropriate education in respect to effective water use.
- A minimum quantity of potable water of 25 liters per person per day or 6 kiloliters per household per month at a minimum flow rate of not less than 10 liters per minute.
- Within 200 meters of a household.
- With an effectiveness such that no consumer is without a supply for more than seven full days in any year.

The resulting progress in bringing water to unserved communities was impressive by any standards. After the first 10 years of democracy, it was reported that “13.4 million additional people had been provided with a basic water supply through different government and NGO programs, including 10 million people through the DWAF between 1994 and March 2004.”²⁰

Providing sanitation usually lags behind water provision in South Africa, because communities do not perceive the need for safe sanitation as being as urgent as their need for water.

“Backlogs in rural household sanitation were addressed through the creation of a dedicated sanitation unit in the DWAF that ran a special focused program in the period 1996 to 2009. The focus was on rural areas and brought all stakeholders together by coordination of funding, actions, standards, and implementation. A national forum as well as provincial task teams did a great job and certain municipalities such as Chris Hani, Zoeloeland and eThekweni, made immense progress and provide valuable best practice guidance to others.”²¹

²⁰ RSA, DWAF. (2004). *A history of the first decade of water services delivery in South Africa 1994 to 2004*.

²¹ Brisley, M. (personal communication, 2016). DWS.

SUMMARY OF ACHIEVEMENTS IN THE GOLDEN ERA

According to the 2015 World Health Organization (WHO)/United Nations International Children’s Emergency Fund (UNICEF) Joint Monitoring Programme (JMP) report, the South African total population has grown to 53.5 million, with a 65 percent to 33.5 percent urban to rural split.²² The population had increased from around 39 million in 1994 to 51.7 million in 2011.²³ This means that over and above the backlogs inherited in 1994, an additional 14.5 million new people had to be served. The aim of the MDGs was to halve the backlogs in water and sanitation by 2015.

PROGRESS IN WATER

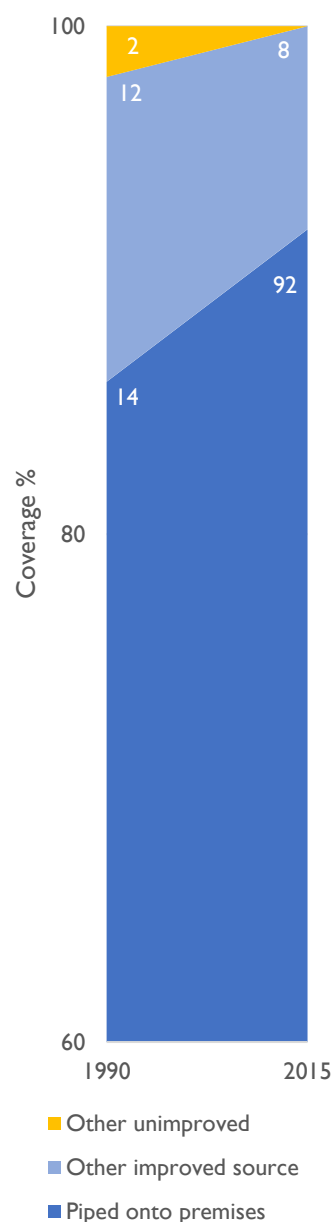
According to the JMP, at the end of the MDG era in 2015, South Africa had provided access to an improved water supply to 93 percent of its population,²⁴ improving from 64 percent in 1994. A more impressive figure is the additional population served—a remarkable 24.9 million additional people gained access to an improved water supply during the 20-year period! There was, however, growing concern about system sustainability and the ongoing functionality of water supplies, as uncovered in the results of the annual General Household Survey (GHS) conducted by Statistics South Africa. They measured the reliability of municipal supplies and consumers’ perception of supply quality in the GHS.

The 2014 GHS stated, “For South Africa, on average every 1 out of 4 households have regular interruptions in water supply (25.7 percent). This worrying trend is increasing every year.”

PROGRESS IN SANITATION

According to DWS Water Services Knowledge System, South Africa met the MDG target for sanitation in 2011. But, the JMP report of 2015 stated that South Africa did not meet the MDG target for sanitation as the country moved only from 51 percent to 68 percent coverage of the population over the last 25 years.²⁵ The latter report stated that South Africa only achieved “moderate progress.” Table I provides a breakdown of the sanitation service levels and types in the country.

FIGURE 3: URBAN DRINKING WATER TRENDS 1990–2015



Data sourced from the WHO/UNICEF JMP.

²² WHO/UNICEF. (2015). JMP. (Note: This report was created using the 2015 JMP Country Files, and does not reflect the updates released July 12, 2017.)

²³ Statistics South Africa. (2012). *Census 2011: Census in brief*.

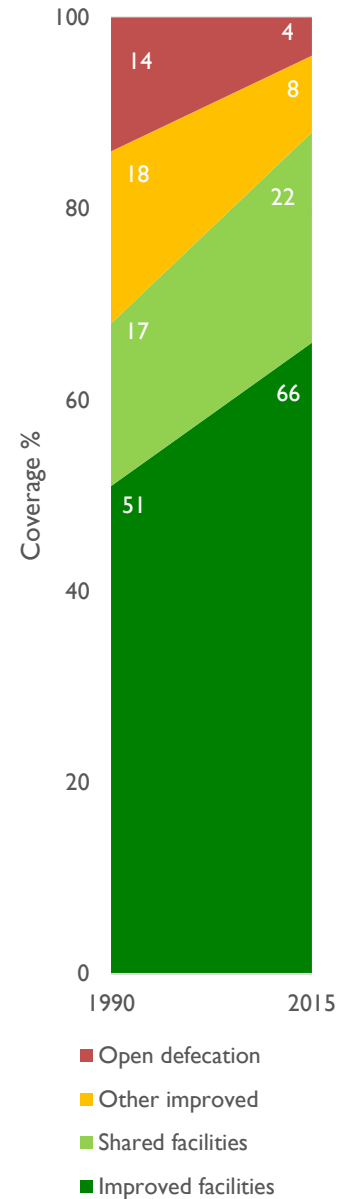
²⁴ Ibid.

²⁵ Ibid.

“As you can see, there was little sense of ownership and worse, little understanding of why to use the toilet and why wash your hands afterwards. But, we can still claim an MDG success. To make sanitation improvements sustainable and effective, much more effort is required to inform and educate and motivate communities to use toilets all the time and to understand the critical need for hand washing with soap at critical times.”²⁶

Sustainability issues are also a concern in sanitation services. The model in South Africa was infrastructure provision with community management. Not enough attention was given to schools and hygiene promotion, so infrastructure access did not necessarily improve facility use or household health. Other concerns were that flush toilets were provided in towns without sufficient water supply or enough capacity for treating wastewater. For simple, on-site facilities, the pits filled while no attention was given to emptying services. Overall, there was too much emphasis on infrastructure and insufficient investment in dimensions of use and sustainability.

FIGURE 4: TOTAL SANITATION TRENDS 1990–2015



Data sourced from the WHO/ UNICEF IMP.

²⁶ Jackson, B. (personal communication, 2016). Water Supply and Sanitation Coordinating Committee.

TABLE 1: SANITATION FACILITY TYPE AND USE IN SOUTH AFRICA

SANITATION FACILITY TYPE	PERCENTAGE OF POPULATION USING SANITATION FACILITY TYPE (FROM GHS 2014)	NUMBER OF PEOPLE USING SANITATION FACILITY TYPE (PERCENTAGES FROM GHS 2014 EXTRAPOLATED TO 2015 POPULATION, MILLIONS)
Flush toilet connected to sewage system	59.6	31.88
Flush toilet connected to a septic tank	3.4	1.82
Chemical toilet	0.4	0.30
Pit latrine/toilet with ventilation pipe	16.2	8.67
Pit latrine/toilet without ventilation pipe	14.8	1.28
Bucket collected by municipality	1.0	0.70
Bucket emptied by owners	0.2	0.12
Other and unspecified types	0.7	0.37
No toilet	3.6	1.91
Total	100	53.49

DECENTRALIZATION TO MUNICIPALITIES: 2003–2010

This section presents the evolving institutional framework for WASH in South Africa during years of decentralization of water services to municipalities, which began in 2003.

PUBLIC ENTITIES

Being a water-scarce country means that in South Africa water needs to be stored in reservoirs and often must be transferred over vast distances to areas of need. The major water resource infrastructure is built, operated, and owned by the Department of Water and Sanitation (DWS). The DWS has several other functions, including policy, regulation, and support (see Table 2).



Public Latrines in South Africa
Galit Seligmann/Alamy Stock Photo

TABLE 2: KEY INSTITUTIONS AND THEIR EVOLVING FUNCTIONS

INSTITUTION WITH FUNCTIONS IN WATER AND SANITATION SECTOR	ROLES BEFORE 1994 (BEFORE FIRST NATIONAL DEMOCRATIC ELECTION)	ROLES 1994–2000 (FROM FIRST NATIONAL DEMOCRATIC ELECTION TO FIRST MUNICIPAL ELECTION)	ROLES 2000–2015 (WALL-TO-WALL NEW MUNICIPALITIES ESTABLISHED IN 2000)
DWA/DWA/DWS	<ul style="list-style-type: none"> • Policy development. • Plan, regulate, build, and operate water resources infrastructure. 	<ul style="list-style-type: none"> • Policy development. • Regulate, build, and operate water resources infrastructure. • Operate water services in rural areas. • Implement water and sanitation projects in rural areas. 	<ul style="list-style-type: none"> • Policy development. • Regulate, build, and operate water resources infrastructure. • Subsidize and support operation of water services in rural areas. • Support new municipalities (focus on rural areas).

During this part of the MDG era, municipalities were constitutionally responsible for water supply and sanitation services. There are 152 municipalities distributed across South Africa, including some in remote rural areas. Water services authorities include metropolitan municipalities, district municipalities, and authorized local municipalities. Some, for example Cape Town, held both bulk and retail functions, because they have their own dams and bulk supply systems; while others such as eThekweni (Durban) or Johannesburg buy potable water in bulk from Water Boards and then perform retail distribution and sales. Water Boards are state-owned bulk water providers that treat and supply potable water to municipalities. DWS is both a shareholder and the regulator of the eight Water Boards.

Functions of the Department of Water and Sanitation (DWS)

DWS is the sector leader with the following main functions defined by South African legislation:

- Custodian of water resources (in terms of the NWA).
- Responsible for both water resources and water services policy (in terms of the NWA and WSA).
- Owner and operator of water resources infrastructure, such as large dams and inter-basin transfer systems.
- Regulator of water resources, such as issuing of water use licenses and pollution control.
- Regulator of water service institutions on compliance with the Compulsory National Standards, including drinking water quality.
- Support to water institutions.

DWAF fulfilled interim functions in the operation and maintenance of water works and the implementation of new water infrastructure. These roles ceased after wall-to-wall municipalities were created.

Like many across the country, all existing institutions were mobilized at the start of the Golden Era of WASH improvements that started in 1994. The universal message to these institutions was to get out of the business-as-usual mode and serve the people who were left without basic services during the Apartheid years. That meant the following: 1) for DWS (then DWAF) to move beyond water resources

and take responsibility for the construction and operation of water and sanitation services in rural areas; 2) for Water Boards to implement improvements in rural areas over and above their traditional function of bulk water supply; and 3) for existing municipalities to expand services into the townships and informal settlements.

