SITUATIONAL ANALYSIS OF WATER SERVICES PROVISION IN SOUTH AFRICA – ESTABLISHING FUTURE STRATEGIES FOR CONSIDERATION BY MUNICIPALITIES

Report to the
Water Research Commission

by

K Harris and A Vermeulen
P D Naidoo and Associates
Johannesburg

WRC Report No. 1812/1/10
ISBN 978-1-77005-985-6

MARCH 2011

EXECUTIVE SUMMARY

Problem statement

Currently South African water services authorities (WSAs), i.e. those municipalities tasked with governance of water and sanitation provision, and water services providers (WSPs), i.e. those organisations or individuals tasked with the actual provision of water and sanitation on behalf of the WSA, face numerous challenges in providing sustainable services. This is because of reasons including enormous services backlogs; scarcity of technical and other skills; aging and deteriorating infrastructure asset base; non-alignment of political will with technical priorities; and an inability to always maximise cost efficiencies through benefits of scale and scope.

This difficult and complex situation is exacerbated by the fact that WSA decisions to set up institutional arrangements are guided by legislation that is onerous, and that articulates a decision-making process, but does not provide sufficient guidance on content and configuration of institutional arrangements, or a rationale for choosing one arrangement over another.

Furthermore, institutional arrangements are viewed in terms of whether they are "centralised" or "decentralised". However, these terms are used loosely and, since all water services provision takes place within a decentralised governance framework, they are sometimes misleading in their application.

Research objectives

Against this background, the Water Research Commission (WRC) commissioned this study in order to assist WSAs to make well-informed decisions regarding an appropriate institutional arrangement (centralised or decentralised) for its water services provision; and to assist national government to better align policy, legislation and implementation guidelines to support such institutional arrangements.

Methodology

The study used a literature review to provide the international context and to get a sense of lessons emerging in other countries. It indentified key challenges facing water services provision. It used four institutional arrangements case studies to provide in depth insights into a range of current services provision institutional arrangements, and it engaged with sector role players and processes.

Findings and recommendations

The study presents a range of findings and recommendations. They are summarised in some detail as follows:

Terminology

The terms "centralised" and "decentralised" to describe institutional arrangements for water services provision in South Africa either do not take account of South Africa's decentralised institutional framework, or the terms are assumed (by some) to refer to operational (technical) decentralisation only. Because this is not made explicit, the same institutional arrangement may be described differently by different practitioners or in different contexts – generally dependent on the perspective (vantage point) of the observer.

A more useful way to describe an institutional arrangement is in terms of whether its water services provision functions (or functional areas) are "consolidated" or "non-consolidated" (than to describe them as "centralised" or "decentralised"). It is a more accurate description. And it enables comment on the "mix" (i.e. the degree to which functional areas are consolidated within the water services provision institutional arrangement, or not).

RECOMMENDATIONS
1. The terms "centralised" and "decentralised" should be used in South Africa only within the context of the decentralised institutional framework and, if used, should specify application to operational (technical) responsibilities only.
2. It is preferable to describe institutional arrangements for water services provision in respect of WSP functional areas; and to use the terms "consolidated", "non-consolidated" or a "combination" of both.

Problems presented by the South African decentralised governance framework

The following problems (among others) have been caused by the South African decentralised governance institutional framework:

- Loss of potential for economies of scale.
- Reduced potential for cross subsidies.
- Lack of incentive to protect watersheds and control water pollution.

Functions deemed necessary to always centralise at national level

Some functional areas typically always belong at centralised level. These include:

- Policy development.
- Enabling environment.
- National regulation and oversight.
- Support.

RECOMMENDATION
If the decentralised governance framework for water services provision does not serve South Africa well in terms of water resource scarcity, then management of water could be re-conceptualised to include both integrated water resources management and water services provision on a catchment based geographical scale. This would require a Constitutional amendment, and could include setting up water authorities based on both catchment boundaries and the relationship between catchments (e.g. the Thukela and

Upper Vaal Catchments – because of major transfers). Such water authorities would be responsible for all water management within their areas, and could include the appointment of WSPs.

Benefits of scale and scope

Whether in terms of spreading scarce skills over a larger geographical area and range of functions, or greater buying power, or synchronizing information technology (IT), records, planning and other systems, the point is that geographical scale and functional scope are inextricably linked, and every opportunity must be made to maximise benefits presented by scale and scope.

However, a point less obvious is that economies of scale and scope are offset by the "cost of complexity" of the institutional arrangement, and a balance between the two must be found if a successful arrangement is to be put in place.

RECOMMENDATIONS
1. Every institutional arrangement for water services provision must always seek to maximise benefits of scale and scope, while factoring in the "cost of complexity".
2. Further research is required to define and explore issues related to "cost of complexity".

Factors influencing choices around consolidation or non-consolidation of functional areas

An analysis of the four institutional arrangements case studies enabled a picture of which functional areas are more effectively performed at a consolidated level (for benefits of scale and scope) within an institutional arrangement, which at a non-consolidated level, and which in some combination or mix.

The following groupings of functional areas are therefore offered as a guide in making decisions regarding institutional arrangements:

1. Functional areas best consolidated within an institutional arrangement include human resources (in terms of application of scarce skills); accessing funds; procurement; infrastructure asset management (IAM) and augmentation; alignment of planning; water resource management.
2. Functional areas best non-consolidated within an institutional arrangement, but supported by consolidated auxiliary services include optimising operations; consumer engagement and communication.
3. Functional areas met equally well either within a consolidated or non-consolidated institutional arrangement (or do not have relevance for meeting the water services provision challenge) include water services quality; communication within and between the WSA and WSP.

In addition, auxiliary services should always be consolidated to ensure benefits of scale and scope. These include supply chain management; call centre; meter reading, billing and revenue collection; laboratories for water quality testing, analysis and monitoring; stores for materials; workshops where components of the supply system can be produced or customized; equipment management; and health and safety installations on works' sites.

In order to arrive at a sound decision for an appropriate institutional arrangement functional areas are proposed as the most useful starting point, and that answers to the following questions will provide guidance to WSAs:

1. What are the functions to be undertaken / challenges to be met?
2. What combination of consolidated, non-consolidated or a mix of the functional areas is most likely to address the challenges?
3. Are benefits of scale and scope being maximised?

RECOMMENDATIONS
1. Water services provision functional areas must be used as a basis for decision making for water services provision institutional arrangements – in the context of ensuring benefits of scale and scope.
2. In deciding on the precise nature of the proposed institutional arrangement, start with what practical realities exist, work with and build on successes, and improve over time.
3. Sound business principles must always guide decisions.

Service delivery components as overriding challenges

Service delivery has three primary components, all of which must be well-understood and well-resourced in order for effective water services provision:

- Infrastructure.
- Skills.
- Systems and structures.

RECOMMENDATIONS
1. Use examples of good practice to find ways to attract, build and maintain skills at a consolidated level within the chosen institutional arrangement.
2. Further research into the range of water services provision systems and structures for WSPs – what they are, current problems in inadequate systems, and how improved systems might support sustainable water services provision.

Municipal politics and managing water services as a business

There is a critical success factor that has nothing to do with whether an institutional arrangement is consolidated or not – that councillors understand and support the water services business, and enable effective operations through sound decision making. In fact, this is as important as deciding on the mix of consolidated or non-consolidated functional areas, or resourcing the service delivery components mentioned above.

Another key issue is that the drawing of WSA boundaries has been political and not catchment-based. This will always present a challenge with respect to water services provision, and stand in the way of obvious benefits of economies of scale and scope.

RECOMMENDATIONS
1. Politicians hold themselves accountable in understanding the water services business to enable sound decision making based on good business principles and the most pressing water services challenges.

2. Further research into what it means to get the political accountability / technical responsibility balance right, and how this might be achieved.

Conclusions

The research draws the following conclusions:

1. It is important that the South African water services sector explores issues of "centralisation" and "decentralisation" in a much more nuanced way, and within the decentralised institutional framework for water services provision.
2. Institutional arrangements for water services provision in South Africa may be described as "more consolidated" or "less consolidated" in terms of how functional areas within the institutional arrangement are configured. They will generally be a mix of consolidated and non-consolidated functional areas, supported, as appropriate, by consolidated auxiliary services.
3. Most challenges are better met within a more consolidated institutional arrangement, but even those which are best met within a less consolidated arrangement require consolidated support from auxiliary services for optimised functioning.
4. All institutional arrangements should be viewed as context specific, guided by the needs of the functional areas and challenges as presented at the time of the section 78 assessment, and by opportunities for benefits of scale and scope.
5. Politicians have a responsibility to understand the water services business, and to enable sustainable water services provision through whatever institutional arrangement they have chosen for their WSA.
6. The link between integrated catchment management and water services provision needs to be further explored and developed in terms of the institutional realignment and reform process.

Opportunities for further research

The following opportunities for further research are presented:

1. Broadening current research to include a greater range of case studies.
2. Finding new ways for useful comparative analysis of WSPs.
3. Political accountability vs. technical responsibility.
4. Guidance for appropriate section 78 assessments.
5. LED and community-based service providers.
6. Water services provision systems and structures.
7. Lessons from the electricity sector.

Concluding comment

It is envisaged that this study will contribute to the ongoing debate on sound decision making for appropriate institutional arrangements for water services provision in South Africa.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge the Water Research Commission (WRC) for funding the research, and the Reference Group, constituted by the WRC, who provided valuable guidance in shaping the focus of the research:

- Antonino Manus (Department of Water Affairs)
- Gift Manase (Council for Scientific and Industrial Research)
- Jacqueline Nel (Department of Water Affairs)
- Jay Bhagwan (Water Research Commission)
- Jean de la Harpe (IRC International Water and Sanitation Centre)
- Kathy Eales (consultant)
- Khumbu Zuma (The Mvula Trust)
- Laïla Smith (The Mvula Trust)
- Marlene van der Merwe Botha (consultant)
- Mike Muller (consultant)
- Nathi Fundzo (Department of Water Affairs)
- Peter Thompson (Umgeni Water)
- Rolf Kieck (consultant)
- Ronald Gillmer (uThukela Water)
- Victor Munnik (The Mvula Trust)
- William Moraka (South African Local Government Association).

Secondly, the authors are deeply indebted to Mary Galvin (Water Dialogues Coordinator) for in-depth engagement with this project, and for permission to rely on four Water Dialogues-South Africa case studies for background and contextual information. The four Water Dialogues case studies are available on www.waterdialogues.org:

- Water Dialogues Chris Hani Case Study (June 2009)
- Water Dialogues Maluti-a-Phofung Case Study (September 2009)
- Water Dialogues Ugu Case Study (June 2008)
- Water Dialogues uThukela Case Study (October 2008).

The following people are thanked for their time and for the information provided in interviews for each of the four case studies for this research:

Chris Hani District Municipality Case Study

- Jim Gibson, service provider, Maluti GSM
- Leslie Steele, researcher for Water Dialogues Case Study, independent consultant
- Makaya Dungu, Director: Engineering Services, Chris Hani District Municipality
- Mongezi Dambuza, Programme Manager, The Mvula Trust, East London
- Nobuhle Dyasi, Water Services Manager, Chris Hani District Municipality.