NONGOVERNMENTAL ORGANIZATIONS

A similar approach was taken toward NGOs that had played an important role before and during the transition. Noting that the RDP's proposals owed much to NGOs, the White Paper committed itself to continuing to work with them, with the caveat that:

“The role of NGOs will be determined by the communities in which they work. The principle of making the community the client will apply to NGOs, as well as to the private ‘for-profit’ sector.”²⁷

PRIVATE SECTOR

There were a handful of private sector providers for WASH services on contract in a few municipalities. The evidence of their success has been ignored, in part because the providers ran counter to the anti-private sector ethos of the era. These providers are also regulated by DWS, and the main private sector activities have been summarized in a new book to be published.²⁸ Some examples are:

- Two water service providers own and operate bulk systems: Midvaal Water, a “Section 21” company (nonprofit) supplying bulk water in North West Province; and ERWAT, also a Section 21 company owning and operating bulk wastewater systems in Ekurhuleni. Both have good track records and are financially sound.
- Concession contracts (30 years) are running in two municipalities Mbombela (Mpumalanga Province) and Illembemba (KwaZulu-Natal Province). External observers have rated them as successful, although some concern was expressed that they are too urban focused.
- Leases were in place in two local municipalities in the Eastern Cape, but one was terminated after the contract ran for 19 years.
- The eThekweni wastewater recycling contract is an excellent example of a build, operate, transfer contract that benefits the city with funding off budget.
- Management contracts were in place in Johannesburg and Maluti-a-Phofung. Although the Johannesburg contract was considered international best practice, it was not renewed.²⁹ Similarly, the Maluti-a-Phofung contract went through renewals, but is no longer in place.³⁰
- Some district-wide Operation and Maintenance contracts are running in northern KwaZulu-Natal Province (e.g., uThungulu and Zululand). The arrangement in uThungulu has been a success and

²⁷ RSA, DWAF. (1994). *White paper: Water supply and sanitation policy*, p. 14.

²⁸ Palmer, I., Moodley, N., & Parnell, S. (in press). *Building a capable state: 20 years of local government transformation in South Africa*.

²⁹ Marin, P. (2009). *Public-private partnerships for urban water utilities: A review of experiences in developing countries*.

³⁰ Mayher, A., & Robbins, G. (2009). *The water dialogues synthesis report 2009: Maluti-a-Phofung case study*.

probably contributes to the finding that the uThungulu District Municipality is a top-performing district water service authority.

ANALYSIS OF THE DEVOLUTION OF INSTITUTIONS

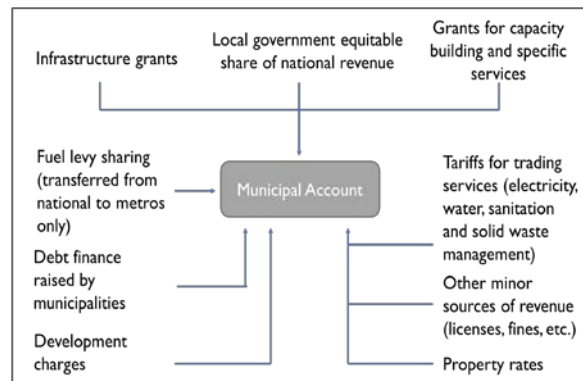
While DWS has delivered major capital investments in WASH, controlled quality, brought focus and cohesion to the sector, and provided an innovative policy environment, it has struggled to balance its roles as both interested implementer and objective regulator. Under their leadership, the devolution of water services that followed from the 2003 Strategic Framework for Water Services has met with mixed success. In general, the Metros and secondary cities with capacity and a good income base expanded services to newly incorporated peri-urban areas, housing projects, and informal settlements. Small towns with a large commercial or tourism base had a reasonable income to continue to provide high levels of service to existing consumers and extend to unserved and new housing areas. Rural municipalities faced challenges, primarily lack of planning and capacity, that resulted in slow progress with project implementation and limits to the sustainability of existing schemes. Small towns with a tiny income base experienced similar constraints. The implementation of the free basic water policy further reduced their income.

Water Boards received no grant funding. All expenses had to be recovered from water sales. They struggled with non-paying municipalities and ran into political opposition when trying to cut off supply to enforce payment. This created threats to their financial viability and resulted in extended negotiations that, in some cases, remain unresolved.

FINANCING INSTRUMENTS

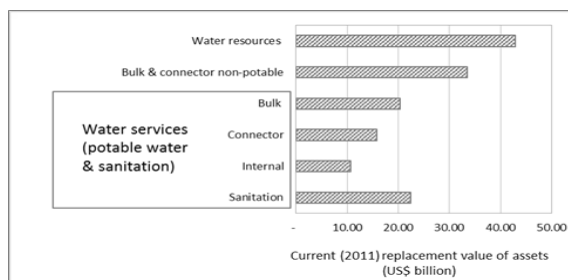
Municipalities. Municipalities have a range of sources of capital finance (left side of Figure 5) and operating revenue (right side of Figure 5). Water and sanitation services are run as separate trading accounts within municipalities with two primary sources of operating revenue: tariffs and subsidies allocated to these accounts from local government. The extent to which subsidies are applied to these accounts is highly variable across the urban to rural spectrum of municipalities, as discussed later in this section. Transfers from the national fiscus (i.e., grants) cover the majority of capital finance for water and sanitation infrastructure provision. However, the larger Metros and some smaller municipalities also raise debt finance through loans or bonds. Water Boards are dependent on bulk water tariffs for almost all of their operating revenue. They finance their investments in infrastructure through debt finance and equity (accumulated cash surpluses from operations).

FIGURE 5: MUNICIPAL FINANCING INSTRUMENTS IN THE SOUTH AFRICAN WASH SECTOR



Replacement value of assets. South Africa had a total of \$145 billion of water and sanitation assets in 2011. Of this, \$47 billion was assigned to potable water (including a share of water resources infrastructure, which is required as a source for potable water) and \$22 billion to sanitation infrastructure (see Figure 6).

FIGURE 6: REPLACEMENT VALUE OF WATER AND SANITATION ASSETS, 2011



Water service assets are owned largely by local government, but approximately half of the bulk potable water assets are owned by Water Boards. Water resources infrastructure, from which both potable and non-potable water is drawn, is owned largely by DWS. A small portion is owned by municipalities, Water Boards, and water user associations in the case of non-potable (mostly irrigation) water systems. Municipalities heavily relied upon transfers for financing, as shown in Table 3.

TABLE 3: SOURCES OF FINANCE FOR WASH IN MUNICIPALITIES

SOURCE OF FINANCE	AMOUNT (\$ MILLION)	PERCENTAGE SPLIT
Transfers from national fiscus	2,280	78%
Current levels of debt finance	250	9%
Internal reserves	280	10%
Other	70	3%
Total capital available	2,880	100%

IMPLICATIONS OF DECENTRALIZATION

The provisions of the WSA of 1997 that anticipated new local government arrangements were timely. The final local government structures were set by legislation (the Municipal Structures Act) in 1998 and the first elections for wall-to-wall local government were held in 2000. With the emergence of newly democratic local governments, DWAF entered a period in which its mandate over provision of water services had to be exercised in consultation with the Department of Constitutional Development (DCD), later the Department of Provincial and Local Government (DPLG) and the Department of Cooperative Government and Traditional Affairs (COGTA), which had over-arching responsibility for local government.

As was explained in the 2003 Strategic Framework for Water Services, “The local government elections in 2000 represented the final phase in the local government transformation process that commenced in 1993. It is now possible for local government to assume full responsibility for ensuring water and sanitation services as provided for in the Constitution of the Republic of South Africa (Act 108 of 1996). This means that the role of the DWAF will change from being a direct provider to being a sector leader, supporter, and regulator.”³¹ This and the 2002 Division of Revenue Act created the impetus for phasing

³¹ RSA, DWAF. (2003). *Strategic framework for water services*, p. 9.

out DWAF's role in the direct operation of water services. A suite of legislation setting out the new sectoral roles and responsibilities of local government was promulgated.

One immediate consequence was that DWAF's funding for water services began to be transferred to the relevant municipalities. From the 2003–2004 fiscal year, the DWAF was no longer an implementer, because a new capital grant (Municipal Infrastructure Grant) was introduced, which allocated funds directly from the treasury to municipalities. This occurred first where DWAF was still directly administering services, and budget transfers accompanied the transfer of function and staff. But the capital grant funds that DWAF had previously administered, which had provided it with significant policy leverage, were now transferred to COGTA. While the large urban municipalities and secondary cities had the capacity and resources to take on implementation, this was not regularly the case for smaller and rural municipalities.

These shifts in function and jurisdiction were not yet reflected in the water sector's formal policy positions. And, there was considerable resistance to the development of new policy positions, because priority was given to implementation. However, authorities agreed that the 1994 White Paper on Water Supply and Sanitation needed to be revised to reflect the new arrangements. For this reason, a new policy was tabled as a Strategic Framework for Water Supply and Sanitation (SFWSS) in 2003.

IMPLICATIONS OF “FREE BASIC WATER”

A critical intervention in this period was the decision to provide “free basic water” to all households as part of the strategy to ensure that all South Africans had access to basic water services. In 1999, it became evident that something needed to be done to ensure that the cost of water supply was affordable to the poor. Some communities could not afford to pay for the water provided from a new piped supply, and the poorest and therefore most vulnerable people often reverted to drawing water from unsafe, free sources. Based on an approach pioneered in the eThekweni Metro, authorities proposed that a basic water supply of 25 liters per person per day would be provided free of charge to each household. Any level of service consumed above this volume would have to be paid for at the prevailing tariff (see box on next page).

As explained in the SFWSS, “In terms of the free basic water policy, the provision of the basic amount consumed by poor households per month is free of charge. The policy allows water services authorities to decide how they will apply the policy specifically and practically.”³²

Funding to cover free basic water is mainly provided from two sources: 1) in Metros and larger urban centers, there are sufficient high-volume users to cross-subsidize the poor; and 2) in rural areas, a transfer from the national budget—the “equitable share” allocation—is intended to support the poor. Because the equitable share is an unconditional grant, it is often used for other unintended purposes.

Since its launch, this policy has been applied with mixed success, because it requires strong technical, financial, and managerial capacity that was not consistently available across municipalities. In addition, some municipalities used so-called “indigent registers” to identify people to be covered by the policy.

³² RSA, DWAF. (2003). *Strategic framework for water services*, p. 44.

These are often prone to corruption where administering officials place unqualified individuals on the registers.

Free Basic Water Policy

- The provision of the basic amount consumed by poor households per month is free of charge.
- The guideline volume to be provided for free is 6 kiloliters per poor household per month. Some municipalities give additional free water to poor households with flush toilets (e.g., in eThekweni Metro the guideline volume is 9 kiloliters per household per month (see Case Study in Annex A).
- The policy allows municipalities to decide how they will apply the policy specifically and practically and also what they can afford.
- Costs are to be covered by cross-subsidization, as well as an operating grant from the national budget.
- Different methods are used to determine who qualifies as “poor,” including indigent registers and property values.

ADJUSTING TO NEW ROLES

As decentralization began to take hold, the role of the national department (DWAF/DWA/DWS) changed from direct implementation and operation to that of sector leader, supporter, and regulator. While the formal instruments of policy and legislation were supportive of this approach, the incentives for municipalities to abide by legislative requirements and cooperate with national initiatives were limited and weak. While formally DWAF retained responsibility for setting the conditions for conditional grants, these were often not addressed in detail, and even where they were addressed, they were not honored and there were no sanctions for non-compliance.

In this new context, attempts were made to develop a range of instruments more appropriate to DWAF’s new role. Specifically, greater emphasis was placed on planning, reporting, and monitoring, and efforts were made to establish forums in which municipalities, organized local governments, the relevant national departments, and other stakeholders could engage. Rather than attempt to enforce compliance with norms, standards, and conditions, a cooperative benchmarking approach was promoted, in collaboration with the South African Local Government Association (SALGA), the formal organization representing local government. Specific products of this process were the Blue Drop (BD) and Green Drop (GD) reports addressing, respectively, water supply and wastewater treatment.

During this period, one important policy development in a sector that had given priority to water supply was the announcement by the then Minister in June 2004 that sanitation was one area in which a concerted policy development effort would be made. However, this statement of priority was not reflected by action. It would not be until 2016 that a Draft National Sanitation Policy was published for public comment. Unfortunately, following national elections and a Cabinet shuffle in 2009, sanitation responsibilities were placed in the Department of Housing, and momentum was lost.

LOSING TRACTION: 2010–2016

With decentralization firmly established, local political economies rather than national policies became increasingly dominant. Without capacity at the local level, consultants often prepared water service development plans without sufficient attention to administrative priorities. This failure of alignment was

reflected in the behavior of the national department that, for example, ceased to make details of municipal benchmarking surveys public.

At the same time, there was a loss of continuity in the national department's leadership due to rapid rotation that saw five ministers and eight heads of department between 2005 and 2016. This inevitably led to a loss of focus in both policy and implementation. This was aggravated by the combination of a variety of factors, both policy and personnel, which resulted in a significant loss of technical capacity in the DWS.

Grants for infrastructure investment were nominally conditional on following the policies established by DWAF (DWA and then DWS). However, in practice, funds were increasingly allocated for higher-than-basic levels of service, often at the expense of further delays in service provision to those without any basic supplies.

The provision of high levels of reticulated service without parallel implementation of tariff policies to constrain demand or the development of additional water sources led to increasingly widespread supply failures. Instead of seeking to discipline and structure the process, the department promoted a policy of funding what was termed "regional bulk infrastructure" under which funding was allocated through a budget line for projects that would expand supply to municipalities. In practice, this led to the development of a number of sub-optimal schemes. Combined with the inability to efficiently operate large systems, this left many communities inadequately served.

The operational consequences of these trends were manifest in poor performance in benchmarking exercises such as BD and GD certification. Even more disturbingly, there was a reduction in the proportion of the population reporting access to reliable services even as access to infrastructure increased.³³ There were also more operational service failures associated with drought, but these were usually occasioned by poor management. Additional details were compiled through the annual GHS. The following has been extracted from the 2014 GHS (published in May 2015):

"The functionality of municipal water supply services measures the extent to which households that received water from a municipality had reported, over the 12 months before the survey, interruptions that lasted more than 2 days at a time, or more than 15 days in total during the whole period... Households in Mpumalanga (63.1 percent) and Limpopo (61.4 percent) consistently reported the most interruptions, while Gauteng (8.2 percent) and Western Cape (3 percent) experienced the least interruptions."

What was uncovered was that more than one quarter (25.7 percent) of South African households reported some dysfunctional service with their water supply in 2014. Since 2010, the percentage of households that reported interruptions increased greatly in at least two areas: Free State and North West. As can be seen in Figure 7, in some provinces (e.g., example Limpopo and Mpumalanga) there are more water users that experience interruptions in supply than those who do not. It is clear from Figure 7 that failures are more prominent in provinces with large rural populations such as

³³ Statistics South Africa. (2015a). *General household survey 2014, as published in May 2015*.

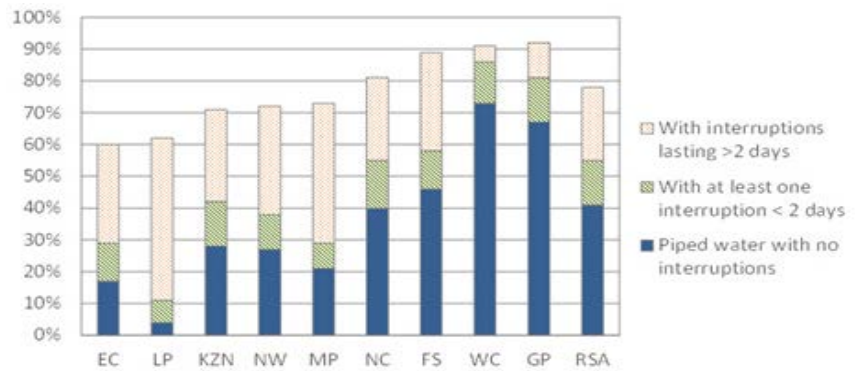
the Eastern Cape, Limpopo, KwaZulu-Natal, North West, and Mpumalanga. This may be seen as another manifestation of the prevailing political priorities, which de-emphasized poor rural communities more than during the Golden Era.

Resolution of these operational issues was further complicated by the constitutional assignment of “original powers” to

decentralized authorities that could not be infringed upon by the central government. Therefore, the national level could only retain focus on the challenges of coordinating services, water resources policy, and strategy. This disconnection illustrates the loss of continuity and knowledge about the legislative and policy achievements during the first two decades of democracy and a failure to build on the foundation provided. It also highlights the continuing challenges posed by the division of power between a national government that holds full authority over the development, management, protection, and use of water resources and municipalities that are charged with the narrow mandate of using water resources to provide water services for their citizens.

Those interviewed for input to this study generally agree that there has been general under-performance of the national government in supporting municipalities, as well as breakdowns in collaboration between national and regional authorities. Examples they put forward include the failure of the Department of Cooperative Government (DCoG) to effectively establish the Municipal Infrastructure Support Agency (MISA) and the deviation of the DWS regional work plans from those developed centrally. Repeated changes in leadership augmented these issues.

FIGURE 7: INTERRUPTIONS IN WATER SUPPLY BY PROVINCE, 2014



CHAPTER 2: LESSONS LEARNED FROM THE MDG ERA

The following are the key lessons learned in South Africa during the MDG era that could be considered by other African countries and should form the basis for South Africa's advancement toward SDG Targets 6.1 and 6.2.

LESSON 1: THE ENABLING ENVIRONMENT IS NOT JUST LEGISLATION

In South Africa, the emergence of a new democratic dispensation in 1994 created a unique political and social scene that positively shaped an environment that expected, supported, and rewarded extraordinary progress. There was a universal belief that the wrongs of the past must be rectified and access to water and sanitation was identified as a priority common task. It was agreed throughout all of the interviews conducted for this study that the Golden Era was comprehensively based on collaboration, cooperation, and a keen sense of being part of a team working toward the greater good.

POLITICAL UNITY AND COMMITMENT MOVE POLICY TO PRACTICE

In 1994, access to safe, convenient, and reliable water supply was one of the highest social priorities expressed by communities, especially in rural areas. It was thus high on the political agenda and an immediate focus of the new government's RDP. All political parties agreed that water supply and sanitation were top priorities and supported the inclusion of water as a human right in the Bill of Rights in South Africa's 1996 Constitution. This gave continued impetus to the implementation of water and sanitation programs. However, with the breakdown of political unity that resulted from decentralization in 2000, the initial coherence and alignment were reduced as local priorities (and political economies) became more important.

ENABLING ENVIRONMENT STILL NEEDS POLICIES AND LEGISLATION

Capable teams were established from a mix of local and international experts to create appropriate, flexible, and practical national policies and strategies that focused all efforts. There was substantial consultation among sector actors, including politicians, municipal officials, Water Boards, donors, NGOs, consultants, and the general public as part of their formation. The resulting policies, norms, and standards were embedded in legislation to make it compulsory and well communicated to the public. There was sufficient directive detail in them, but also flexibility to adjust to local circumstances.

POLICIES AND LEGISLATION NEED THE ACCOMPANIMENT OF CLEAR TARGETS

The RDP set clear targets, as well as short-term, interim, and long-term goals. In legislation, the terms "basic water supply" and "basic sanitation" were clearly defined so that targets could be set and later measured. In 2003, when the water services policy was updated, 19 ambitious targets were set (e.g., "All South Africans will have access to a functioning basic water supply facility by 2008"; "All South Africans will have access to a functioning basic sanitation facility by 2010"; and "Investment in water services infrastructure in the sector totals at least 0.75 percent of gross domestic product [GDP]").³⁴

³⁴ RSA, DWAF. (2003). *Strategic framework for water services*.

For sanitation, it was recognized that further consultation was needed because of the strong linkage between sanitation services and public health. Interim guidelines were presented that defined technologies, but not service levels since it was recognized that conventional waterborne sanitation was in most cases not a realistic, viable, or achievable minimum service standard. The human aspect of sanitation also made targets difficult because it was recognized that unless households were committed to the success of a health and sanitation program, little would be achieved. None of this supported the development of specific legislation or targets. Additional complexity emerged from the realization that because sanitation was provided at the household level, there had to be consistency between water and housing policy, strategy, and standards, as well as coordination to avoid double subsidies.

POLICIES INFLUENCE INTERNATIONAL TRENDS AND BEST PRACTICE

It has been interesting for the authors to note in retrospect how many of South Africa's policies have been adopted in other countries, as well as in international guidelines. This is evident, for example, from a study of the Handbook of the United Nations (UN) Special Rapporteur³⁵ and the relevant International Water Association (IWA) manual.³⁶ Concepts and principles prescribed on the human right to water and sanitation such as availability, quality, affordability, and acceptability are all aligned with those established in South Africa. The multiple levels of necessity of an enabling environment were recently emphasized in the IWA manual by stating, "the progressive realization of the human rights to water and sanitation requires enforceable legal and regulatory frameworks and effective institutional arrangements."

AN ENABLING PACKAGE STILL REQUIRES STRONG LEADERSHIP

The IWA manual re-emphasized, "It is fundamental that there is a national body mandated to coordinate issues relating to human rights to water and sanitation and service providers and regulators should be represented." The DWAF was the ideal entity for this task. It offered substantial technical expertise, as well as a strong network of provincial and local offices in almost every corner of South Africa. It took the lead to mobilize, coordinate, and assign clear roles and responsibilities. There was very strong collective capacity and competence available at the start of transition (1994), including solid engineering and technical capacity within the bigger municipalities, Water Boards, and regional services boards.

A good example of the positive influence of strong and stable leadership at the municipal level is in eThekweni Metro. This was a rare case of political stability within a metropolitan council, with the first mayor serving for more than 15 years and the management team being largely unchanged for almost 20 years. The trust relationship between the political policy makers and management was continuously re-established after each five-year election cycle, which resulted in effective service provision. Although there is no empirical study that has analyzed the relationship between political stability and a country's ability to expand and improve water access, a review of the relationship between political stability and

³⁵ De Albuquerque, C. (2014). Realizing the human rights to water and sanitation. *A Handbook by the UN Special Rapporteur Catarina de Albuquerque*.

³⁶ Bos, R. (2016). *Manual of the human rights to safe drinking water and sanitation for practitioners*.

economic growth on one hand and the positive correlation between increased national income and the proportion of people with access to improved water supply could act as a proxy.^{37, 38}

LESSON 2: INCREMENTAL DECENTRALIZATION CAN BE SUCCESSFUL

ADDITIONAL TASKS ASSIGNED TO AND FLEXIBILITY OF WATER BOARDS

The well-capacitated Water Boards were originally established to treat and supply potable water in bulk to municipalities. As tasks were decentralized, they were increasingly assigned additional duties to implement water services projects in their respective operational areas. Most of the Boards created dedicated units for this purpose. They were fortunate to have both spare capacity in their bulk supply systems and technically skilled staff. But, their operations were not without challenges that required adaptation. A few Water Boards were established, such as Amatole and Bushbuckridge, with a mandate to expand into less-served urban areas. Due to the lack of a paying customer base, some—like Bushbuckridge—did not survive. These were dissolved and taken over by larger boards.