Maluti-a-Phofung Local Municipality Case Study

- Ann Mayher, researcher for Water Dialogues Case Study, independent consultant

- Basie Ungerer, Director: Infrastructure, Maluti-a-Phofung Local Municipality
- Chris van Heerden, Director: Corporate Services (formerly Commercial Manager), Maluti-a-Phofung Water (Pty) Ltd
- Karen van der Merwe, service provider: contract monitor for Maluti-a-Phofung Local Municipality
- Mark Armstrong, service provider (previously with Maluti-a-Phofung Local Municipality)
- Matete Mokoena, Human Resources Manager, Maluti-a-Phofung Water (Pty) Ltd (previously councillor for Maluti-a-Phofung Local Municipality)
- Nico Emmenes, Head: Operations, Maluti-a-Phofung Water (Pty) Ltd (previously with Sedibeng Water)
- Stewart Gibson, service provider: contract monitor for Maluti-a-Phofung Local Municipality
- Sylvia Tshivhumbe, former Chief Executive Officer, Maluti-a-Phofung Water (Pty) Ltd.

Ugu District Municipality Case Study

- Alana Potter, researcher for Water Dialogues Case Study, The Mvula Trust
- Cllr Ronnie Nair: Ugu District Municipality, Speaker: Hibiscus Coast Local Municipality and former Water Services Portfolio Councillor: Ugu District Municipality
- Johan van der Walt, WSA Manager, Ugu District Municipality
- Maxwell Pawandiwa, General Manager: Water Services, Ugu District Municipality
- Mthokozisi Ncube, WSP Manager, Ugu District Municipality
- Paul Watson, PMU Manager, Ugu District Municipality.

uThukela Water (Pty) Ltd Case Study

- Hannelie Hickly, Responsibility Centre Manager: Bulk Water, uThukela Water (Pty) Ltd
- Hennie Basson, service provider for wastewater plants and pump stations, uThukela Water (Pty) Ltd
- Mzisi Cele, Managing Director, uThukela Water (Pty) Ltd
- Mill Cromright, Responsibility Centre Manager: Wastewater, uThukela Water (Pty) Ltd
- Neels Francis, Service Centre Manager: Reticulation, uThukela Water (Pty) Ltd
- Rolf Kieck, service provider, Ceenex (former Director of Operations at uThukela Water (Pty) Ltd; and previously with uThukela Joint Services Board and uMzinyathi District Municipality)
- Ronald Gillmer, Executive Director: Operations / Technical Services, uThukela Water (Pty) Ltd.

Jean de la Harpe is thanked for her conceptual input to the research methodology in providing support to the articulation of the research questions and the analytical

framework; as well as discussions regarding the decentralisation framework for water services provision in South Africa.

Jim Gibson and Rolf Kieck are thanked for their practical and constructive insights based on years of hands-on engagement with establishing institutional arrangements for water services provision.

Kribbs Moodley, Shaun Ramsurap, Mosabala Lipholo and Takalani Sidimela from PD Naidoo and Associates are thanked for their helpful critique and engagement with the research.

Documents generated in the course of this research are listed at the end of the report (following section 10: Bibliography, and are appended to this report on the CD attached to the inside back cover.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACRONYMS

BIG	Bulk Infrastructure Grant
BOT	build-operate-transfer
BoTT	Build, operate, Train and Transfer
CAPEX	capital expenditure
CBO	community-based organisation
CEO	Chief Executive Officer
CoGTA	[Department of] Cooperative Governance and Traditional Affairs (ex-dplg)
CSP	community service provider
CWSS	Community Water Supply and Sanitation
DBSA	Development Bank of Southern Africa
DM	District Municipality
dplg	Department of Provincial and Local Government (now CoGTA)
DWA	Department of Water Affairs (ex-DWAF)
DWAF	Department of Water Affairs and Forestry (now DWA)
EDI	electricity distribution industry
EHP	Environmental Health Practitioner
ES	equitable share
FBW	free basic water
IA	implementing agent
IAM	infrastructure asset management
IRC	IRC International Water and Sanitation Centre
ISD	institutional and social development
IT	information technology
JSB	Joint Services Board
LED	local economic development
LGHTA	[KwaZulu-Natal] Department of Local Government, Housing and Traditional Affairs
LM	Local Municipality
MaP Water	Maluti-a-Phofung Water (Pty) Ltd
MEC	Member of the Executive Council (provincial parliament)
MFMA	Municipal Finance Management Act (Act 56 of 2003)
MIG	Municipal Infrastructure Grant
NGO	non-governmental organisation

O&M	operations and maintenance
PFMA	Public Finance Management Act (Act 1 of 1999)
PMU	Project Management Unit
PPP	public-private partnership
PSC	Project Steering Committee
RDP	Reconstruction and Development Programme
RED	Regional Electricity Distributor
RPL	recognition of prior learning
RSC	Regional Services Council
RWSS	Regional Water Services Survey
SALGA	South African Local Government Association
SETA	Sector Education and Training Authority
SFWS	Strategic Framework for Water Services (2003)
SMME	small, micro and medium enterprise
SP2030	uThukela Water Strategic Plan
SSA	Support Services Agent
TLC	Transitional Local Council
uThukela Water	uThukela Water (Pty) Ltd
VWC	Village Water Committee
WRC	Water Research Commission
WSA	water services authority
WSDP	water services development plan
WSP	water services provider
WTW	water treatment works
WWTW	waste water treatment works

1 PROBLEM STATEMENT AND RESEARCH OBJECTIVES

1.1 Problem Statement

Water services authorities (WSAs)[1] and water services providers (WSPs)[2] in South Africa face numerous challenges in providing sustainable services. This is because of reasons including enormous services backlogs; scarcity of technical and other skills; aging and deteriorating infrastructure asset base; non-alignment of political will with technical priorities; and sometimes an inability to always maximise cost efficiencies through benefits of scale and scope.

This difficult and complex situation is exacerbated by the fact that WSA decisions to set up institutional arrangements for water services provision are guided by legislation that is onerous, and that articulates a decision-making process, but does not provide guidance on content and configuration of institutional arrangements, or a rationale for choosing one arrangement over another.

Furthermore, institutional arrangements are viewed in terms of whether they are "centralised" or "decentralised". However, these terms are used loosely and, since all water services provision takes place within a decentralised governance framework, they are sometimes misleading in their application.

1.2 Research Objectives

Despite challenges articulated in the Problem Statement, much good practice exists, and important lessons can be learnt to expedite future improved institutional arrangements.

The Water Research Commission (WRC) solicited a proposal from PD Naidoo and Associates in August 2007 to undertake research with the following primary objectives:

- Assist WSAs to make well-informed decisions regarding an appropriate institutional arrangement (centralised or decentralised) for its water services provision; and
- Assist national government to better align policy, legislation and implementation guidelines to support such institutional arrangements.

This research, therefore, provides a situational analysis of water services provision in order to assist WSAs to better understand their options and constraints for establishing appropriate institutional arrangements for sustainable water services provision.

---

[1] "Any municipality that has the executive authority to provide water services within its area of jurisdiction in terms of the Municipal Structures Act or the ministerial authorisations made in terms of this Act", Strategic Framework for Water Services (2003).

[2] Any person or organisation who provides water services to consumers or to another water services institution on behalf of the WSA.

2 BACKGROUND AND CONTEXT

2.1 Introduction

The previous section presented the problem statement and research objectives.

This section provides the background and context to water services provision in South Africa. It gives an overview of the institutional history of water services, as inherited from the previous apartheid regime, and how it has been reorganised; it examines water services provision institutional arrangements allowed for in South African legislation; it examines in some detail the challenges facing water services provision, and it concludes with current provision trends.

2.2 Institutional History of Water Services

South Africa is a water scarce country that receives about half of the world average rainfall. Rainfall is concentrated along a narrow coastal strip along the south and east coasts, with the rest of the country getting progressively dryer to the west. To add to this, many of the main population centres, and particularly greater Gauteng, did not develop close to major water sources. For this reason, the country has many water schemes that transfer large amounts of raw water between catchments to areas of economic activity. This complex infrastructure situation requires equally complex institutional arrangements to enable proper management of the infrastructure.

Before 1994, the then DWAF was responsible for water resource planning and development, and generally established regional water utilities (water boards) to manage large regional potable bulk water systems, although there were exceptions (notably the Cape Town and Port Elizabeth metropolitan areas). Municipalities did the distribution and supply to individual consumers. In different parts of the country, various types of institutional arrangements were established based on local conditions and needs.

In the former homeland areas pre-1994, management arrangements differed and the political changes from 1994 to 2003 brought about a suite of new legislation and rationalisation of institutions. In 1994, the 10 former ‘black’ homeland governments were amalgamated with four former ‘white’ provinces into nine new provinces. From 1995 to 2003, local government underwent major restructuring aimed at addressing the inequities of the past, rationalising the number and cost of institutions, and establishing a consistent system of local government throughout the country. In addition, new legislation brought a new way of doing public business, and reallocated functions.

From 2000 onwards a decentralisation framework was put in place for water services governance. The municipal re-demarcation of 2000 and the associated division of powers and functions that took effect in 2003 changed institutional arrangements for water services even further. Municipalities were now large geographical entities, consisting of a mix of urban, rural, commercial agriculture and mining areas. This significantly reduced the amount of regional water services schemes – that is, schemes that cross WSA boundaries – with implications for institutional arrangements.

Water boards were also restructured. In 1994, the areas of supply of some water boards were extended and three new water boards established. The main thrust behind this was to create additional capacity in areas with limited capacity. The regulatory framework for water boards changed with the rescinding of individual water board Acts, and the promulgation of the Water Services Act (No 108 of 1997) (which now applied to all water boards, and classified them as WSPs).

Constitutional negotiations (1992-1996) produced a relatively extreme form of decentralisation in South Africa (for political reasons unassociated with service provision). It was based on arguments such as the need for three equal "spheres" of government (national, provincial and local), each with its own constitutional responsibilities. Legislation therefore allows WSA to use any form of institutional arrangement(s). As mentioned in section 3.4.1 (Policy and legislation), the legislation gives guidance on process, but is silent on content and configuration of the proposed institutional arrangement.

2.3 Water Services Provision Institutional Arrangements

Since water services provision has been decentralised to local government, the WSA is responsible for the delivery of services and for ensuring that the most appropriate institutional arrangements are put in place for ongoing services provision. However the WSA may contract other entities to undertake the actual provision role.

There are a whole range of WSP institutional arrangements operating within South Africa, from options that cover an entire district area (and even multiple WSA areas) to individual CBO options that cover specific communities.[3]

The table below broadly articulates the full range of options allowed for in terms of South African legislation; noting that any given arrangement can be a combination of options:

Table 1: Range of WSP options allowed for in South African legislation

Arrangement	Features / Examples	Benefits / Limitations
Municipality as the WSP	**Features** This is an internal mechanism. This entails a services unit or department within a municipality, which is managed as part of the municipal management. The WSP function needs to conform to municipal procurement systems and financial requirements.	**Benefits** • Managed by the municipality. • Benefits directly from municipal grants. • Revenue stream can be easily used to cross subsidise non-revenue generating services. • Does not require contract management capacity or expertise related to procuring,

[3] The table is an abbreviated summary of that developed by Vermeulen, Abri and Takalani Sidimela (2008) pp 20-30. It was developed further by K Harris. And again by de la Harpe, Jean (2010).