EMPOWERED AND VIABLE MUNICIPALITIES

Decentralization has been a pivotal point for water service delivery, generating confusion while simultaneously creating empowered and creative opportunities. Municipalities in a strong economic position have proven able to raise the great majority of their revenue from property rates and tariffs and are typically financially viable. An excellent example is eThekweni, which set the national standard of excellence in water supply and sanitation services with revenue collection that exceeded 100 percent for several years. On the other hand, the combination of relatively weak municipal economies with low capability has meant that, while infrastructure may be provided, too little revenue is raised and the operation and maintenance of the infrastructure is very poor, resulting in dysfunctional services.³⁹

LESSON 3: ENGAGING THE PRIVATE SECTOR IN A MISSION OF EQUITABLE SERVICE DELIVERY IS POSSIBLE

South Africa has had a long, strong, and well-capacitated private consulting engineering sector and experienced construction companies. On the operational side, they have been joined by private sector companies competing for concession and maintenance contracts. At the same time, the 1994 ANC sent out mixed signals on encouragement of the private sector. At a time of exploring options for private sector engagement, in South Africa the formulation of policy was enabling, but not actively encouraging, “The department will consider proposals for the private sector to provide services where these may be in the public interest and where this approach is supported by the community concerned.”⁴⁰ This openness was tempered by the warning, “In no case will contracts which undermine the functions or authority of any tier of the legitimate government be supported.

³⁷ Aisen, A., & Veiga, F. J. (2011). *How does political instability affect economic growth?*

³⁸ Stockholm International Water Institute and WHO. (2004). *Making water a part of economic development: The economic benefits of improved water management services.*

³⁹ Palmer, I., Moodley, N., & Parnell, S. (in press). *Building a capable state: 20 years of local government transformation in South Africa.*

⁴⁰ RSA, DWAF. (1994). *White paper: Water supply and sanitation policy*, p. 13.

A commitment to the building of local administrative, technical, and managerial capacity will be a major criterion in assessing such proposals as will the views of organized labor.”⁴¹ An optimistic clause in the later White Paper promised that the department “will develop a more detailed policy both for its own use as a contractor and regulator and to fulfil its role as adviser to other agencies.”⁴²

An innovative and successful approach to bringing in external capacity (both private and NGO) was the build, operate, train, and transfer (BoTT) mechanism (see box on next page). It was unique at that time with no similar instruments to benchmark against. All participants in the process experienced a steep learning curve with rapidly changing emphasis and methods, but contributed to accelerating the delivery of basic services, improving sustainability of projects, and aiding DWAF to manage the necessary volume of work efficiently. The system currently risks a drain of local knowledge and expertise as international actors become involved. This practice has been criticized by the South African Institute of Civil Engineers for weakening a home-grown system of service delivery.

LESSON 4: SECTOR COLLABORATION IS POSSIBLE AND BENEFICIAL

The Masibambane Program (Zulu for “let’s work together”), ran in three phases from 2001 to 2011, providing accelerated water and sanitation services on a sustainable basis. The program used a sector-wide approach that facilitated the harmonization of government and donor requirements and drew on national and international best practices. It was funded by a coalition of the European Commission, the Belgian Government, Irish Aid, the Swiss Agency for Development and Cooperation, and Britain. The program was extremely successful in establishing collaborative structures between all spheres of government, civil society, the private sector, and other stakeholder groups such as donors.

It used a strong evidence-based participative approach in the development of intervention plans, and it successfully supported the water sector to decentralize earlier and more rapidly than any other sector in the country. Critical to this was its focus on creating and building out an enabling environment for Water Services Authorities. The institutional and capacity building components of the program were commonly deemed to be its most successful focus area.

LESSON 5: BUILDING A FLEXIBLE SKILL BASE NEEDS TO PRECEDE SERVICE MANAGEMENT AND DELIVERY

Requirements for the achievement of the rapid transformation of government, including local authorities, conflicted with the equally essential objective of rapid service delivery. While the acceleration of service delivery requires a stable, well managed, capable, and productive environment with seamless processes and procedural rules, transformation requires rapid changes in the skills base to stay on top of a constantly changing regulatory environment, procedural uncertainty, and untested processes. The value of a skilled management team that remained largely constant and flexible for many years is evident from the widely acknowledged excellence of the eThekweni Metro.

⁴¹ RSA, DWAF. (1994). *White paper: Water supply and sanitation policy*.

⁴² Ibid.

LESSON 6: A BUSINESS APPROACH IS NOT ALWAYS APPROPRIATE

Part of the drive for decentralization in South Africa was the idea that local authorities should operate as autonomous business units. However, the business model proved untenable for local government. The checks and balances that ensure effectiveness in the business world are absent in governance. In a free market system, for example, dissatisfied customers can take their business elsewhere, but people who are dissatisfied with the services of a local authority cannot simply move to another one.

The BoTT Mechanism

The Community Water Supply and Sanitation Program initiated by DWAF, now DWS, was tasked with addressing the immense backlog in water supply and sanitation services. The situation was exacerbated by the large number of water supply schemes that had been inherited from the previous homeland areas.

At the onset, little experience or capacity to manage community water supply or sanitation services existed within the department. The program was originally implemented by conventional means through commissioning of consultants and contractors on a project-by-project basis with direct supervision, or by using implementing agents to administer groups of projects. In this process, a wide variety of implementing agents were utilized such as District Councils, Water Boards, municipalities, NGOs, and traditional direct contracts.

The BoTT mechanism had the specific goals of accelerating delivery of basic services, improving sustainability of projects, and aiding DWAF to manage the necessary volume of work efficiently. As such, it served as a direct response to the urgency and magnitude of the task of addressing the infrastructure and service backlogs.

Despite the urgency, all other projects were halted while the BoTT mechanism was being set up, and all existing projects retrofitted to conform to the BoTT framework. All services were required to ensure sustainability, cost-effectiveness, job creation, and the elimination of backlogs. The dual emphases on speed and sustainability were in direct conflict and served as one of the root causes of many of the BoTT mechanisms' difficulties.

Operationalization of the mechanism was essentially a "top-down" process from the national level with minimal provincial or local municipal involvement and input. The first set of BoTT contracts ended in 1999, and despite significant problems, were extended for two years and rechristened as the "Improved BoTT." Extension was based on the belief that there was a continuing need for unified capacity to deliver a consolidated package of technical, construction, operations, maintenance, and associated institutional and social development.

From the perspective of the actors involved in the BoTT mechanism, its main achievements and shortcomings as experienced during implementation can be summarized as follows:

- The mechanism offered an acceptable pathway to achieve accelerated, sustainable delivery of water supply and sanitation services, and it achieved accelerated delivery primarily limited to the very short term. Actors pointed out that any gains in accelerated delivery were offset by direct and indirect delays during set-up.
- The mechanism could be sufficiently flexible to allow change and adaptation to the dynamics of the policy and institutional environment. With proper management, it proved effective.
- The intention of ensuring the involvement of the private sector in addressing the services backlog had been met. At the same time, it created a risk-free opportunity for the private sector within a captured market. This commercial security worked against mobilizing private sector creativity and innovation and did not incentivize mobilization of private sector finance.
- The mechanism supported continuous acceleration of the process, offered a basic set of necessary improvements, and facilitated reducing or mitigating restrictive elements.
- The mechanism was conceived as a turnkey approach, but for the sake of good governance was modified to remeasure payment. This created high costs of delivery with an inability to efficiently adapt to fluctuating funding levels.

A key aim of the mechanism was to achieve sustainable service delivery. To achieve this, in retrospect, it would have been advantageous to drive the effort not toward infrastructure development, but more effectively toward institutional development. Despite this weakness, the mechanism succeeded in short-term infrastructure provision as a stimulus to broader sectoral transformation.

Also, many of the services of local government are not revenue generating. In sum, the vision of developmental local government has proved to be incompatible with standard business models.

LESSON 7: SUBSTANTIAL AND PREDICTABLE FUNDING ARE CRITICAL, AS IS CAPACITY TO MANAGE IT

The politicians followed up on commitments by obligating significant funding for improving water services from the national budget. These flowed as capital, as well as operating grants from national to implementing institutions. After 2000, the 33 treasury funding went directly to local government. The increase in transfers to local government (or those acting on behalf of the local government) was rapid: \$0.7 billion to \$7.3 billion at constant 2016–2017 prices. This is an average annual increase, in real terms, of 17 percent per year.

Urban municipalities also have a proven record of raising their own revenue: Metros are only reliant on operating transfers for 13 percent of their revenue and small towns for 34 percent. On the other hand, combined districts and local municipalities in rural areas are 60 percent reliant on operating transfers. Considering capital funding, Metros raise 50 percent of their needs, while more rural municipalities only raise 10 percent.

Looked at from the point of view of access to infrastructure—separated from the extent to which it remained operational—the rapid rollout of water supply and sanitation services over the past 20 years has been driven by the high and consistent levels of transfers the state has allocated to municipalities. But, the past two decades also show that delivery can be negatively affected when new capital grants are given to institutions without an assessment of proven capacity. While the large urban Metros and secondary cities have demonstrated the capacity and resources to implement the new Municipal Infrastructure Grant without delays, this was unfortunately not the case for many smaller and rural municipalities, with subsequent negative implications. Progress was extremely slow, and in some of these areas not all the allocated funds were spent. Many actors interviewed for this study hold the opinion that in such areas it would have been better if DWAF was still responsible for implementation. The lack of attention by the state to building the capability of rural municipalities, either acting on their own or with partners, is arguably one of the biggest failings of the South African state.

LESSON 8: WATER SUPPLY SERVICE DELIVERY BEGINS AT THE SOURCE

Water supply and sanitation services are totally dependent on sufficient water resources—this is especially true in a dry country like South Africa. As background to the precarious water resource position, it is relevant to note the following summary from the second National Water Resource Strategy (NWRS2)⁴³:

“South Africa has low levels of rainfall relative to the world average, with high variability and high levels of evaporation due to the hot climate.... South Africa is the 30th driest country in the world and has less water per person than countries widely considered being much drier, such as Namibia and Botswana. The variable rainfall distribution and characteristics give rise to the uneven runoff and distribution of water resources across the country.... Water runoff is thus

⁴³ RSA, DWS. (2013a). *Republic of South Africa national water resource strategy 2*.

highly variable and unevenly spread in space and time. There is well-developed infrastructure...in South Africa, including 350 dams that belong to the DWA and a number of large-scale inter-basin water transfer schemes.

“However, many parts of the country have either reached or are fast approaching the point at which all the financially viable freshwater resources are fully utilized and where building new dams will not address the challenges. There are also backlogs in the maintenance and rehabilitation of water infrastructure. Despite good infrastructure, floods and droughts are part of the normal water cycle and water restrictions and flood management are a critical part of the water business. Many parts of the country are fast approaching the point at which all of the easily accessible freshwater resources are fully utilized.”

Realizing that “water is a significant constraint on South Africa’s development potential,”⁴⁴ several water experts and researchers have lately issued warnings based on their research such as, “If demand for water continues to exceed supply, then water resources in South Africa will be continuously over-exploited. This has serious consequences on...the reliability of water supply for human consumption.”⁴⁵ Water resources have been put at risk because of strained governmental capacity to manage, the loss of technical skills in relevant authorities, and delays in infrastructure. The following lessons demonstrate that the systems, plans, and strategies to address SDG Targets 6.1 and 6.2 can only be sustainable if data, capacity, and solid planning are applied to water resource strategies and goals.

SOPHISTICATED PLANNING FOR WATER RESOURCES NEEDS DATA AND SHOULD PROCEED INFRASTRUCTURE PLANNING

It was imperative for South Africa to recognize the situation described above. DWS did so by taking all the necessary steps to assess current and future demand for water and plan for augmentation projects to ensure that no water shortages are experienced. This planning process is summarized in the NWRSS2 as follows:

“The availability of water is estimated using sophisticated techniques for analyzing and interpreting the extensive body of hydrological information available in South Africa. These techniques are supported by world-class mathematical models capable of representing even the most complex of the national water resource systems. Of particular importance is the analytical capability to account for the large variability in hydrological conditions in South Africa, as reflected in the range and changeability of climatic conditions across the country, as well as the possible impacts of climate change. A powerful attribute of these planning tools is the ability to model combinations of future growth and hydrological conditions in a large river system using probabilistic approaches. In this way, the risk of unacceptable shortfalls occurring, with significant social and economic consequences, can be minimized.”

By investing in data collection and management, and then using those data in locally created water resource models, South Africa has ensured that sufficient water will be available across the country to

⁴⁴ Hedden, S., & Jakkie, C. (2014). *Parched prospects: The emerging water crisis in South Africa*.

⁴⁵ Ibid.

sustain social and economic growth through the well-conceptualized implementation of water resource infrastructure.

PROPER PLANNING FOR URBAN CENTERS INCLUDES RESOURCE AVAILABILITY AND MANAGEMENT

About two-thirds of the South African population currently live and work in urban areas, growing at approximately 5 percent per annum. Some 80 percent of the GDP is produced in cities and towns. Their well-being is thus vital to the national economy, to meet the basic needs of the poor, and to sustain the environment.

To address the detailed planning needs of urban centers, Reconciliation Strategies have been developed to inform water resource investment and management decisions for all large systems supplying areas of major economic importance. Specific cities and towns not included in the large systems were addressed in All Towns Strategies. The conclusion made in the NWRS2 is, “The All Towns Strategies showed that, in most cases, water supply deficits are not the result of water resource shortages, but rather of poor water supply management. The water resource situation for all towns indicated that 30 percent of towns are currently in deficit and therefore require immediate intervention.”

IDENTIFY SPARE SYSTEM CAPACITY TO ENABLE QUICK WINS

The well-developed water resource infrastructure and strong Water Boards in a selection of urban areas ensured sufficient available water in many parts of the country. Identification of spare capacity and even surplus in some systems enabled a series of quick-win projects in the Golden Era. These were possible in areas where water supply and sanitation improvements could be rolled out by simply tapping into existing raw water supplies or bulk potable systems. Expansion of bulk systems did not stay ahead of use, and by 2015 most bulk systems were stretched to the limit.

LESSON 9: INVEST IN MONITORING EARLY AND CONTINUOUSLY

Continuous monitoring of progress in water supply and sanitation was a key component of the South African system. A detailed national baseline assessment was conducted to determine the status quo, the needs, and where the highest priority needs and opportunities were. This investment was essential to both plan and monitor progress. The baseline assessment was coupled with GIS maps of the country, including even the smallest settlement and tiniest village.

South Africa’s progress is nationally monitored by Parliament, the Presidency (National Outcomes), DWS, Statistics South Africa (10-Year census and an annual sample household survey), the South African Human Rights Commission, CSOs, and through extensive public media outlets.

The MDGs perverted the focus of monitoring by establishing the determinant of success as the number of taps and toilets. Most countries, South Africa included, succumbed to this lure. Too few held a long-term vision of the role of systems in sustainability. In a way, South Africa became the victim of its own success. When South Africa reached its water-related MDG target ahead of time, the focus shifted to “counting taps.” This was driven, as in many other countries—including the United States—on the need to account for expenditure and to be able to ascertain future delivery costs and associated budget requirements. This focus on measuring delivery of infrastructure for achieving the MDGs extended

across the board, with the negative consequences of insufficient understanding of and attention to the essential need for building institutions and systems for operating and managing infrastructure.

MAKING DRINKING WATER QUALITY MONITORING WORK

DWS has the task to monitor the performance of all water service institutions. One of the key elements in this mandate is the regulation of drinking water quality, because safe drinking water is so important for the health of the nation and is part of the SDG target for drinking water. To fulfill this mandate, the Blue Drop (BD) certification process was launched. Unfortunately, traction has been lost in this area because this internationally acclaimed initiative ground to a halt with the distribution of the 2012 BD report, the last to be published and publicly released. There is a 2014 BD Executive Summary Report available on the DWS website, but the public cannot get access to information from the specific municipality as was the case up to 2012.

Blue Drop (BD) and Green Drop (GD) Reports

BD reporting was introduced as a regulatory tool to monitor, report on, and reward drinking water quality. The GD reports served a similar purpose with regard to wastewater treatment. The objective was to establish incentive-based regulation that promoted best practices and achievements. Analyses in a BD report were based on scores for drinking water quality compliance, water safety planning, sampling and monitoring, management, and asset management. Analogous analyses were used to establish GD scores. A score of 95 percent or higher earned a system the prestigious BD or GD award.

BD and GD reports were published from 2009 to 2012. During this period, the national BD score improved from an average of 51.4 to 87.6 percent. The 2012 BD report presented findings from an audit of 931 water supply systems and 831 wastewater plants. Those interviewed for this study indicated that political interference may have played a significant role in stopping BD and GD reports, because their findings could be interpreted to reflect badly on some poorly performing municipalities.

PRACTICAL MONITORING OF SUPPLY AND FUNCTIONALITY

It is of little value if taps are provided, but regularly run dry and the citizens revert back to unsafe sources. Often the poor suffer the most in this scenario, because they must either use free, unsafe sources or buy water at high rates from unscrupulous and opportunistic water vendors. In the annual GHS, Statistics South Africa measures the reliability of municipal supplies, as well as consumers' perception of their quality, and publishes the findings by administrative geography. The most recent findings extracted from the 2014 GHS published in May 2015 can be found earlier in this document.

LESSON 10: ACTIONS MUST BE DEFENSIBLE TO PUBLIC SCRUTINY AND LEGAL CHALLENGE

FOCUSED COMMUNICATION ESTABLISHES SHARED UNDERSTANDING OF PRIORITIES AND OPPORTUNITIES

Communication with the public was given high priority in the Golden Era of the 1990s. Sector leadership recognized that it was important to bring all parties along with the lessons learned, priorities scoped, and investments made. They were also keenly aware that in South Africa, unclear or mixed messages by politicians and other implementers would create confusion. Best practice consumer-engagement systems, such as call centers, customer focus groups, and user platforms, were created in some of the better-performing municipalities (e.g., eThekweni Metro).

In one example of successful communication, the concept of progressive realization of the rights to water supply and sanitation was established in the RDP document along with clearly communicated short-, medium-, and long-term goals. These were phrased in 2003 as the “water ladder” in the SFWSS, and because this principle was widely and consistently communicated, it was widely accepted and helped focus investment planning.

INDEPENDENT RESEARCH VALIDATES ACTIONS AND STIMULATES INNOVATION

South Africa is fortunate to have a Water Research Commission (WRC) that funds water research on a wide range of topics. The WRC ensures the delivery of relevant research of international quality. Because it is self-sustaining (funded from water-use charges), it is independent and produces research that can help governments more confidently move forward in developing evidence-led policies and strategies. The WRC engages multiple stakeholders at national and international levels and supports thought leadership and best practices in the field of water and sanitation on an ongoing basis. Also, through its approach of building research and academic capacity as an integral part of the research, it has supported numerous post-graduate students to attain relevant qualifications and go on to provide capacity and competence within academia and the public and private sectors.

Several studies were completed during the MDG era that contributed to policy adaptation or amendments. A variety of tools, guidelines, and inputs into future regulations, as well as practical guidelines and handbooks were developed and support the sustainable delivery of water and sanitation services (see box). Full details of all such studies are available on the WRC website: www.wrc.org.za.

South African Good Practice Tools

Numerous state-of-the-art, evidence-led good practice guidelines and tools have been developed in South Africa, including:

- Water conservation and demand management guidelines, including those developed by South African Local Government Association (SALGA) in collaboration with DWS.
- Municipal water management good practices guidelines—developed by the Council for Scientific and Industrial Research.
- Proposed integrated water resource management plan guidelines for local authorities—prepared by WRC in collaboration with DWS.
- Wastewater risk abatement plan template—developed by WRC.
- Tools for sustainable sanitation, sludge management, and infrastructure asset management, capacity, and competence development—all prepared by WRC.

SYSTEMS STAND UP IN COURT

It is important that, when tested in court, policies and the implementation thereof can prove to be of good standing. Outcomes depend on what municipalities can prove in terms of the progressive realization linked to their financial ability. A case that drew wide national and global attention was the Mazibuko Case, named after the first of five Phiri residents acting as applicants. Residents in Phiri (a suburb in Soweto) opened a constitutional rights legal challenge against the installation of prepaid meters and for increased amounts of “free basic water” with the City of Johannesburg and DWA as the main respondents.

In 2008, the High Court ruled in favor of the applicants, but the City of Johannesburg immediately appealed the ruling to the Supreme Court of Appeals. The Supreme Court of Appeals' ruling in early 2009 satisfied neither party, and the case was then taken to the Constitutional Court, which ruled against the applicants in late 2009.

The case forced many changes in the City of Johannesburg's and national water policies, and acknowledged the concept of basic services as an entry level, the progressive realization of services, the right of municipalities to be financially viable, and the right to install prepaid meters, in particular. An important principle endorsed by the Constitutional Court was that government must set targets.

CHAPTER 3: BACK ON TRACK TOWARD THE SDGS

IMPLICATIONS OF THE SDGS

As part of the 2030 Agenda for Sustainable Development, the UN General Assembly has adopted 17 new SDGs, which include a goal (SDG 6) focused on water and sanitation (see Figure 8). This goal includes three targets on WASH that would be officially tracked globally by the WHO/UNICEF JMP.

The SDG targets are significantly more ambitious than the MDGs and include consideration of aspects of service such as water quality and management of fecal wastes. Another important shift in the SDGs is an increased focus on national monitoring systems and accountability platforms. Global monitoring initiatives, such as the JMP, should no longer duplicate or create new monitoring systems, but should be expected to build on and support national monitoring systems.

SHIFTS AND KEY CHANGES

The synthesis report of the Secretary General on the post-2015 sustainable development agenda⁴⁶ provides guidance in the way the new SDGs should be approached, and then sets out the approach for South Africa to follow:

“145. If we are to succeed, the new agenda must become part of the contract between people, including civil society and responsible businesses and their governments—national and local.

146. We must now embrace a culture of shared responsibility, one based on agreed universal norms, global commitments, shared rules and evidence, collective action, and benchmarks for progress. The new paradigm of accountability that we seek is...one of all actors—governments, international institutions, private sector actors, and organizations of civil society—and in all countries, the people themselves.

147. Such a model can only be built on national ownership, broad participation, and full transparency.”

FIGURE 8: SDG 6 AND ITS ASSOCIATED TARGET AREAS



⁴⁶ UN General Assembly. (2014). *The road to dignity by 2030: Ending poverty, transforming all lives and protecting the planet. Synthesis report of the Secretary General on the post-2015 sustainable development agenda* (Document No. A/69/700).

In this section, we look at the lessons from the previous chapter and characterize how they are being applied to support the successful realization of the SDGs by the South African water and sanitation sectors.