Arrangement	Features / Examples	Benefits / Limitations
	Examples Cape Town and eThekwini Metros, municipalities with large urban cores such as Ugu DM, Buffalo City LM and Mogale City LM, and ones with medium to small urban cores, such as Saldanha Bay LM and Dihlabeng LM.	managing and monitoring external mechanisms. **Limitations** • Often lacks sufficient management and operational capacity. • Limits external investment.
Another municipality as WSP (bulk and / or reticulation)	**Features** A contract is put in place between the WSA and the other municipality as WSP which clearly defines the obligations of the two parties. **Examples** Many examples, mainly brought about by the changes to powers and functions implemented in 2003. The most common example is where the DM is the WSA, and it appoints one or more LMs in its area to continue providing reticulation services to mostly urban areas. Examples are Chris Hani DM (in parts of its area of jurisdiction), Mopani DM, Sekhukhune DM and Amathole DM.	**Benefits** • Utilises WSP capacity of another municipality to provide services in the area of the WSA. • Utilises existing public sector staff. • Cost efficiencies for both municipalities can be achieved. **Limitations** • WSA must have capacity to enter into contract and properly procure another municipality to provide the services. • May be difficult to properly monitor and regulate.
Municipal utility as WSP	**Features** Established by the WSA and in terms of local government legislation. The WSA is both shareholder and contracting agency. The WSA usually retains ownership of the infrastructure and responsibility for capital expenditure, but contracts out the management and control of the water services works to the WSP (utility). The contract outlines the rights and obligations of the WSA and	**Benefits** • Reduced cost of water provision. • Risk transfer. • Procurement exemptions related to contracting a public rather than a private entity. • Utility can act as collection agent on behalf of the WSA and may accept collection risk. • Brings in operational expertise towards becoming technically and commercially viable. • Sharing of overhead costs should make water services provision cheaper for both the

Arrangement	Features / Examples	Benefits / Limitations
	WSP in respect of operating conditions (such as water quality, quantity and pressure), modification and rehabilitation of the existing facilities (to be financed by the WSA) and standard provisions in relation to record keeping, handing over of the network, personnel, the transfer and assumption of risk and the provision of insurance in respect thereof. **Examples** Maluti-a-Phofung Water, Johannesburg Water and ERWAT (although ERWAT was multi-jurisdictional when it was established).	WSA and the utility. **Limitations** • Risk in respect of the assets and the responsibility for maintenance and capital development remain with the WSA. • Unlikely that employees in the WSA would be transferred to the WSP – particularly if the term of the contract does not justify this. A secondment or a complex relationship in which the WSP manages the employees of the WSA is more likely.
Multi-jurisdictional utility as WSP	**Features** An important element of this option is that WSAs are both shareholders and contracting agencies. In the best case scenario, these two roles are mutually reinforcing – particularly if shareholder control is a function of revenue contribution. Three important requirements here are (1) long contract periods; (2) careful negotiation around prices and service levels; and (3) onerous exit conditions for shareholders. At its worst, however, poor contract performance or negotiation of performance can destabilise and undermine the utility. **Example** The only example is uThukela Water.	**Benefits** • Allows for joint ownership of assets, sharing of risk and potentially enhanced borrowing and planning capability. • Enables economies of scale. • Brings together WSAs who may otherwise be competing against each other for scarce resources – water, human resources, specialised expertise, government grants, consumers and loans. **Limitations** • Requires capacity to negotiate complex institutional arrangements. • Complex governance arrangements with multiple WSAs.
Water board as WSP	**Features** In terms of the Water Services Act, water boards are primarily accountable to the Minister of Water Affairs, but are also	**Benefits** • Established by DWA, and therefore overseen (and sometimes given assistance by DWA.

Arrangement	Features / Examples	Benefits / Limitations
	accountable to any other institution with which it has a contract, and in terms of such a contract. **Examples** There are currently fifteen water boards in the country. They vary greatly in size, scope and resources. All provide bulk water services to other institutions and some also provide reticulation services in terms of specific contracts.	• Able to access funds on the market for the implementation of infrastructure. • Usually serve more than one WSA, and therefore already have economy of scale benefits. • Also service non-municipal clients (such as mines and industries) directly – enhances their financial sustainability. • Better able to attract and retain specialist skills than municipalities owing to their location and reputation. • Usually willing to provide technical assistance and support to municipalities. **Limitations** • WSAs often do not have the necessary capacity to effectively engage and negotiate with water boards. • Positioning of water boards often makes them the only viable choice for WSP where WSAs have little negotiating leverage. • May have the monopoly on provision of bulk services.
Community-based organisation as WSP	**Features** A CBO WSP is situated within a defined community. The WSA enters into a WSP contract with the CBO to provide services where the specific functions and tasks are outlined in the contract. Often CBOs require support, particularly in terms of maintenance, procurement, access to spare parts and skills training. It is thus common to include a Support Services Agent (SSA) within the WSP arrangement to provide the necessary support and to assist in monitoring and reporting to the WSA.	**Benefits** • Often the only viable option for remote rural areas. • Cost effective. • Responsive. **Limitations** • Lack of sufficient operations capacity in some cases. • Insufficient access to support in some cases. • Poor revenue collection in some cases. • Inability to carry out bigger maintenance functions. • Difficulties in complying with legislative and regulatory requirements within a viable financial framework.

Arrangement	Features / Examples	Benefits / Limitations
	Examples There have been many examples of CBO WSPs however over time many of these arrangements have been replaced with the municipality taking over the WSP role and incorporating the CBO staff into the municipal structures. Chris Hani DM remains the only DM with extensive CBO WSP arrangements.	• Labour laws pose difficulties in terms of contracting staff on a financially viable basis. • Services provision is often not properly monitored by WSA.
Private sector as WSP	**Features** Different types of contacts can be entered into with the private sector ranging from concessions and BOTs to lease and management contracts. Typically a WSA will require contract negotiation and management support to ensure a good contractual arrangement. **Examples** <u>Concession contracts</u>: Queenstown, the Greater Nelspruit Concession (now within the Mbombela LM WSA) and the Dolphin Coast Concession (now within the iLembe DM WSA). <u>Management support contracts</u>: Uzinzo Services (for Maluti-a-Phofung LM) and Johannesburg Water Management (JOWAM – for the City of Johannesburg). <u>Lease contracts</u>: Stutterheim (Amatole DM, Amahlati LM), Fort Beaufort (Amatole DM, Nkonkobe LM).	**Benefits** • Private sector provides access to increased capacity, skills and innovative systems. • The private sector can access financial resources more easily than the public sector. • More flexible management arrangements to address provision constraints. **Limitations** • Politically it is not a popular option in the current environment. • Requires extensive processes to satisfy legislative requirements which are time consuming and costly. • Most WSAs do not have the capacity, skills and resources to manage and monitor private sector contractual arrangements where they act as an equal partner.
Joint municipal / national owned utility	Two arrangements are allowed for by South African legislation of a utility jointly owned by national and local government, with either majority share holding by national or local government. No examples exist.	
Other	Other arrangements also exist, but their continued functioning in the new	

Arrangement	Features / Examples	Benefits / Limitations
arrangements	legislative framework needs to be reconsidered. One such is the Midvaal Water Company, a non-profit (Section 21) Company that has been providing bulk potable water to Klerksdorp, Orkney and Stilfontein since 1954, but is not responsible for sanitation services. The Matlosana LM is the WSA, and co-owns Midvaal with the various mines it supplies. Midvaal is governed by a board consisting of the WSA and Mines. Midvaal owns the bulk water supply infrastructure.	

2.4 Current Water Services Provision Challenges

Water services provision in South Africa faces many challenges, some of which are highlighted in the Problem Statement.

From an extensive list of water services provision challenges, the Research Team, together with the WRC Reference Group, agreed on the following set of 10 key water services provision challenges as core challenges sufficiently indicative of the spectrum of challenges faces by WSPs, and around which some form of assessment could be based.

The 10 key challenges were used as a basis to interview politicians, officials, service providers and other interested parties within each of the case studies to enable an understanding of how each case study institutional arrangement meets (or attempts to meet) the provision challenges it faces:[4]

1. Human resource scarcity.
2. Accessing funds and financial viability.
3. Procurement.
4. Infrastructure asset management (IAM) and augmentation.
5. Optimisation of operations.
6. Water quality.
7. Consumer engagement and communication.
8. Communication within and between the WSA and WSP.
9. Alignment of planning.
10. Water resource availability and scarcity.

It was acknowledged that the above list was not comprehensive. It was deemed a sufficiently useful listing of key challenges to use as a basis to begin the research.

The first table below describes each key challenge, and how each challenge is understood to impact on water services provision in South Africa.

The second table below describes a key issue consistently raised in the South African water services provision context: the relationship between municipal politics and

[4] In terms of the research analysis in section 6 these 10 challenges were used as the basis to define key water services provision functional areas.

managing water services as a business, i.e. the way in which municipal politics is seen to enable or constrain the management of water services. This is expanded on in section 5 (Case Studies), and reflected on in section 7 (Findings and Recommendations).

Ten key challenges

Table 2: Ten key water services provision challenges

1 Human resource scarcity
Worldwide there is a scarcity of technical skills, along with attendant legal, financial and institutional management skills. Many reasons contribute to this in South Africa: • People are mobile and the international construction boom is drawing skilled people to centres where projects and salaries are attractive. • The transformation of local government has caused much uncertainty resulting in people moving to other institutions and sectors. • The water systems inherited from the former homeland governments were generally poorly managed and staffed. • The previous education system did not encourage people to focus on technical careers. • Apprenticeships have largely been replaced by Sector Education and Training Authority (SETA) based programmes which are yet to produce results. • Often personnel appointed for technical, infrastructure and other areas requiring specialised skills are under-qualified and inexperienced. • Institutions do not always develop and advance their human resource base by planning for the needs of the organisation and assessing qualities and characteristics required to achieve the organisation's overall objectives.
2 Accessing funds and financial viability
Various challenges around funding issues exist in the sector, including: • Local government receives various grants of which some are conditional; some not. Grants are often not easy to access; and they are often used for purposes for which they were not intended. • Many municipalities with a small economic base do not have opportunities for cross-subsidisation from larger and wealthier consumers. • Many municipalities do not have a good credit rating, and therefore often fail to access loan funding. • Municipalities have inherited financially unviable and unsustainable water schemes, particularly from former homelands. • The focus since 1994 has been on extending service to the previously unserved, thereby neglecting upgrading and augmentation of wastewater treatment works (WWTW) and bulk elements, as well as operation and maintenance (O&M), which are often not budgeted for. • Financial reporting and management in terms of the Public Finance Management

Act (PFMA) (No 1 of 1999) and the MFMA are time consuming and often not very well understood.

- A lack of planning makes multi-year budgeting very difficult.

3 Procurement

Procurement of goods and services is often difficult for municipalities for the following reasons:

- Municipal policies and systems are inadequate or non-existent.
- Legal requirements of the PFMA and MFMA are onerous and time consuming, and require scarce skills to ensure compliance.
- Government is bound by annual budget cycles that make funding of multi-year projects more difficult.

4 IAM and augmentation

All municipalities have a challenge in IAM and augmentation owing to varying degrees of financial constraint:

- Proactive measures and research for future development is often lacking due to the focus on expanding service areas and associated capital expenditure.
- Many municipalities do not have a way of analysing changing water demand and operation of water usage by institutions and consumers.
- Life cycle management is not well understood, and generally not implemented – resulting in assets failing well before they reach the end of their design lives.
- Often new developments are connected to existing bulk systems and treatment works that are not sufficiently upgraded to enable them to cope with the additional water and effluent. The continued sewage spills and water supply shortages are an acute symptom of this.

5 Optimisation of operations

Municipalities face the following issues:

- With the changes in demarcation of municipalities in 2000, new municipalities had to amalgamate various different smaller administrations and infrastructure systems. An obvious challenge now is optimising the operation of infrastructure and management systems. Municipalities don't always acknowledge the strategic value of optimum use of current assets and available resources that will result in sustained service delivery.
- Municipalities need assistance in building the capacity to carry out good quality operations. Although operations use personnel and consumables to sustain the performance of assets, financial resources should be available to pay for operations.

Achieving economy of scale in operations is an important consideration in providing services as affordably as possible. For every situation there is an optimal size of operations, and much of this has to do with optimising auxiliary services.

Auxiliary services are those services that support water services provision, but are not

directly part of the provision of the services. Such services can easily be outsourced, but the location of the municipality and access to such services is a key driver in optimisation of water services provision.

These include:

- Laboratories for water quality and soil testing, analysis and monitoring.
- Stores for materials.
- Supply chain management and procurement systems.
- Workshops where components of the supply system can be produced and /or customised (e.g. fittings and couplings).
- Health and safety installations on works' sites.
- Meter reading.

"Centralising" these services within an institutional arrangement has a large economy of scale benefit in terms of:

- Scarce skills to manage them.
- Buying power of larger scale institutions.
- IT and record keeping systems.
- Retaining local knowledge of the area.

6 Water services quality

Issues here include both the quality of the water and the quality of the water and sanitation service provided by the WSP, for example:

- Quality of water for drinking or domestic purposes (potable water) must conform to SANS 241.[5]
- Quality of effluent discharged from sewage treatment works must be of a sufficient standard.
- Water quality monitoring must be done by municipalities.
- Response times to address problems (e.g. leakages or breakages) should be as short as possible.
- There must be assurance of supply and associated possible service interruptions and down times as short as possible.
- Other technical issues, e.g. pressure in distribution system, must be addressed timeously.

7 Consumer engagement and communication

Based on the Bill of Rights[6], consumers have the right to satisfaction of basic needs, safety, and information.

[5] SANS 241 is the South African national drinking water quality standard set by the South African Bureau of Standards.

[6] The Constitution of the Republic of South Africa Act (1996), chapter 2.

One of the Batho Pele[7] principles is that "citizens should be given full, accurate information about the public services they are entitled to".

All projects and programmes of the municipality must include a communication component.

Municipalities generally do not sufficiently give information or consult with their constituents:

- Consumers are not always engaged with on utilisation of the costs of the service, delivery of services, drinking water quality results and a communication strategy.
- Municipalities often do not communicate information concerning the available mechanisms, processes and procedures to encourage and facilitate community participation.
- Municipalities often do not properly involve communities in the development, implementation and review of the municipality's performance management system and, in particular, allow the community to participate in the setting of appropriate key performance indicators and performance targets.
- Not all WSAs and WSPs have developed efficient reporting systems for consumers to assist in responses to consumer needs and problems.

8 Communication within and between the WSA and WSP

Very often there are no clearly defined processes of communication within and between WSA, WSP, management and departments:

- Many authorities and officials do not understand how a municipality functions in its totality; they only know about their limited scope of work, and often do not contribute to the work of the municipality in an integrated manner.
- Staff often does not get important information when there are no processes of communication clearly defined within the municipality, its committees and departments.

9 Alignment of planning

It is clear that the provision of infrastructure and the delivery of sustainable services are linked, and must be effectively planned for. Without a service delivery life cycle approach, attempts to achieve sustainable services will be limited.

Alignment with other sectors is also of vital importance. Functions impacting on water services are often with other institutions, e.g. housing is with Province, and building plan approvals is usually with LMs.

Municipal planning must be developmentally oriented so as to ensure that it strives to achieve the objects of local government set out in the Constitution. Planning must be aligned with and complement the development plans and strategies of other affected municipalities and organs of state so as to give effect to the principles of cooperative government contained in section 41 of the Constitution.

[7] Eight "Batho Pele" principles were developed to serve as acceptable policy and legislative framework regarding service delivery in the public service. These principles include, among other things, a commitment to render an accountable, transparent, and development-oriented public administration. (http://www.dpsa.gov.za/batho-pele/Principles.asp accessed 23-03-10).

10 Water resource availability and scarcity
South Africa is a water scarce country with a great variability in hydrology. In many areas large water resource transfer schemes ensure that resources are brought in to areas of need. The alignment and interaction between water services and water resources within institutions requires improvement. Most municipalities do not appreciate the complexities of making water resources available, and will often not even consider water resource availability as an issue when planning water services provision. At the same time, water resources managers do not appreciate the complexities faced by water services institutions (WSIs) in terms of service delivery challenges such as aging infrastructure, finance availability and procurement requirements. In terms of economic and population growth and climate change, it is likely that more regional schemes will need to be implemented. This requires institutions able to manage entire regional systems. National DWA and provincial government will therefore have vital input in the final decisions made by WSAs with regard to water services provision.

Key issue

Table 3: Key issue of municipal politics and the water services business

Municipal politics and the water services business
<u>Politics</u> Issues here include: • A municipality has functions and powers conferred on or assigned to it in terms of the Constitution, and must exercise them subject to Chapter 5 of the Municipal Structures Act (No 117 of 1998). Such powers include making bylaws; approving budgets and development plans, imposing rates and taxes, and charging tariffs for services provided. (National policy aims to be flexible, and to allow local institutions to implement the most appropriate solutions. The policies, however, are often not well understood, often resulting in varying [and sometimes incorrect] interpretations of national policy.) Politically, a Council is elected by its constituents. Politicians sometimes aim to please their electoral base in the way projects and related issues are prioritised. Their political priorities may not always be aligned to technical and other priorities. • Politicians are usually communities' first point of entry into a municipality and, therefore, authorities really feel the pressure when there are problems with services delivery. They may insist on actions or solutions which may not be financially, technically or environmentally viable or sustainable. • Often institutional arrangements are decided upon in terms of incorrect perceptions of where power lies. For example, authorities are often eager to own all municipal assets, even when the assets may be real "liabilities", and the institution may not have funds to rehabilitate them. • National and provincial government also have a Constitutional function to support local government by ensuring long-term sustainability of services.

In addition to support, national and provincial government are also responsible to regulate local government and its service delivery. Therefore, service delivery decisions made by WSAs will be closely considered, and sometimes intervention may be necessary, in terms of regulation of and support to local government.

Business

Providing services in a municipality should be run as a business where the municipality must recover costs incurred in order to provide the services. Tariffs should include components for water resource management and abstraction, labour and cost of materials and equipment for ongoing operation, as well as capital investment costs for infrastructure.

In addition, tariffs should be friendly to the poor and encourage wise use of water by consumers. The revenue stream can also be used to subsidise other services where charges cannot be levied. Pricing water has been a crucial part of new public management reforms, allowing the 'true' cost of managing and providing water services to be recovered directly from consumers.

2.5 Trends in Water Services Provision

In the 1990s there was consideration of various different institutional models, and particularly for public-private partnerships (PPPs). Also, based on lessons emerging from international good practice, there was much focus on community-based management in rural areas, particularly under the Community Water Supply and Sanitation (CWSS) Programme (which was the fore runner to the Water Services Programme) managed by DWAF.

Since the promulgation of the municipal legislation in South Africa, and particularly the Municipal Systems Act, the focus has moved away from partnerships to direct municipal provision. This may be due to a combination of the following reasons:

- Section 78 of the Municipal Systems Act requires a rigorous process to decide on water services provision. The process strongly favors internal municipal provision.
- The wording of municipal legislation is not as clear as the Water Services Act in terms of the definition and separation of the WSA and WSP functions.
- Politicians in municipalities seem to favour internal mechanisms since these are perceived as enabling better direct control of the revenue stream.
- Financial legislation is strict and office bearers can be held personally responsible for financial mismanagement. This may create nervousness and encourage an internal mechanism where control seems easier.
- The relationship between municipalities and water boards is often not good, and water boards are perceived to be expensive by municipalities. Their dual accountability (to DWA as shareholder and to WSAs as service provider) is sometimes perceived to be problematic.

It is also important to note that the South African Institutional Reform Phase II (also referred to as institutional realignment) documents (2006) make it clear that the South African water sector, in its current institutional reform process, will pursue regionalisation

where it will have advantages (e.g. through economies of scale, retention and development of skills and capacity to raise finances). The documentation states that appropriate ownership structures should be decided on a case by case basis, and that the accountability of regional entities to WSAs must be addressed.

3 RESEARCH METHODOLOGY

3.1 Introduction

The previous section provided the background and context to water services in South Africa: institutional history, arrangements allowed for in legislation, challenges and trends.

This section provides the research methodology.

It provides working definitions for the terms "centralised" and "decentralised", and for "scale" and "scope".

It provides nine research questions.

It provides an analytical framework comprising four elements:

- South African policy and legislation relating to water services provision.
- Water services provision approach.
- Access to water as a human right.
- Contribution to body of work in the sector.

It identifies three key areas informing the research:

- Water services provision challenges in South Africa.
- Case study options.
- Scale and scope: impact and assumptions.

It provides an overview of the literature review.

It articulates the process undertaken to engage with stakeholders.

And, finally, it introduces the four matrices developed for use in the research analysis and interpretation.

3.2 Working Definitions

3.2.1 "Centralisation" and "decentralisation"

The WRC Reference Group set up for this project agreed that the research should use the following working definitions[8] for the terms "centralised" and "decentralised":

[8] Concise Oxford Dictionary, The (1995).

Centralised is defined as "to give the control of a country or organisation to a group of people in a particular place". For the purpose of this research the word "centralised" was initially taken to mean:

- All powers, functions and execution of water services provision are placed at a regional level, i.e. that is larger than one WSA area; or
- A single WSA provides all services itself, without further decentralising the provision function.

In South Africa there are various regional water services providers (WSPs), especially with regard to bulk services, so the research proposed to consider such regional providers within the "centralised" model.

Decentralised is defined as "to give some of the power of a central government, organisation, etc to smaller parts or organisation around the country". For the purpose of this research the word "decentralised" was initially taken to mean:

- All powers, functions and execution of water services provision are placed at WSA level with provincial and national oversight; or
- A WSA has further decentralised the provision function to one or more institutions within the WSA area of jurisdiction; or
- A municipal utility.

In South Africa there are various institutional arrangements allowing for a full range of WSPs. The research proposed to consider "decentralised" in the context of more than one WSP forming part of the institutional arrangement.

In undertaking the analysis for the research, and flowing from in depth discussion at the Reference Group meeting on 2 March 2010, it became progressively more clear that the terms "centralised" and "decentralised" could not be applied without qualification to the South African context. This is because all water services provision in South Africa takes place within a decentralised governance framework – as defined by the Constitution of the Republic of South Africa Act (No 108 of 1996) which places the water services provision function with municipalities (i.e. local sphere of government).

It was agreed that the research would take cognisance of this difference in the use of the terms. It would check to what extent "centralised" and "decentralised" are terms that can be applied to WSP functions (or functional areas) (i.e. technical operations only) in South Africa, and it envisaged opting for the terms "consolidation" and "non-consolidation" in order to highlight South Africa's decentralised institutional arrangements' framework.

Until the research findings proposed a useful delineation of terms, the words "centralised" / "centralisation" and "decentralised" / "decentralisation" would be used with inverted commas to indicate a fairly loose use of these words.

3.2.2 Scale and scope

Key to the research was an examination of how WSAs might maximize cost effectiveness benefits of scale and scope in terms of making appropriate decisions for WSP institutional arrangements.