BACK TO BASICS: LEADERSHIP AND MANAGEMENT IN THE WASH SECTOR

In South Africa, the Constitution gives the responsibility for identifying optimal systems for water and sanitation service delivery to municipalities. Lessons learned have proven that many of the municipalities do not have the necessary capacity to meet these responsibilities and struggle to properly implement and manage their services. When moving toward the SDGs, the lessons from the achievements and challenging times suggest strongly that the institutional set-up does not need improvement. The need is to improve the performance of all water institutions—from DWS to Water Boards and municipalities. The most important lesson is the clear and urgent need to have the right skilled people working in these institutions.

National sector management. The government needs to enlarge its support for moves toward the adoption of evidence-based policies and strategies and thought leadership. This includes ensuring “issue literacy,” requiring an understanding of individual, complementary, and laterally connected issues, as well as their potential unintended consequences of actions and activities.

Lessons from the MDG era also suggest a need to address the current sectoral fragmentation, especially within government, and to ensure that cooperative governance is in place and that all departments function in an integrated (as opposed to vertical) manner and are held accountable for their contribution to the overall sustainability of service delivery. Lessons from other African countries suggest that this may be assisted by the formation of a national forum or body to coordinate system actors, rejuvenating consistency of action between government and citizens. Multi-stakeholder coordination would also assist DWS, which has lost a significant amount of its in-house technical expertise.

The Golden Era successes also emphasize the value of consistent and respected leadership in facilitating multi-stakeholder coordination. A number of short-term appointments at the Director General level in DWS over the last years have not been helpful in this regard. Renewed stability in leadership at DWS and strengthening its technical abilities would be major steps toward returning to when system actors engaged collaboratively in processes to think together in constructive and productive ways. This includes the ability to debate and engage in advocacy discussions and productive dialogue, suspend preconceptions, and actively listen and learn from each other.

Municipal sector management. Improved management at the municipal level is possible in South Africa, and would contribute significantly to solving many of the immediate problems. Typical core service management problems that can be solved and should be prioritized are a lack of metering information, limited information on how much water is used or wasted, wastage of water, high per-capita use, free basic water being provided far above the indigent level obligations, poor cost recovery, lack of proper maintenance and skilled operators, diminished attention to customer service, and low technical competency.

Because municipalities in South Africa are so varied, and the potential solutions locally specific, there is room for a differentiated approach to supporting municipalities. The understanding of these gained during the preparation of this document indicates that this could be achieved by categorizing

municipalities using relatively fixed characteristics such as historical legacy, socioeconomic vulnerability, capacity shortages, and inability by a municipal area to take command over its physical location. In this way, targeted capacity building could be provided, making full use of experienced local professionals, tools developed for the sector (presented earlier), and support to enable higher-category, better-performing municipalities to manage a clearly defined and coherent concentration of functional assignments, enabling a faster rate of development and good governance. With this support in place, the weaker municipalities would be “free” to concentrate on basic service delivery with far fewer demands on their limited finances and capacities.

GOOD GOVERNANCE IN THE WATER SECTOR

During the interviews conducted for this study, interviewees regularly expressed the opinion that corruption is endemic at the local government level. To turn this around, lessons from past successes suggest that the country desperately needs accountable political leaders, an end to acceptance of graft and corruption, and moral and responsible leadership from government and the private sector. One interviewee summed up the attitudes of many when she said, “Apart from individual criminals, there are no corrupt politicians without an enabling corrupt private sector. Unless there are private sector role-players willing to bribe and engage in graft, there are no opportunities for politicians.”⁴⁷ Some excellent strategic principles on governance were given in this regard in the NWRS2:

“Governance in the water sector has political, administrative, and economic dimensions and includes the activities of government as well as the interaction with water users and various stakeholders within the sector. Good water governance requires predictability, participation, transparency, equity, accountability, coherence, responsiveness, and integrated and ethical decision making.”⁴⁸

Some basic good governance actions that prevailed in the past and lessons suggest should be re-energized include:

- Redefine mandates, roles, and responsibilities to ensure that functionality and accountability are improved and maintained.
- In state-owned entities, professional staff should be allowed to carry out operational functioning, and governing boards should apply their strengths to broad-view governance, planning, and accountability.
- Adopt the flexible, adaptive management systems that proved so successful in maneuvering the sector through earlier challenging times toward clear objectives.
- Promote and implement a customer-focused model of management to ensure that services address citizen priorities related to human health, service delivery, the environment, employment, and social and political stability.

Small steps in creative governance can deliver large results, as illustrated by the following example from one of the highest-performing municipal service providers in the country (see box on the next page).

⁴⁷ Schreiner, B. (personal communication, 2016).

⁴⁸ Ibid.

Innovative Approach to Eliminate Personal Payment Arrears and Turn Non-Paying Customers Back into Paying Customers

“If an account becomes so high that the interest charges exceed the current month’s payment, customers tend to give up and stop paying. By offering a water amnesty, where customers who pay their current account in full and on time have one-twentieth of their arrears amount written off each month, eThekweni turns non-paying customers back into paying customers. Writing off debt with no conditions attached merely perpetuated the non-payment problem.”

—eThekweni Case Study
(see Annex A for the complete case description)

TECHNICAL SKILLS AND OUTSOURCING

Lessons from the past 20 years of sector achievement, as documented in the previous chapter, indicated that one of the most significant challenges South Africa faces moving toward the achievement of SDG Targets 6.1 and 6.2 will be ensuring that institutions responsible for service delivery have the needed technical and institutional capacity, or have the legal capacity to seek assistance through a public-public partnership, a public-private partnership, or delegation of responsibilities to another organization such as a Water Board or association of local government service providers.

The deficit of technical skills currently seen in government is notably different from their capacity during the Golden Era. In 2010, the government attempted to improve this situation by creating MISA as a separate business entity within DCoG. But, this has not yet attracted top engineers, marketers, or other specialists. MISA continues attempts to engage the private sector to support rural municipalities through regional management contracts. And, while this approach has demonstrated success elsewhere, in late 2016 it had not yet demonstrated success.

FINANCIAL VIABILITY OF MUNICIPALITIES AND WATER BOARDS

The right of the institution to be sustainable (and financially viable) is as important as the right of the individual. In practice this means, for example, that water consumers who have rights as individuals cannot merely demand more and more of a free water service as their right; while the service provider needs reasonable income to operate sustainably. This emphasizes the critical balance between rights and responsibilities that were the core of the Mazibuko Case discussed earlier.

Achieving a balance between the rights of users and providers requires far greater attention to affordability to both customers and authorities. The objective is to provide an optimal level of service while allowing service providers to balance their books without unsustainable transfers of resources from the central government. The billing and cost recovery in eThekweni Metro (see Annex A for the complete case study) is an example of best practice using innovative procedures to handle outstanding payments and turn non-paying consumers back into paying consumers (see box above).

A realistic tariff policy and payment for services over and above basic needs is essential for financial viability. The free basic water policy in South Africa has been shown to work only if the volumes are restricted to a basic level, there are sufficient payments by higher-volume users to cross-subsidize, and/or the equitable share allocation is used for its intended purpose.⁴⁹

⁴⁹ Muller, M. (2008). Free basic water—a sustainable instrument for a sustainable future in South Africa.

The biggest risk to financial sustainability in municipalities emerges from a situation where all water is regarded as free instead of just a basic volume. This has led in some areas to excessive use, wastage, and cash flow problems.⁵⁰

HIGHER PRIORITY FOR WATER RESOURCES

Around the world and in South Africa, a renewed focus on water resource data and planning is needed as a prerequisite for the realistic planning of water supply and sanitation services. Lessons from the past 20 years on South Africa confirm their value. Using robust, non-political data and models, decision makers are positioned to focus on solutions that are optimal uses of local water sources in the context of scenarios and tradeoffs.⁵¹

BETTER PLANNING AND ENFORCING OF GRANT CONDITIONS

As a significant step in support of achieving SDGs, the authorities within the South African National Treasury are moving to ensure that infrastructure capital grants are dependent on the presentation of a plan that demonstrates how the infrastructure will be operated and maintained in a sustainable manner. Planning of new local projects must take into account the work previously done in the All Towns Studies completed by DWS, as well as undertake proper feasibility studies to evaluate options. Planning reports are expected to be based on lifecycle costs and therefore avoid implementing projects requiring lower capital investments, but carrying unsustainable operating costs. The All Towns Strategies also showed that groundwater is a very important resource for towns and should be the first option for use instead of expensive water transfers. These reports provide opportunities for the extensive stakeholder transparency and engagement recommended above.

Care must be taken to ensure that increased spending on infrastructure does not create negative secondary effects such as alliances between politicians, officials, consultants, and contractors to build infrastructure that is not optimal to need, location, capacity, and financing. South Africa has seen situations where systems were designed and in some cases overdesigned to meet national standards that were not appropriate to a construction location. The government should continue to enforce the strict conditions of certain capital grants to limit risk and continue to improve regulations to better ensure a balance between quality of services and compliance with all standards.

OPERATION AND MAINTENANCE KEY TO SUSTAINABILITY

No SDG will be reached without investment in the skills and processes required for sustainable operation and maintenance of sector infrastructure. The required skills and processes are known widely, and they have been put into practice successfully in islands of success across South Africa. The substantial water and sanitation infrastructure developed over the past years in South Africa is an enormous asset for the country. A shift in talent and investment is needed from the current focus on adding new water supply and sanitation infrastructure to more attention to and reward for rehabilitation

⁵⁰ McKenzie, R., Siquelaba, Z. N., & Wegelin, W. A. (2012). *The state of non-revenue water in South Africa*.

⁵¹ In order to reach the SDGs, decisions must give equal priority to maintenance and rehabilitation of water resource infrastructure and to updated planning and implementation of augmentation projects.

and maintenance of existing infrastructure. Re-energizing the BD and GD reports to reward and promote excellence rather than political shaming would be a significant positive step.

HIGHER SERVICE LEVELS AND UPGRADABILITY

As South Africa continues to develop and urbanize, more people will continue to move into the middle class. This will be accompanied by their increasing demand for better services and higher service levels such as water in the home or a flush toilet. Service providers have shown the ability to make provisions for house connections of both sewerage and water supply that enable consumers to move to higher service levels that support hygienic and social progress, as well as full economic participation. The way eThekweni handled this is worth noting (see Annex A).

STEP UP REGULATION AND REPORTING

The role of the water services regulator will grow in importance as South Africa moves toward the SDGs. The new target indicators will focus less on access and more explicitly on the quality of water and sanitation services defined by terms such as “safe,” “safely managed water,” “reliability,” and “treatment of human waste.” These aspects cannot reasonably be monitored by statistical services through broad national surveys. Instead, a competent national regulator would best fill the role. This lesson was learned during the MDG era through the disconnect between the values and procedures applied by the JMP and locally developed national data sets. The two did not regularly agree.

Experience shows that the degree of independence of the regulator is important when assembling and presenting their findings and reports. The work of a regulator should be reliable, verifiable, and free from undue influence or misdirected manipulation. A study to guide developing nations on best regulatory models⁵² uses the term “Sound Regulation” to describe the essential principles of an able and capable regulator, such as clarity in the distribution of roles; a clear separation between functions of policy, regulation, and service provision; and autonomy; accountability; participation; transparency; and predictability.

South Africa is positioned to apply these criteria within DWS. To do so:

- DWS would separate its functions of policymaker, operator, and regulator.
- Reanimate the use of the BD and GD reports.
- Publish all regulatory reports regularly, completely, and transparently as technical reports without any form—or even perceived form—of external interference.

Ideally, South Africa would draw on the conclusions of multiple in-country studies and establish an autonomous regulator.