There is consensus in the sector (nationally and internationally) that:

- Scale relates to size of the geographical area of the WSP (also known as "horizontal integration").
- Scope relates to mean the range of services undertaken by the WSP (also known as "vertical integration").

It is therefore proposed, based on the above definitions, that there were two essential decisions to be made by WSAs in deciding on institutional arrangements for water services provision:

1. The most appropriate size of the area to be served by the WSP(s).
2. The most appropriate number of functions or functional areas (or services or aspects of the service) to be undertaken by the WSP(s) (i.e. all functions by one WSP, many functions by many WSPs, or some combination of functions and WSPs)?

3.3 Research Questions

The above two decisions sit inside a broader set of questions the research sought to answer – namely:

1. What is meant by the terms "centralisation" and "decentralisation"?
2. To what extent does "centralisation" or "decentralisation" enable or inhibit the meeting of water services provision challenges?
3. What factors influence WSA decision making for appropriate water services provision in South Africa?
4. Is water services provision better provided by one institutional arrangement or a mix in South Africa?
5. How does a WSA decide whether it should be its own WSP, or contract one or more (i.e. multiple) WSPs?
6. How are water services provision challenges met differently in different institutional arrangements?
7. To what extent will this research contribute to the institutional realignment and reform process in South Africa (specifically with respect to water boards as regional WSPs)?
8. What recommendations can be made for WSAs in deciding an appropriate WSP institutional arrangement?
9. What recommendations can be made for national government to better align policy, legislation and implementation guidelines to support the setting up of appropriate institutional arrangements in South Africa?

3.4 Analytical Framework

Verne Harris, Honorary Research Associate at the University of Cape Town, defines an analytical framework as "a coherent set of theoretical formulations within which a particular analysis is positioned".[9] In terms of this definition the following elements constitute the analytical framework for this research:

1. South African water services and local government legal and policy framework.
2. Water services provision approach (which includes decentralisation of service provision from national to local government).
3. Access to water as a human right.
4. Acknowledgement of and articulation with a body of work on institutional arrangements in the sector.

3.4.1 Policy and legislation

South Africa has established a comprehensive framework for the provision of water services which is articulated in the Constitution, water services policy and legislation, and local government policy and legislation. This is covered in detail in the Inception Report prepared in terms of this research.[10]

In addition the policy objectives for water services are supported at national government level through various mechanisms such as national norms and standards, a financial framework, monitoring and information systems, a sector support strategy, regulation and sector collaboration.

In 2003 South Africa adopted a Strategic Framework for Water Services (SFWS). This Framework sets out the goals, principles and approach to the provision of water services in South Africa, ranging from small community water supply and sanitation schemes in remote rural areas to large regional schemes supplying water and wastewater services to people and industries in the largest urban areas.

The institutional framework is guided by a number of principles in the SFWS, including:

1. Clear definition of roles and responsibilities for the three different independent spheres of government (national, provincial and local), as well as for water services institutions.
2. Separation of regulatory and operational responsibilities and activities.
3. Local government has the constitutional responsibility for ensuring water services provision.
4. Flexibility – the exact institutional form for water services provision is not specified; it is flexible with respect to both the scale of provision and the type of service provider.

[9] Personal communication with K Harris (10-02-2010).

[10] Vermeulen, Abri and Takalani Sidimela (2008), pp 5-13.

5. Management, decision making and control of water services is to be devolved to the lowest appropriate level, taking into account efficiency benefits related to economies of scale.

A fundamental aspect of WSP institutional arrangements in South Africa is that it is recognised that there is no one size fits all approach.

WSAs are required to follow the process as defined in chapter 8 of the Municipal Systems Act (No 32 of 2000) in order to reach a decision on a WSP arrangement (as well as for all other municipal functions). This is commonly referred to as "the section 78 assessment" since this section of the Act defines the steps to be undertaken. In reality, the whole of chapter 8 (sections 73-94) addresses provision of services by municipalities.

The Act states that a municipality may provide a service through an internal mechanism (its own administration or a business unit operating under its own administration) or through an external mechanism by entering into a service delivery agreement with another organisation.

An external mechanism (a separate organisation) may be:

i. A municipal entity (created and owned by the municipality; operating independently of the municipality's administration).
ii. Another municipality.
iii. An organ of state.
iv. A community-based organisation (CBO) or non-governmental organisation (NGO) legally competent to enter into such an agreement.
v. Any other institution, entity or person legally competent to operate a business activity (which includes the private sector both nationally and internationally).

In order to reach a good decision such a process should consider a wide-range of relevant factors – costs and benefits (including impact on the environment and human health, well being and safety), capacity (skills and other resources), administration, job creation, the views of organised labour and the local community. In terms of external mechanisms the exercise requires consideration of whether the mechanism will provide value for money, address the needs of the poor, be affordable and transfer appropriate technical, operational and financial risk.

The Municipal Finance Management Act (MFMA) (No 56 of 2003) provides the mechanisms to ensure affordable service delivery (budgets) and to regulate financial performance. It is intended to complement the Municipal Systems Act which regulates credit control and debt collection, decision making about service delivery mechanisms, as well as partnerships and associated reporting obligations on municipalities. In practice, this Act constrains institutional options that can be considered by municipalities further in terms of the financial management required for the type of institution.

3.4.2 Water services provision approach

According to Jean de la Harpe of the IRC International Water and Sanitation Centre (IRC), in a recently completed IRC study on water and sanitation service provision in South Africa entitled "Scaling up and sustainability challenges",[11] the key components of the service delivery approach are:

a) *That the water services function has been decentralised to local government, namely the WSA.*
b) *That the fiscal framework supports the decentralisation of services to local government through a system of grants and subsidies.*
c) *That a distinction is made between the WSA and WSP.*
d) *That service delivery at the local level is part of a national sector wide approach.*
e) *That WSAs are required to go through a legislated process to determine the most appropriate WSP arrangement(s).*

Of particular importance to this research is the fact that the water services governance function in South Africa has been decentralised within a national sector-wide approach.

3.4.3 Access to water as a human right

The post-apartheid government in South Africa committed itself to ensuring progressive realisation of human rights within a developmental agenda. The SFWS states that "…all people living in South Africa [should] have access to adequate, safe, appropriate and affordable water and sanitation services…."[12]

Further, the concept of a "Water ladder", as presented in the Preface to the SFWS, illustrates this sentiment:

> ***The water ladder***. *National government is committed to eliminating the backlog in basic water services and to progressively improving levels of service over time in line with the original aims of the Reconstruction and Development Programme in 1994. The first step up the water ladder is the provision of at least a basic water and sanitation service to all people living in South Africa. This is the most important policy priority and government will commit adequate funds to make this possible within the next few years. The next step is an intermediate level of service such as a tap in the yard. Water services authorities are expected to assist communities to achieve intermediate and higher levels of service wherever practical, affordable and sustainable without compromising the national policy priority of universal access to at least a basic level of service. National government will increase its commitment of grant funds over time to support households to step up the water ladder. Basic levels of service will also be reviewed in future to consider increasing the basic level from 25 to 50 litres per person.*

[11] De la Harpe, Jean (2010).

[12] Strategic Framework for Water Services (2003), p 6.

3.4.4 Body of work in the sector

This research builds on the body of work on institutional arrangements in the sector which has been growing from the late 1990s, developed and supported by various national departments, including the then Department of Water Affairs and Forestry (DWAF), the Department of Provincial and Local Government (dplg),[13] the WRC, service providers, sector researchers and professional organisations.

Of particular note is that four Water Dialogues-South Africa case studies were heavily relied on for background and contextual information in the development of the four case studies in this research.[14]

It is envisaged that this research will contribute in terms of testing assumptions around what constitutes "centralised" and "decentralised" institutional arrangements or models in the South African context and clarifying terminology in this respect; and giving additional clarity on decision making within an already arduous and prescriptive legal framework which gives guidance on process, but not on content or configuration of the institutional arrangement.

3.5 Identification of Key Areas Informing the Research

Engagement with the WRC Reference Group enabled identification of three key areas which would inform the research:

- Water services provision challenges.
- Case study options.
- Scale and scope: impact and assumptions.

3.5.1 Key water services provision challenges

The research team, together with the WRC Reference Group, debated an extensive list of challenges faced in the provision of water services in South Africa – in order to agree on a set of challenges to be used in interrogating institutional arrangements in the case studies.

By examining how individual challenges found expression in each of the case studies, it was envisaged that the research would enable an improved understanding of how the different "centralised" or "decentralised" institutional arrangements in the case studies was seen to assist with or inhibit the meeting of the challenges.

As noted under section 2.4 (Current Water Services Provision Challenges), the 10 key challenges were used as a basis to interview role players and stakeholders within each of the case studies:

[13] Now Department of Water Affairs (DWA) and Department of Cooperative Governance and Traditional Affairs (CoGTA).

[14] Water Dialogues-South Africa, The (2008:c, 2008:d, 2009:a and 2009b). All four documents are available on www.waterdialogues.org.

1. Human resource scarcity.
2. Accessing funds and financial viability.
3. Procurement.
4. IAM and augmentation.
5. Optimisation of operations.
6. Water quality.
7. Consumer engagement and communication.
8. Communication within and between the WSA and WSP.
9. Alignment of planning.
10. Water resource availability and scarcity.

Also noted under section 2.4 is a key issue consistently raised in interviews: the relationship between municipal politics and managing water services as a business, i.e. the way in which municipal politics is seen to enable or constrain the management of water services.

These challenges and key issue are expanded on in section 5 (Case Studies), and reflected on in section 7 (Findings and Recommendations).

3.5.2 Case study options

The research intended to examine a number of current water services provision institutional arrangements as case studies.

In the context of a county where the provision of water services is under-resourced in terms of skills and backlog requirements (among other severe constraints), it was agreed institutional arrangements chosen as case studies should demonstrate:

- A (fairly) well functioning water services provision arrangement (i.e. not in a state of collapse), however hampered by its challenges.
- Innovation.
- A mix (i.e. diverse circumstances) of useful examples of "centralised" and "decentralised" institutional arrangements in South Africa.

A wide range of case study options was debated extensively by the WRC Reference Group. The following eight were identified for further consideration by the research team:

1. **Bushbuckridge LM (Mpumalanga)**

   Bushbuckridge is a Local Municipality (LM) in the process of establishing a single municipal WSP unit within the municipality. It previously fell within the since disestablished Bohlabela District Municipality – which was both WSA and WSP for its entire area of jurisdiction. The service provision area comprises parts of the three previous homeland governments of Gazankulu, KaNgwane and Lebowa, and consists exclusively of traditional rural and small urban settlements. The Bushbuckridge Water Board provides bulk water only to the LM.

   Clarity needed to be sought on the nature of the institutional arrangement.

2. **Chris Hani DM (Eastern Cape)**

   Chris Hani District Municipality (DM) is a WSA with various WSP arrangements. It has appointed LMs to provide services in urban areas, and has inherited the Queenstown private sector management contract through the re-demarcation and division of powers and functions. It is also the only WSA that is currently using community-based WSPs (referred to in the DM as community service providers or CSPs) for some water services provision functions on a large scale and in a formal capacity in rural areas.

   It was considered to be a ***decentralised*** institutional arrangement.

3. **iLembe DM (KwaZulu-Natal)**

   iLembe DM is a WSA with various WSP arrangements in its area, including the Dolphin Coast Concession in part of KwaDukuza LM, an LM as WSP in a part of DM, Umgeni Water Board providing reticulation services in another part, as well as providing some of the services itself.

   It was considered to be a ***decentralised*** institutional arrangement.

4. **Magalies Water Board (operating primarily in North West)**

   Magalies Water Board is a relatively small water board that manages a small regional bulk water supply system over nine LMs and four provinces (primarily North West, and smaller parts of Gauteng, Limpopo and Mpumalanga). It is a well run institution based on the original concept of a regional institution to manage a regional system.

   It was considered to be a ***centralised*** (regional) institutional arrangement.

5. **Maluti-a-Phofung LM (Free State)**

   Maluti-a-Phofung LM set up a municipal-owned utility in 2006 to take over from two water boards previously appointed as WSPs for its area. It is quite a varied municipality containing small urban centres such as Harrismith, Phuthaditjaba and Kestell, a vast rural area of the former QwaQwa homeland, as well as large areas of commercial farms and nature reserves.

   It was considered to be changing from a ***decentralised*** to a ***centralised*** institutional arrangement.

6. **Sekhukhune DM (Limpopo)**

   Sekhukhune DM is one of numerous examples of a WSA with various LMs as WSPs. It is a mostly rural DM utilising its LMs for service provision in the relatively small urban centres such as Groblersdal, Marble Hall and Zebediela. Clarity was required on how it provides water services in its vast rural areas.

It was considered to be a ***decentralised*** institutional arrangement.

7. **Ugu DM (KwaZulu-Natal)**

   Ugu DM is both WSA and WSP for its entire area, for both bulk and reticulation services, and for both water and sanitation. It has a long history of sustainable service provision to urban areas along the KwaZulu-Natal South Coast.

   It was considered to be a ***centralised*** institutional arrangement.

8. **uThukela Water (Pty) Ltd (KwaZulu-Natal)**

   uThukela Water (Pty) Ltd (uThukela Water) is a multi-jurisdictional municipal utility jointly owned by three WSAs (Amajuba DM, Newcastle LM and uMzinyathi DM). It was established to make use of economies of scale to manage the water resource, provide services more cheaply, and equalise tariffs throughout the supply area.

   It was considered to be a ***centralised*** (regional) institutional arrangement.

The WRC Reference Group assisted with the final choice of case studies.

It was agreed by the Reference Group that, where possible, the Water Dialogues Case Studies should be used as a basis for the research (particularly since the research provided up-to-date background context and primary features of each institutional arrangement).

The following four case studies were selected:

1. Chris Hani DM.
2. Maluti-a-Phofung LM.
3. Ugu DM.
4. uThukela Water.

3.5.3 Scale and scope: impact and assumptions

As mentioned in 1.4.2 (Scale and scope), key to the research is an examination of how WSAs might maximize the benefits of scale and scope in terms of making appropriate decisions for WSP institutional arrangements.

Impact

The impact of scale and scope is illustrated through using the first identified key water services provision challenge – *human resource scarcity*. Where a WSP uses its scarce skills over a larger area, and through multi-tasking over a fuller range of functions, that institutional arrangement might be considered to be finding meaningful ways of maximizing the potential benefits of both scale and scope.

Assumptions

The research made a number of assumptions in relation to the four case study institutional arrangements – whether they were "centralised" or "decentralised" arrangements from the perspectives of scale and scope, and why.

The first figure illustrates assumptions based on whether functions were "centralised" over an extremely large geographical area or "decentralised" to very small areas.

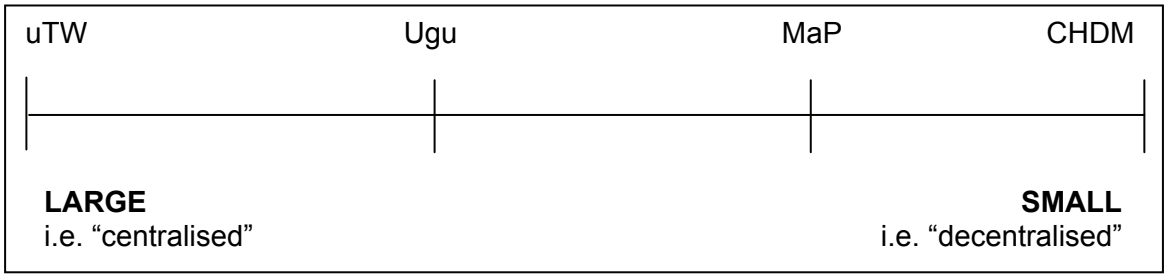


Figure 1: Assumptions made with respect to the relationship between centralisation / decentralisation and scale of WSP(s) area

uThukela Water (uTW) sits on the extreme left since it undertakes water services provision functions across the vast geographical area of three WSAs; and Chris Hani DM (CHDM) sits on the extreme right since its water services provision functions are undertaken by both LMs and over 200 community-based providers (sometimes the size of a single, village-based stand-alone scheme). Ugu DM and Maluti-a-Phofung LM (MaP) sit between the two extremes since Ugu is a WSA who is its own WSP covering the entire district municipality area, and Maluti-a-Phofung LM has one WSP for its entire area (i.e. influenced by size of operations).

The second figure illustrates assumptions based on whether all functions are "centralised" within a single entity or "decentralised" across one or more contracted WSPs

Figure 2: Assumptions made with respect to centralisation / decentralisation and scope of functions undertaken by WSP(s)

Again, uThukela Water sits on the extreme left since it all functions are undertaken by one WSP; and Chris Hani DM sits towards the extreme right because different water services provision functions are undertaken by different types of WSPs. Ugu DM and Maluti-a-Phofung LM sit much closer to uThukela Water since they also have all functions undertaken by one WSP, but are smaller operations.

Of interest in the above two diagrams is the fact that they are somewhat dissimilar, i.e. scale and scope may in fact support different articulations of each institutional arrangement – and whether the arrangement should be described as "centralised" or "decentralised" – when compared with one another.

The research tested these assumptions.

3.6 Literature Review

In terms of the Literature Review this research made use of primary and secondary data analysis. Illustrative data, including case studies, historical material, government reports, policy, legislation, programme documentation and evaluation reports were used to conduct the literature review.

The Review was undertaken to gain a broad sweep of (predominantly) international WSP experiences and trends – in order to find international definitions for and examples of centralisation and decentralisation, gain a broad sweep of the issues related to water services provision across continents, gauge emerging trends and lessons, and provide input to the South African case study interviews.

The exercise included a brief review of the electricity sector in South Africa with the aim of learning some lessons.

3.7 Engagement with Stakeholders and Role Players

Interviews were held in each of the four institutional arrangements case study areas with as representative a range of interviewees as possible (see Acknowledgements for a full list of interviewees). Engagement with the case study area started with contact with the relevant WSA, where guidance was provided on whom to interview. (Except in the case of uThukela Water, where it has responsibility over three WSA areas. Setting up interviews here was considerably more complicated, and assistance was provided by the utility.)

In the Chris Hani DM the Water Services Manager and the Director: Engineering Services were interviewed. The Water Dialogues researcher for the Water Dialogues Chris Hani Case Study was also interviewed, along with two different service providers.

In the Maluti-a-Phofung LM the Director: Infrastructure was interviewed, along with a former councillor (now Human Resources Manager for Maluti-a-Phofung Water [Pty] Ltd [MaP Water]). Other senior personnel from MaP Water interviewed were: Director: Corporate Services, Head: Operations (previously with Sedibeng Water) and former Chief Executive Officer (CEO). The Water Dialogues researcher for the Water Dialogues Maluti-a-Phofung Case Study was also interviewed, along with three different service providers.

In the Ugu DM a councillor was interviewed, along with the General Manager: Water Services, the WSA Manager, the WSP Manager and the Project Management Unit (PMU)

Manager. The Water Dialogues researcher for the Water Dialogues Ugu Case Study was also interviewed.

In uThukela Water the following staff was interviewed: Managing Director, Executive Director: Operations / Technical Services, Responsibility Centre Manager: Bulk Water, Responsibility Centre Manager: Wastewater, and Service Centre Manager: Reticulation. Two different service providers were interviewed, one of whom had previous experience as Director: Operations at uThukela Water, as well as at the former uThukela Joint Services Board (JSB) and the uMzinyathi DM.

Further engagement was undertaken with Mary Galvin (Water Dialogues Coordinator), Ilse Wilson and Victor Munnik (The Mvula Trust), Jean de la Harpe (IRC), Jim Gibson (Maluti GSM) and Rolf Kieck (Ceenex).

Key insights were gained from in-depth discussions within the WRC Reference Group and the PDNA research team.

Active engagement was also undertaken with two research initiatives:

- The Water Dialogues process and outputs (2008/2009).
- The WRC Research Project Reference Group: Development of People Centered Programmes (WRC Project No K5/1815/3) – reference group meetings and Community-Based Management Workshop (East London, 2009).

3.8 Matrices for Research Analysis

The research was analysed and interpreted against 10 key water services provision functional areas (identified initially as water services provision challenges)[15] to determine whether the different case studies represented "centralised" or "decentralised" WSP institutional arrangements, in order to address the research questions and draw findings and conclusions.

The analysis is done in terms of four different matrices in section 6 (Analysis of the Institutional Arrangements' Case Studies):

Matrix 1: Description per functional area per case study

Matrix 1 presents a summary description per functional area per case study – based on information in section 4: Case Studies.

It enables a comparison across the four different institutional arrangements in terms of how each arrangement seeks to meet its water services provision challenges.

Matrix 2: Analysis per functional area per case study

Matrix 2 takes the summary description from Matrix 1 and considers, per case study:

1. The ability of the institutional arrangement to meet the needs of its different water services provision functional areas.
2. Which water services provision functional areas in the institutional arrangement are "consolidated" (i.e. "centralised" in terms of its operations) and which are not.

There are four versions of Matrix 2 i.e. one per case study.

Matrix 3: Mix of functional areas across case studies

Matrix 3 takes the information concerning which water services provision functional areas are consolidated or not from the four case study specific versions of Matrix 2, and produces findings across the case studies regarding how many functional areas per institutional arrangement case study are organised within a consolidated arrangement, and how many are organised within a non-consolidated arrangement.

Matrix 4: Mix of functional areas per case study

Matrix 4 takes the information on the number of functional areas per institutional arrangement case study that are consolidated or not from Matrix 3, and enables findings across case studies in terms of commonalities and trends with respect to how water services provision functional areas are organised across institutional arrangements.

Therefore, each institutional arrangement (assumed at the start of the research to be "centralised" or "decentralised") was examined in terms of how well (or otherwise) the arrangement is seen to be contributing to meeting key water services provision challenges.

This analysis led directly to the formulation of research findings and recommendations, conclusions, and opportunities for further research.

4 LITERATURE REVIEW

4.1 Introduction

The previous section provided the research methodology. It provided working definitions; research questions; an analytical framework; key areas informing the research; an overview of the literature review; the process undertaken to engage with stakeholders; and it introduced the four matrices developed for use in the research analysis and interpretation.

This section presents a summary of the Literature Review[16] of (primarily) international water services provision arrangements and practice.

The Literature Review examined characteristics of centralised and decentralised models of provision, and covered the following areas:

- Use of definitions and concepts.
- Types of decentralisation.
- Advantages and disadvantages of decentralisation.
- Challenges and issues.
- Lessons.

It included a brief look at the experience of the South African electricity sector with the aim of drawing lessons from parallel experiences.

4.2 Definitions and Concepts

In "Decentralization – Key Issues, Major Trends and Future Developments" Lidija R. Basta [17] says the term "decentralization is used so commonly and yet defined so variously".