NATIONAL PLATFORM SHOULD REVIEW MONITORING REPORTS ON SDG PROGRESS

In the MDG era, South Africa knew where it was on the pathway to achievement and when the achievement was accomplished. That energy, focus, and shared understanding has waned and should be

⁵² Tremolet, S. (2010). *The regulation of water and sanitation services in developing countries*.

re-established on the road toward the SDGs. Over and above regular national monitoring, South Africa reports in the African region to AMCOW as the regional monitoring body on behalf of the African Union, and globally to the JMP of the UN and the Global Analysis and Assessment of Sanitation and Drinking Water process. What is currently lacking is a national platform where these reports are discussed and interrogated. Activating such a platform would eliminate the drudgery of the exercise and turn it into a principal tool for making decisions and plans in the direction of the SDGs.

The UN provides useful guidance on the establishment of national, regional, and global review processes for the SDGs⁵³:

“At all levels, review discussions should be public, participatory, broadly accessible and based on facts, data, scientific findings and evidence-based evaluations. The principal components might include:

(a) A country-led, national component for accountability: in the overall review process, this national segment, as that closest to the people, should be the most significant. It would be built on existing national and local mechanisms and processes, with broad, multi-stakeholder participation, including the presentation of national and local governments, parliaments, civil society, science, academia and business. It would establish benchmarks, review the national policy framework, chart progress, learn lessons, consider solutions, follow up and report thereon.”

⁵³ UN General Assembly. (2014). The road to dignity by 2030: Ending poverty, transforming all lives and protecting the planet. Synthesis report of the Secretary General on the post-2015 sustainable development agenda (Document No. A/69/700).

CHAPTER 4: CONCLUSIONS

South Africa met the MDG target for drinking water as early as 2005 and the sanitation target seven years later in 2012. Between 1990 and 2015, the South African WASH sector provided an impressive 24.9 million people with an improved water supply. During this same period, sanitation facilities were improved for an additional 22.6 million people. This report reflects in detail on the lessons that were learned during those two decades, which should serve as the foundation of the next rounds of judgments and actions that will carry the country toward the SDGs. Valuable knowledge was gained by interrogating and analyzing the later stages of the 25-year period to identify the ways in which the water and sanitation sector has lost its way and the realistic options the country has for setting itself back on track in the sector.

To get back on track, a number of multi-dimensional issues need resourced attention. The previous chapter of this report focused on those changes and shifts and the lessons South Africa has learned that make them possible and vital. This begins a back-to-basics program—especially on implementation, leadership, and management. Grasping these three topics was central to the Golden Era of water and sanitation and the achievement of the water MDG target. Moving toward the more complex SDGs, increased attention and more optimized funding are required to equitably blend access and sustainability to deliver functional systems instead of simply new infrastructure.

Thuli Madonsela on Good Governance

“Governance fails because of a deficit in ethical leadership. It fails because of an absence of rules and procedures. It fails when an entity or institution depends on one individual to uphold the ethics of the organization, rather than everyone in that organization taking collective responsibility to protect the integrity of that organization.

Ethics and governance do not necessarily fail because people make mistakes. Appointing someone or awarding a tender thinking you are following the rules could be a mistake.

It is what you do next that counts.

Do you keep on lying? Or do you privately admit that what was done was wrong, but publically say it was fine. These would be ethical failures.”

—Thuli Madonsela, former Public Protector speaking at an event organized by the Business Ethics Network of Africa (BEN-Africa)

Those who provided input to this report do not recommend significant changes to the institutional set-up, but do collectively agree that existing water and sanitation institutions should be brought together again in a process to improve the performance of all elements. The water and sanitation sector needs an open discussion and a robust debate on the ways in which it will cost-effectively address national needs, comply with national standards, and demonstrate once again the global leadership South Africans exhibited during the Golden Era and continue to demonstrate in places like eThekweni. The public desires and deserves to participate through instruments such as the dissemination and discussion of regulatory information and functionality reports.

This must not start with technology, infrastructure, finance, costing, revenue, or technical capacity alone—although each is a crucial component. The SDGs will be achieved in South Africa as a result of renewed levels of good governance in government departments, institutions, and entities at the local to national levels.

To end this chapter, we will qualitatively assess the WASH systems of South Africa against the components of USAID’s Local Systems Framework and provide thoughts on the utility of each component to analytic efforts of the type described in this document. The section is organized according to the “5Rs” presented in the framework document and the “new opportunities” USAID identified to make systems thought and action most relevant to current trends in international development.

SOUTH AFRICAN ALIGNMENT WITH THE 5RS

As South Africa moved from times of political turmoil to achieving the MDG target for drinking water, its leadership and implementers aligned well with the 5Rs of USAID’s Local Systems Framework. Rules were first enacted, which enabled resources to be invested. Relationships and roles were easily established, because both competence and sense of purpose existed at very high levels. The results were obvious. Until they no longer were. Unfortunately, South Africa also exhibited the inverse of simultaneous engagement of the 5Rs. The country witnessed their dismantlement. Results trailed off as resources were diverted elsewhere. The rules remained as did the formal roles. However, the breakdown in relationships that followed the misdirection of resources cripples the water supply sector to this day. The hope is that the vision of the SDGs can be the mechanism that reassembles the Local System. Time will tell.

RESOURCES: LOCAL SYSTEMS TRANSFORM RESOURCES—SUCH AS BUDGETARY ALLOCATIONS OR RAW MATERIAL INPUTS—INTO OUTPUTS.

When the “rules” were in place by the late 1990s, South Africa mobilized resources on a scale that had not been seen before in the country on a unique platform built of political will, governmental commitment, and technical competence. Cooperation was strong and every individual and organization became a resource focused on a sectoral solution. All actors were engaged as partners, and politicians acted on commitments by voting for significant funding for water and sanitation infrastructure. This Golden Era delivered the MDG target for drinking water.

When resources were pulled away from direct input to the WASH sector and dispersed through local government, the Golden Era was over. Large municipalities and secondary cities with the capacity and their own resources could continue the momentum. Smaller and rural municipalities failed to maintain acceptable levels of access and delivery as resources were dispersed across dozens of local and often political priorities.

ROLES: MOST LOCAL SYSTEMS INVOLVE A NUMBER OF ACTORS WHO TAKE ON VARIOUS DEFINED ROLES—PRODUCER, CONSUMER, FUNDER, AND ADVOCATE.

Through the Golden Era and less-than-golden era of the water supply sector, South African sector actors demonstrated great technical competence and professionalism. This included sector specialists and lay staff of municipalities. Water Boards were efficiently formed and operated to take on a range of tasks, and the private sector smoothly collaborated with the government to deliver and operate world-class infrastructure and services. High levels of water resource planning ensured regular supply to existing systems, and the knowledge to secure supply for new systems. Sophisticated planning prioritized investments and made execution of new works easier. Investments in dedicated monitoring units facilitated continuous and regular reporting and public communication. These roles remain, but are hampered by disconnections in resource allocations and changes in the rules of the sector.

RELATIONSHIPS: IN A SIMILAR FASHION, THE INTERACTIONS BETWEEN THE ACTORS IN A LOCAL SYSTEM ESTABLISH VARIOUS TYPES OF RELATIONSHIPS; SOME MAY BE COMMERCIAL, OTHERS MORE ADMINISTRATIVE AND HIERARCHICAL.

The Golden Era collegial relationships have become badly frayed. As other parts of the Local System became dysfunctional, relationships could not survive. As South Africa moves to get back on track toward achieving SDG Targets 6.1 and 6.2, the revitalization of these relationships will be a cornerstone of the necessary complex resolution of focus, priorities, and capacity. Fundamental changes and a “back-to-basics program” is needed to begin to re-establish the relationships that proved vital to sectoral leadership, coordination, and management. Professionals, politicians, and the public need to collectively rejuvenate the successful processes that produced constructive and productive outcomes and encouraged dialogue, listening, and learning.

RULES: AN IMPORTANT FEATURE OF LOCAL SYSTEMS IS THE SET OF RULES THAT GOVERN THEM. THESE RULES DEFINE OR ASSIGN ROLES, DETERMINE THE NATURE OF RELATIONSHIPS BETWEEN ACTORS, AND ESTABLISH THE TERMS OF ACCESS TO THE RESOURCES ON WHICH THE SYSTEM DEPENDS.

South Africa’s WASH sector Golden Era was launched and propelled by rules and regulatory action. Starting with a White Paper on Water and Sanitation (1994) that laid the foundation for legislation in the Water Services Act (1997), the National Water Act (1998), and a policy of “free basic water” to all households. Ironically, it was the justice-seeking policy of “free basic water” that broke the structure of the prevailing rules. The focus on equity was not matched by policies to constrain demand or develop sufficient water sources. This led to increasingly widespread supply failures, which resulted in fewer people having access to improved drinking water and created more service failures as access to physical infrastructure increased.⁵⁴ The rules broke down and the disappointments that followed the Golden Era were locked in place.

RESULTS: THE CONCEPT OF “RESULTS” IS EXPANDED TO INCLUDE MEASURES OF THE OVERALL STRENGTH OF THE LOCAL SYSTEM, AS WELL AS TRADITIONAL OUTPUTS AND OUTCOMES.

The MDG target for drinking water was met when the strength of the Local System was at its peak. As the system crumbled—by all measures—outputs and outcomes diminished. Some even turned surprisingly negative. The Local System for water supply and sanitation is no longer measured by the standards that delivered reliable water supply across the country. Keen observations in the coming few years of the status and strength of the necessary Local System will record the results of this next era of South African WASH sector development.

⁵⁴ Statistics South Africa. (2015a). *General household survey 2014, as published in May 2015.*

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ANNEX A: COMPREHENSIVE UTILITY MANAGEMENT—CASE STUDY OF ETHEKWINI WATER AND WASTE

(Author: Neil Macleod)

The eThekwini Metropolitan municipality came into existence in two steps. Following the municipal elections in 1996, the Durban Transitional Metropolitan Council, together with four local municipalities, came into being. The metropolitan council was responsible for the distribution and retail supply of water across the region. Umgeni Water continued to supply treated water in bulk to the metropolitan municipality. The wastewater treatment works were owned and operated by the metropolitan authority, whereas the sewerage collection infrastructure was owned and operated by the relevant local municipality.

In 2000, the area of jurisdiction of the municipality was increased by the addition of predominantly rural areas, responsibility for sewage collection infrastructure was transferred to the metropolitan municipality, and the local municipalities were disbanded.

This time of social, political, and governance changes created significant opportunities for the introduction of new ideas and approaches to the provision of water and sanitation services. The two-phase municipal restructuring process reduced the number of water service authorities from 38 to 1, and the number of mayors reduced to five in 1996 and then to one in 2000. At the same time, the supporting national acts were rewritten, and new policies guiding the provision of water and sanitation services were introduced at the national level.

At the municipal level, new organizational structures were introduced and widely differing organizational cultures had to be merged with some unintended consequences. A single set of bylaws, policies, and tariffs had to be developed and implemented for the entire municipal area of operation. eThekwini Water and Sanitation (EWS) is a water services provider in terms of the national legislation, responsible for providing water services, including policies and tariffs approved by the eThekwini Municipal Council (the Water Services Authority). EWS in turn has contractual relationships with other service providers.

A key contributing factor has been the political stability within the Municipal Council, with the first mayor serving for more than 15 years and the management team being largely unchanged for almost 20 years. The trust relationship between political policy makers and EWS management was soon re-established after the commencement of each five-year election cycle, which also resulted in effective service provision.

Prior to 1996, the metropolitan municipal area was institutionally disconnected as a result of Apartheid policies. There was little interaction with customers, high levels of payment in some areas, and no payment for services in other areas. The primary focus was on technology.

In 2000, the municipality had one million people with first-world water and sanitation services, one million people with poorly maintained and failing services, and one million people with no services. Non-revenue water ranged from 14 percent in the highly developed areas to more than 80 percent in the poorly maintained areas.