However, there was a fair degree of consensus that "decentralisation" is used internationally to refer to *intergovernmental processes*, i.e. decentralisation of governance between levels of government from central to local (a concept of state organisation and method of governance), and that economic and fiscal decentralisation are key issues.

"Centralisation" is also referred to around the world as "**regionalisation**" (for example, in Canada), "**aggregation**" (Brazil) and "**consolidation**" (United States of America).

Economies of scale, scope and process were important terms to understand in terms of the debate: Economies are looked at in terms of:

[16] Harris, Kerry and Abri Vermeulen (2009).

[17] http://www.ciesin.org/decentralization/English/General/SDC_keyissues.pdf (undated) (accessed on 13-03-2008).

- **Scale**: Grouping of two neighbouring municipalities, or several municipalities in a single region or across a broader territory, i.e. coverage area. (Also known as horizontal integration.)
- **Scope**: Provision of a single service (for example, bulk water supply) or all services, from raw water abstraction to sewerage treatment. For each of these services, they may carry out certain functions only (such as procurement) or be responsible for all functions, from operations and maintenance (O&M) to investment and financing. (Also known as vertical integration, i.e. "source to tap".)
- **Process**: Centralised or decentralised structures may be voluntary, based on mutual interests, or, alternatively, a higher level of government, driven by the overall public interest, may impose or incentivise the process. The process may be temporary (for a short-term specific purpose) or permanent.

4.3 Types of Decentralisation

The international literature was in broad agreement on four types of decentralisation between tiers (or spheres) of government:

- Political.
- Administrative.
- Fiscal.
- Market / economic.

Each type has different characteristics, policy implications and conditions for success. The primary characteristics of these four are captured below:

Political

- Gives **citizens** and / or elected representatives **more power in public decision making**.
- May require constitutional or statutory reforms, encouragement of effective public interest groups, etc.

Administrative

- Redistributes authority, **responsibility and financial resources for planning, financing and management.**
- Different types:
  - De-concentration – under supervision of central structure.
  - Delegation – according to central structure, i.e. fewer constraints.
  - Devolution – much more independent authority.

Fiscal

- To do with **financial responsibility** – ensuring adequate level of revenues and authority to make decisions about expenditure.
- Many different forms, some of which are:

- Self-financing or cost recovery.
- Co-financing through money or contribution in kind (generally labour).
- Property or sales taxes.
- Inter-governmental transfers.
- Authorisation of municipal borrowing.

Market / economic

- This is the **most complete form** of decentralisation in that it **shifts responsibility** from the public to the private sector.
- Two forms:
  - Privatisation – has many different types.
  - Deregulation – reduces legal constraints for private participation and allows competition between service providers.

In terms of market / economic decentralisation, approaches to service provision can be applied in both centralised and decentralised systems. (For example, it may be that administrations choose to privatise upon decentralisation).

A concluding comment on types of decentralisation includes a statement by the World Bank Decentralization Thematic Team "In recent years privatization and deregulation have become more attractive alternatives to governments in developing countries. Local governments are also privatizing by contracting out service provision or administration."[18]

4.4 Advantages of Decentralisation

The literature revealed a fair amount of consensus regarding decentralisation as a mechanism to improve the efficient provision of services, the quality of governance, economic development and efforts to alleviate poverty. Reasons most often given included:

- Promotes democracy because it provides better opportunities for local residents to participate in decision making.
- Increases efficiency in delivery of public services – delegation of responsibility avoids bottlenecks and bureaucracy.
- Leads to higher quality of public services because of local accountability and sensitivity to local needs.
- Enhances social and economic development which relies on local knowledge.
- Increases transparency, accountability, and the response capacity of government institutions.
- Allows greater political representation for diverse political, ethnic, religious, and cultural groups in decision making.
- Increases political stability and national unity by allowing citizens to better control public programmes at the local level.

[18] What is Decentralization? http://www.ciesin.org/decentralization/English/General/Different_forms.html (undated) (accessed on 03-10-2008).

- Helps national government ministries reach larger numbers of local areas with services.
- Relieves top managers in central government of "routine" tasks to concentrate on policy.
- May create a geographical focus at local level for coordinated national, state, provincial, district and local programmes more effectively.
- Can increase political stability by enabling citizens to have better control over their pubic programmes.

4.5 Advantages of Centralisation

The literature revealed some degree of consensus on where centralisation might be favoured, with a large degree of unanimity that developing countries and countries in transition often require levels of centralisation to provide stability. Reasons most often given included:

- Can be more efficient, especially for standardised, routine, network-based services.
- More easily enables economies of scale.
- Enables better control of scarce financial resources.
- Does not rely on strong administrative and technical capacity at the local level to ensure efficient and effective service delivery.
- Single administrative centre requires less financial resources.
- Simplifies coordination of and conformity to national policies.
- Stands above local tensions and politics which often get in the way.
- Easier to control inflation and increase revenues to reduce deficit.
- Enables coherent investment policy and increases central government tax base.

4.6 Challenges and Issues

Michael Rouse[19] summarised the conclusions of a centralisation vs. decentralisation workshop at World Water Week in Stockholm in August 2006 as:

- There is a trend towards decentralisation with examples of good progress worldwide.
- A major obstacle to success in decentralisation occurs when financial aspects are not included.
- Another significant obstacle is a lack of suitably trained staff to assume management and technical responsibilities.
- Successful decentralisation requires transparency and accountability, providing benefits of ownership, empowerment, integration and affordability.
- Decentralisation seems to work best with centralised broad policy making, with local policy interpretation and delivery.

[19] Institutional Governance and Regulation of Water Services: The Essential Elements (2007).

Rouse looked at success stories in public sector operations, and concluded that they all demonstrate a need for separation between policy and operations, and between government and service provider, with the latter being able to operate without political interference. He also said a common ingredient for success is full cost recovery.

Miguel Solanes and Andrei Jouravlev[20] listed the following as problems caused by decentralisation of drinking water supply and sanitation services to the municipal level in Latin American countries:

- Loss of economies of scale.
- Mismatch between the horizontal structure of the sector and the jurisdictional level responsible for legislation.
- Reduced potential for cross subsidies.
- Management and regulation of services based on political rather than technical criteria.
- Lack of attention to rural areas.
- Lack of incentives to protect watersheds and control water pollution.

Solanes and Jouravlev also pointed out that, with the exception of smaller countries, centralised national companies are not necessarily the most efficient solution. Centralised structures in the 1960s and 1970s were successful in extending coverage. However, excessive centralisation overburdened management capacity, and this approach has been abandoned in countries such as Argentina, Colombia, Mexico, Peru and Venezuela.

They suggested that, because water is so closely linked to society, economy and the environment, there are not simple or easy answers that guarantee governance. The only possible suggestion was that although governance may be expressed in different organisational systems and its formal content arranged differently (such as laws and institutional arraignments), every society has natural conditions, power groups, power structures, and requirements that must be considered specifically.

They suggested the following are particularly important:

- Prevalent ethnic and cultural characteristics.
- Institutional history of the sector.
- Economic framework, social and economic ideas and practices prevalent in the society, the capacities of the different players involved, and their socio-economic conditions.
- Management capacity of the state.
- Geographical characteristics.
- Characteristics of different water sectors and their associated public services.

Prevailing political circumstances generally dictate how much the centre will hold, and how much will be decentralised. And this can change with changing governments, particularly in under-developed and developing countries.

[20] Water Governance for development and sustainability (2006).

The literature showed that more developed countries with a higher income, larger in population and land area, and with a more heterogeneous mix in populations, tend to decentralise more. Countries at war or threatened by war or civil unrest tend to be more centralised.

The main driver for centralisation is usually the potential to realise economies of scale by providing services to a larger customer base and therefore to render services more efficiently and at a lower cost.

Despite the case for centralisation being relatively easy to construct, centralisation does not take place as often as one may think, and it has a relatively high risk of failure because political will is lacking, the potential benefits are not clearly understood, or the centralisation process is perceived as too complex.

Centralisation reforms are usually considered when there are perceived inefficiencies in the management of water supply and sanitation services, either because service providers are too small to provide an efficient service or because they are too large.

Such situations may have emerged because of factors outside of the water and sanitation sector; for example, a fragmented water and sanitation market may be the consequence of a broader process of decentralisation of public services.

According to the World Bank Paper, "Models for Aggregation for Water and Sanitation Provision",[21] the main factors driving the consideration of centralisation reforms included:

- Increased efficiency through economies of scale.
- Enhanced professional capacity in larger scale of operation.
- Access to water resources and integrated water resources management.
- Broader decentralisation processes.
- Access to finance or to private sector participation or both.
- Cost sharing between higher- and lower-cost service areas.

Centralisation can fail if benefits are not clearly understood and there is no adequate process in place to implement it. The following key issues need to be addressed when implementing centralisation:

- Defining the **institutional form** for the centralised structures, both for service provision and oversight, depending on the willingness or ability of municipalities to transfer certain functions to the centralised structure.
- Defining **governance arrangements** for the centralised structures, especially methods for allocating voting rights to maintain a balance between representation and internal cohesion and limit political interference.
- Determining whether **asset ownership** should be transferred to the centralised structure, for which type of assets and under which rules, including for water rights, which should be treated as important assets.

[21] ERM, Models for Aggregation for Water and Sanitation Provision, Water Supply and Sanitation Working Notes, Note No 1 (2005),

The case for centralisation is usually relatively simply to construct based on the above. The potential constraints, perceived as disadvantages, are also sizable and in some cases may overcome the potential benefits. In particular, municipal governments may resist centralisation because they perceive that it will reduce their powers and democratic accountability.

4.7 The South African Electricity Sector

The electricity distribution industry (EDI) restructuring process started in 1993 when the National Electrification Forum recommended a merger between Eskom's distribution networks and the 187 licensed municipal electricity distributors.

The White Paper on Energy (1998) provided the policy framework, envisaging six Regional Electricity Distributors (REDs) as commercial entities covering the whole of South Africa, to be attached to the six metropolitan municipalities.

The four broad objectives used in defining the REDs were:

1. Financial viability.
2. Efficient customer service.
3. Potential for competition.
4. Stakeholder acceptance.

In July 2005 the City of Cape Town established a municipal entity known as RED1. It signed sale-of-business agreements with the Municipality and Eskom to provide for the transfer of relevant assets, liabilities and staff once certain conditions were met.

By December 2006 neither Eskom nor the City of Cape Town was able or willing to transfer their distribution businesses into the entity, and RED1 was wound up.

Government established an Intergovernmental Forum on EDI Restructuring in 2006 / 2007 to debate and resolve outstanding EDI restructuring policy issues. The Forum has begun to draft an EDI Restructuring Bill, premised on voluntary participation by municipalities. The intention was that the policy issues which had been outstanding since 2000 would be resolved through this process and the Bill finalised accordingly.

A pertinent question is why have the REDs not materialized in 15 years of debate, planning, studies, Cabinet decisions, proposed legislation and expenditure of more than R100 million?

According to Anton Eberhard[22], the factors not yet in place included:

- Major industry players must support the mergers.
- The merger process needs to be effectively managed.

[22] Restructuring: avoiding institutional instability and ensuring supply security (2007:a) and Rosier future without the REDs, Business Day (2007b).

- Constitutional changes are required so that transfers are mandatory.

A Plan B was being discussed which would be a pragmatic mix of solutions, for example:

- Let the 12 largest municipalities retain their electricity distribution businesses (they account for 80% of municipal distribution) provided they accept dedicated support to strengthen governance, management, accounting and investment in assets and staff.
- Let Eskom retain responsibility for rural customers and large industrial customers.
- Leave alone medium-sized municipalities that are operating well.
- Incentivise small municipalities that are performing badly to merge with Eskom or one of the 12 largest municipalities.