INITIATING CHANGE

National legislation requires the development of a Water Services Development Plan. This is an excellent concept, but its prescribed structure is of little use as a strategic plan to run a water services business. EWS developed a regular strategic planning and review process where a five-year strategic plan was developed by senior management of EWS and reviewed annually. Flowing from this guiding strategy, a set of business plans was developed together with three measurable key performance indicators for each manager.

Initial work by organizations such as Building Partnerships for Water and Sanitation and Water Dialogues resulted in an increased awareness of the importance of good customer relations management. Coupled with these customer management initiatives was the use of independent market surveys to measure performance and gauge the perceptions of customers concerning the performance of EWS.

In order to accurately set tariffs to recover the costs of providing water and sanitation services, the accounts for the provision of each of these services were ring fenced and audited independently. The tariffs were set to cover both operating and capital costs. As with most water utilities, the provision for depreciation is not yet sufficient to meet the current replacement cost. In EWS, the current replacement cost value is \$2.85 billion for water assets and \$1.92 billion for sanitation assets. The depreciation in the 2016–2017 fiscal year is \$15.2 million for water and \$14.25 million for sanitation. At an assumed average asset life of 50 years, it means the depreciation provision is 27 percent of what is needed for water assets and 37 percent for sanitation assets. All other costs are fully recovered.

It was apparent that providing water and sanitation services to rural and urban poor areas using traditional technologies was not affordable to either EWS or its customers. The need for innovation led to a research cooperation agreement with the local University of KwaZulu-Natal, where \$71,000 per year was paid to the university for undertaking applied water and sanitation research for an initial period of three years. This contract was extended for two further periods and now exceeds \$178,000 per year. This work has guided the implementation of new technologies and led to a better understanding of customer behavior and preferences.

Given the need for rapid change, it was necessary to create a culture of learning by doing, where mistakes were tolerated within prescribed levels of risk, as long as they were not repeated. To support this organizational culture change, a system of communication between the head of EWS and all staff was introduced, together with a system of rapid communication across a shallow organizational structure (six organizational layers for a total staff of 3,000 people).

AN APPROACH TO MANAGE EWS

As a result of the strategic planning process, it became clear that a number of areas of focus were repeated each year: customer management, revenue management, human resource management, asset management, and new infrastructure management.

CUSTOMER MANAGEMENT

Happy customers are paying customers, so everything possible was done at EWS to ensure that customers were happy with the services they received. Communication with customers is a two-way

process so that they feel their views are being taken seriously and have an impact on decision making. A customer-centered approach is the key focus of doing business at EWS.

To this end, customer focus groups and user platforms have been created to give customers opportunities to regularly engage with EWS on an open agenda. Initially, civil society viewed these interactions with a degree of suspicion, but certain significant interventions, such as an agreement to increase the free basic water quantity for poor families from 6 cubic meters (m³) per month to 9 m³ per month, had a positive impact on the process. The initial free basic water amount had been calculated in 1997 on the basis of an average poor family size of 8 people using 25 liters each per day. When the free basic amount was increased in 2008, it was based on an average poor family size of 6 people using 50 liters per person per day. Submissions by civil society to the effect that 25 liters per person was insufficient to meet basic needs led to the discovery that the basic amount prescribed by WHO for people living in tropical climates is 50 liters per person and not 25 liters (the lower figure applies to temperate climates).

Managing external stakeholders (particularly politicians) and creating a safe space in which management can work is essential for success. This means treating the political decision makers as a board of directors and providing well-motivated reports to them, with options for consideration, so that decisions can be made on a well-informed basis.

REVENUE MANAGEMENT

The primary revenue management objectives in EWS are to remove any excuses for customers not to pay and to ensure that sufficient revenue is collected to cover expenditures in any year. Revenue collection by EWS has exceeded 100 percent for a number of years, because account arrears have been paid by customers in addition to their current billed amounts.

Removing excuses for payment meant sending out accounts monthly, based on accurate meter-reading information that is gathered by small businesses using hand-held devices fitted with a camera and GPS. These devices have the extra benefit of ensuring that meters are read and that queries can often be resolved without having to visit the meter a second time in a month. The target is to bill 98 percent of customers each month on actual meter readings, a target that is regularly met in urban areas.

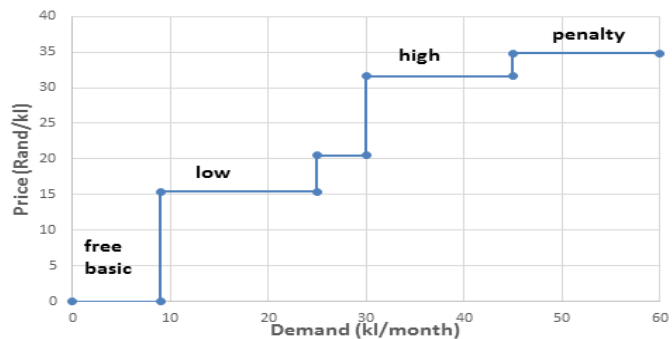
A new billing system has recently been introduced. A common complaint about the previous system was that it was often not easy to understand, especially when account adjustments were made.

To make customer access for queries and account payments easier, many different channels were introduced: easy call center access (toll-free using most service providers) with clear information and escalation procedures, electronic payment facilities, and the ability to pay at major food retailers and post offices.

Water and sanitation services are considered by EWS to be both economic goods and social goods. In the case of families who are unable to afford the full cost of a water or sanitation services, a case can be made for the access cost and the volumetric or consumption tariff to be subsidized for a basic level of service. For all other customers, recovery of the full economic cost of providing the service is justified.

Access to a basic water and sanitation service is provided at no cost to poor customers. This means access to a communal facility, a public standpipe, or a urine-diverting toilet. Defining who is poor can be a complex process, particularly if one wishes to ensure that it is fair and auditable. Using income as an indicator of wealth is difficult for people employed in the informal sector. Similarly, measuring family expenditure is a difficult task. EWS uses the property valuation system that derives data from the sale of every property as recorded in the title deeds transfer office of the state and updates it annually in order to raise property taxes. In the tribal authority areas where there is no formal tenure or registration of property values, the size of the house is used as a proxy for its value. Any family living on a property with a property tax value of R250,000 (about \$18,000 USD as of December 2017) or less, or a floor area of 50 square meters or less in rural areas where property values do not exist, is considered poor. The number of free riders has been found to be small and the cost of monitoring this system is zero to the utility.

To generate sufficient cross-subsidy to make basic service available to the poor, a combination, rising block tariff is used to charge residential customers. High-volume users pay the long-run marginal cost of the service for consumption above 45 m³ per month. All residential customers who use less than 25 m³ in a 30-day period are subsidized to varying degrees.



In order to deal with non-paying customers who have a constitutional right to free basic water and sanitation, a device called a flow limiter was invented by EWS to limit daily consumption to 300 liters per household in the event that an account is not paid. The use of these devices ensures access to water in a sustainable way and mitigates political pressure for a full reconnection of supply. For customers who are used to a larger daily consumption, it usually results in quick payment of the arrears amount to restore an unrestricted flow of water.

The sanitation charge is based on a percentage of the water flow assumed to go to the sewer. Families who are not connected to the sewage network do not pay a sanitation charge. The figure above illustrates the structure of the tariff for poor residential customers. Higher income families do not qualify for free basic services and pay volumetric charges from the first liter consumed.

The increasing block tariff structure for both water and, more recently, for sanitation that is used to charge residential customers, has had the effect of reducing the average monthly consumption of these customers from 30 m³ to below 25 m³ a month.

Innovative approaches were found to be part of the solution in cases where customers' accounts fall into arrears. If an account becomes so high that the interest charges exceed the current month's payment, customers tend to give up and stop paying. By offering a water amnesty, where customers who pay their current account in full and on time have one-twentieth of their arrears amount written off each month, it has been found possible to turn non-paying customers back into paying customers. Writing off debt with no conditions attached merely perpetuated the non-payment problem.

Similarly, high water accounts resulting from undetected underground leaks can cause financial hardship, particularly to poor families. EWS introduced an insurance program underwritten by a private insurance company. For a nominal payment, domestic customers can insure themselves against these high water accounts and thereby ensure continued access to an unrestricted supply of water.

HUMAN RESOURCE MANAGEMENT

Human resource management will ensure that the organization has competent key staff in place for now and for the future, with staff appointed in ways that avoid nepotism and ensure appointment of the best-qualified people. This is done through talent management processes and regular reviews of the organizational structure to ensure that it supports the achievement of strategic objectives.

Retaining institutional memory has been a challenge, given that most management team members are relatively young and a large number of retirements took place in the early years of the metropolitan era. A constant theme in terms of organizational behavior has been the need to reinforce the values of customer focus and integrity.

ASSET MANAGEMENT

Moving from a reactive approach to asset management to a strategic, risk-based approach has proven to be difficult and remains unfinished business. Given that the assets of EWS derive from 38 different organizations and that record keeping was very poor in many instances, there remain assets about which nothing is known.

Because of political resistance to dealing with illegal connections, predominantly in poor and rural areas, the level of non-revenue water has risen considerably during the past few years. It is currently estimated that there are 70,000 illegal connections out of a total of more than 900,000 customers. These illegal connections contribute significantly to the non-revenue water value that is approaching 40 percent. The tribal areas known as the *Ingonyama* trust areas are particularly problematic, because there are no formal development planning regulations being enforced in those areas and so houses are built without formal approval and often connected illegally to services.

On the positive side, almost 2,000 kilometers of aging pipe network has been replaced and this contributed to a reduction in non-revenue water that was large enough to reduce the total demand on Umgeni Water (the bulk supplier) for a number of years.

NEW INFRASTRUCTURE MANAGEMENT

EWS has extended basic water services to more than 1.3 million people and basic sanitation to more than 700,000 people. The unequal provision of water and sanitation services has its origins in the reluctance of policy makers to approve sufficient funding for the provision of sanitation infrastructure, primarily during the period when the responsibility for sewerage reticulation rested with local councils.

Infrastructure solutions have to be affordable and sustainable (financially, environmentally, and socially). In current terms, it would cost EWS \$4.27 billion to sewer eThekweni using conventional reticulation and sewage treatment works. It was agreed that off-grid sanitation solutions would be offered to customers living in areas where development was less dense, with traditional piped sewer systems being constructed in sufficiently dense areas. This resulted in the creation of a “waterborne sanitation edge.”

Although ventilated improved pit latrines are specified as the basic level of sanitation in the national policy, managing them in dense settlements is challenging, because an emptying program is needed. Urine-diverting toilets were seen by EWS as a way forward. Separating urine and feces makes management much easier: 90,000 urine-diverting toilets were constructed in areas that were appropriate in terms of location and population density.



Providing water and sanitation to dense and often temporary shack settlements led to the development of communal ablution blocks. The initial attempts at these failed after a few months due to vandalism. Subsequent customer surveys showed that people living in these dense, poor settlements saw the toilet as a place of refuge to escape family members, read, meditate, and sing. They wanted a facility that was clean, safe to use, and sufficiently well lit to enable them to read. By providing lights and toilet attendants to keep the communal facilities clean, acceptance increased to 85 percent in a subsequent survey and vandalism is now limited to the occasional intoxicated user. These ablution blocks continue to operate after many years.

EWS offers a number of service level options. Entry-level services for water include a water tanker service, communal facilities at ablution blocks located on the periphery of dense shack settlements, and public standpipes within a 200 meter walking distance from any home. For sanitation, the entry-level services include communal facilities and urine-diverting toilets.

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