Eberhard says the key issue now in EDI restructuring is supply security. It is hoped that this will ensure support from major industry players, and encourage adequate investment in physical and human capital.

4.8 Application of Literature Review to South African Context

4.8.1 Decentralisation framework in South Africa

According to de la Harpe,[23] the decentralisation of water services in South Africa is comprehensive in that it addresses all components, including:

- *A sound policy and legislative framework.*
- *A planning framework that addresses needs and priorities from the local sphere to the national sphere.*
- *A fiscal framework that makes provision for extensive subsidies for both capital investments (municipal infrastructure grant [MIG]) and operating costs (equitable share [ES]) for the poor.*
- *A programmatic approach where all spheres of government work to a common set of policy objectives and targets, where a collaborative approach has been taken to build the sector as a whole.*
- *A support framework where both the necessary structures and resources have been put in place to provide targeted support to municipalities as WSAs and WSPs.*
- *An approach to water services provision institutional arrangements that recognises that there is no one size fits all and that allows WSAs to assess and propose the most appropriate service provision institutional options.*
- *A regulatory framework which separates governance functions from service provision functions.*

In South Africa the WSP function is already decentralised to the WSA. Therefore, this research did not examine issues of decentralisation and governance.

[23] De la Harpe, Jean (2010), Op. Cit.

Rather, the research took cognisance of international debates and experiences and, within the South African decentralised governance framework, it examined functional areas (based on the challenges defined in section 3.5.1 (Key water services provision challenges) in WSPs that are either "centralised" (consolidated) or "decentralised" (non-consolidated), and implications for how to best structure arrangements for service provision within the South African framework.

It is interesting and important to note in the Summative Evaluation of the Masibambane 2 Programme: Project Evaluation Report[24] that Masibambane as a coordinating mechanism for sector collaboration was considered to have enabled easier and faster decentralisation, and with greater success, than is generally achieved.

4.8.2 Types of decentralisation

The literature was in broad agreement on four types of decentralisation between tiers of government:

- Political.
- Administrative.
- Fiscal.
- Market / economic.

The level of decentralisation was generally measured by the extent of political decentralisation (elected local government), administrative decentralisation (devolution of water and sanitation) and fiscal decentralisation (measured as percentage public expenditure at sub-national level).

In the South African context both political and administrative decentralisation is effected through the Constitution. The framework for fiscal decentralisation is in place (a complex arrangement of subsidies, grants and loans overseen by National Treasury, articulated in the MFMA, and given expression through the annual Division of Revenue Act). Obstacles such as transfer of schemes from national to local government are constantly negotiated. The pace is slow and uneven, but the principle and obligation are not contested.

However, in terms of market / economic decentralisation, the following extract from the SFWS (page 18) had relevance:

[24] Everatt D, P Ravenscroft, D Still, M J Smith, N Dube, N McLeod, J Gibson, C Illing, D Hazelton, J Khanyi, P Mbanjwa, R Jennings and fieldwork teams from Q&A and Field Focus, (2007).

Private sector involvement, private operation and privatisation

While privatisation is an emotional and very much a political issue in South Africa, the private sector has played and will continue to play an important role in water services. The challenges facing us are simply too big to be addressed by government alone. We will, however, not sell our public water services infrastructure to the private sector but this is no obstacle to the private sector getting involved in a whole range of activities. (Minister Kasrils, address to the African Investment Forum, April 2003)

The following definitions are used in this Strategic Framework and apply to the water sector:

- **Private sector involvement** includes support services (consulting services, outsourcing of various activities such as meter reading, cleaning, maintenance, etc.), contracting (construction, operations, management), the management of operations (private operation as defined below), and financing (bank loans, bonds, equity).
- **Private operation** is the operation of water assets by the private sector. Where this is done on behalf of government, it could be through a lease contract, a concession contract or a build-operate-transfer (BOT) contract.
- **Privatisation** is the permanent sale of fixed assets (that is, divestiture) by the public sector to the private sector, and/or private investment and perpetual ownership of assets. (In terms of South African law and policy for water services, this is not allowed at all.)

4.8.3 Economies of scope, scale and process

The literature raised the important potential benefits of economies of scale, scope and process.

The concept of "economy of process" was not explored further in terms of this research for two reasons:

1. The decentralisation process, as provided for in the Constitution, has been completed.
2. The process to determine an appropriate institutional arrangement for WSP is legislated in chapter 8 of the Municipal Systems Act.

However, economies of scale and scope certainly have relevance for South Africa within its decentralised governance framework where some functional areas, it will later be argued, are best done within a consolidated ("centralised") arrangement to effect these economies of scale and scope.

4.8.4 Challenges caused by decentralisation

Issues raised by Solanes and Jouravlev as problems caused by the decentralisation of drinking water supply and sanitation services to the municipal level in Latin American countries included loss of economies of scale, reduced potential for cross subsidies, management and regulation of services based on political rather than technical criteria, and lack of incentives to protect watersheds and control water pollution. This has

relevance for South Africa within its decentralised governance framework where decentralisation has brought its own set of challenges.

4.8.5 Lessons

General lessons from the Literature Review included:

- Due process and political will are key to the success of a centralisation / decentralisation initiative. Initiatives have succeeded and failed more often when these two factors are not in place than for almost any other reason.
- There is no "one size fits all" – a mix of centralised and decentralised features for a functioning utility that has a sound financial and customer base is the optimum solution.
- There is general agreement that some functions typically always belong at centralised level, and these will probably include policy development, supervision, creation of an enabling environment, and national regulatory and other support.
- Availability of skills (primarily technical and financial) is a key deciding factor. Success of decentralisation often depends on training and technical assistance for national and local officials within a decentralised administrative set up.
- Financial aspects must be included in decentralisation process, and a common ingredient for successful decentralisation is full cost recovery.
- Powers and functions must be protected by legislation.
- Regulation should be used to enhance the service delivery arrangement.

Specific lessons based on the South American experience, and articulated by Solanes, Jouravlev and Sjödin, included:

- Determine the appropriate level for decentralisation or centralisation, depending on the activities involved, and in accordance with technical considerations and economies of scale and scope.
- Ownership is not a crucial factor of the performance of a water service company.
- Separate the requirements of decentralised activities and their technical management from political influences to ensure viability and effectiveness through the necessary legal, financial and control methods.
- Preserve a residual capacity at the central level to promote or implement activities or measures in the event of decentralised bodies being negligent or unable to carry out their functions.
- Design systems in which administered parties and users have swift and expeditious access to justice.
- Clearly establish the legal obligations of the decentralised system and make its administration personally responsible for violations thereof.

In terms of lessons from the electricity sector, it is the opinion of the research team that electricity and water supply characteristics and supply systems differ substantially both in terms of their technical nature and in terms of their physical characteristics. Because this research had a primary focus on key operational challenges (which translated into

functional areas) for water services provision, and owing to constraints, this research was not able to spend the requisite time examining the electricity sector to allow for the drawing of sufficiently useful lessons. (However, the researchers agree that closer examination of this topic would probably produce useful insights, particularly around governance challenges. See section: 9 [Opportunities for Further Research]).

These lessons from the Literature Review are incorporated into section 7 (Findings and Recommendations).

5 CASE STUDIES

5.1 Introduction

The previous section presented a summary of the Literature Review – which had a primary focus on international literature on water services provision. It included a brief look at the experience of the South African electricity sector with the aim of drawing lessons from similar experiences in setting up institutional arrangements for service provision. It examined characteristics of centralised and decentralised models of water services provision, and covered the following: definitions and concepts, types of decentralisation, advantages and disadvantages of decentralisation, challenges and issues, and lessons.

This section contains selected text from each of the four case studies developed as part of this research:[25]

1. **Chris Hani District Municipality**

   It was assumed that the institutional arrangement for the Chris Hani DM presented as a **decentralised arrangement** at the DM WSA level, with a mix of LMs and community-based WSPs; having retained some significant **centralised functions** (particularly in terms of governance and funding).

2. **Maluti-a-Phofung Local Municipality**

   It was assumed that the institutional arrangement for water services provision in the Maluti-a-Phofung LM presented as **changing from decentralised arrangement to a centralised arrangement** at the LM WSA level – where the WSP functions previously undertaken by two different WSPs (and in two separate geographical areas) were being combined under the new municipal utility.

3. **Ugu District Municipality**

   It was assumed that the institutional arrangement for the Ugu DM presented as ~~a~~ **centralised arrangement** at a DM WSA level that had changed from aspects of decentralisation when it ceased to use community-based WSPs; having retained some significant **decentralised functions** (notably in terms of aspects of its operations).

4. **uThukela Water (Pty) Ltd**

   It was assumed that the institutional arrangement for uThukela Water presented as a **centralised** (regional) **institutional arrangement** at a level higher than DM WSAs, with three WSAs using one multi-jurisdictional utility as WSP; having a

[25] The text contains abbreviated discussions from each of the four case study documents developed as part of this research: Vermeulen, Abri and Kerry Harris (2009:a, 2009:b, 2009:c and 2009:d).

significant proportion of **decentralised functions** (particularly in terms of governance and aspects of operations).

Each of the four Case Studies was examined in terms of:

- A summary of the institutional arrangement.
- Background to the water services provision area.
- A history and current context of the institutional arrangement.
- An articulation of the 10 key water services challenges and the ways in which municipal politics enables or constrains the management of water services (as presented in section 2.4 (Current Water Services Provision Challenges).

5.2 Case Study: Chris Hani District Municipality

5.2.1 Summary of the institutional arrangement

The Chris Hani DM is a WSA with differing WSP arrangements throughout its district.

Its four western LMs have operated as WSPs since appointment by the DM in 2003. They have capacity from providing services to Karoo villages and farms for many decades.

The DM retained the WSP function in its four eastern LMs where capacity did not exist to provide services – inherited from the ex-homeland states, with difficult topography and dispersed rural settlements. It is currently building the capacity of these four eastern LMs for them to undertake the WSP function. It is making extensive use of community-based structures to support delivery in these rural areas, and it is using the LMs in a part SSA function in terms of procurement contracts for the community-based providers (CSPs[26]). (Two of the four western LMs have small rural populations, and a much smaller number of CSPs are used in the western half of the DM.)

The Chris Hani DM has taken a very flexible and developmental approach in implementing the WSP function, and the arrangement was still under development at the time of writing this case study (October 2009). It is the only WSA in the country that is using community-based WSPs (or CSPs) on a large scale.

As mentioned previously, it was assumed that the institutional arrangement for the Chris Hani DM presented as a **decentralised arrangement** at the DM WSA level, with a mix of LMs and community-based WSPs. However, it seemed to have retained some significant **centralised functions** (particularly in terms of governance and funding).

[26] In the course of the research it became obvious that the term CSP is used either to describe a CBO comprising a Chairperson, Secretary, Treasurer and one or more Operators, or each community-based person – excluding the Operator i.e. the Chairperson, Secretary and Treasurer are each referred to as a CSP (i.e. three CSPs), separate from the Operator(s). This research uses the term "CSP" in the former sense of a CBO.

An attempt is made to show this complex institutional arrangement diagrammatically on the next page. However, at the time of research the arrangement was under development and changing, and aspects were sometimes articulated slightly differently by different interviewees (e.g. in terms of clustering of CSPs per municipal ward boundaries and setting procurement contracts in place).

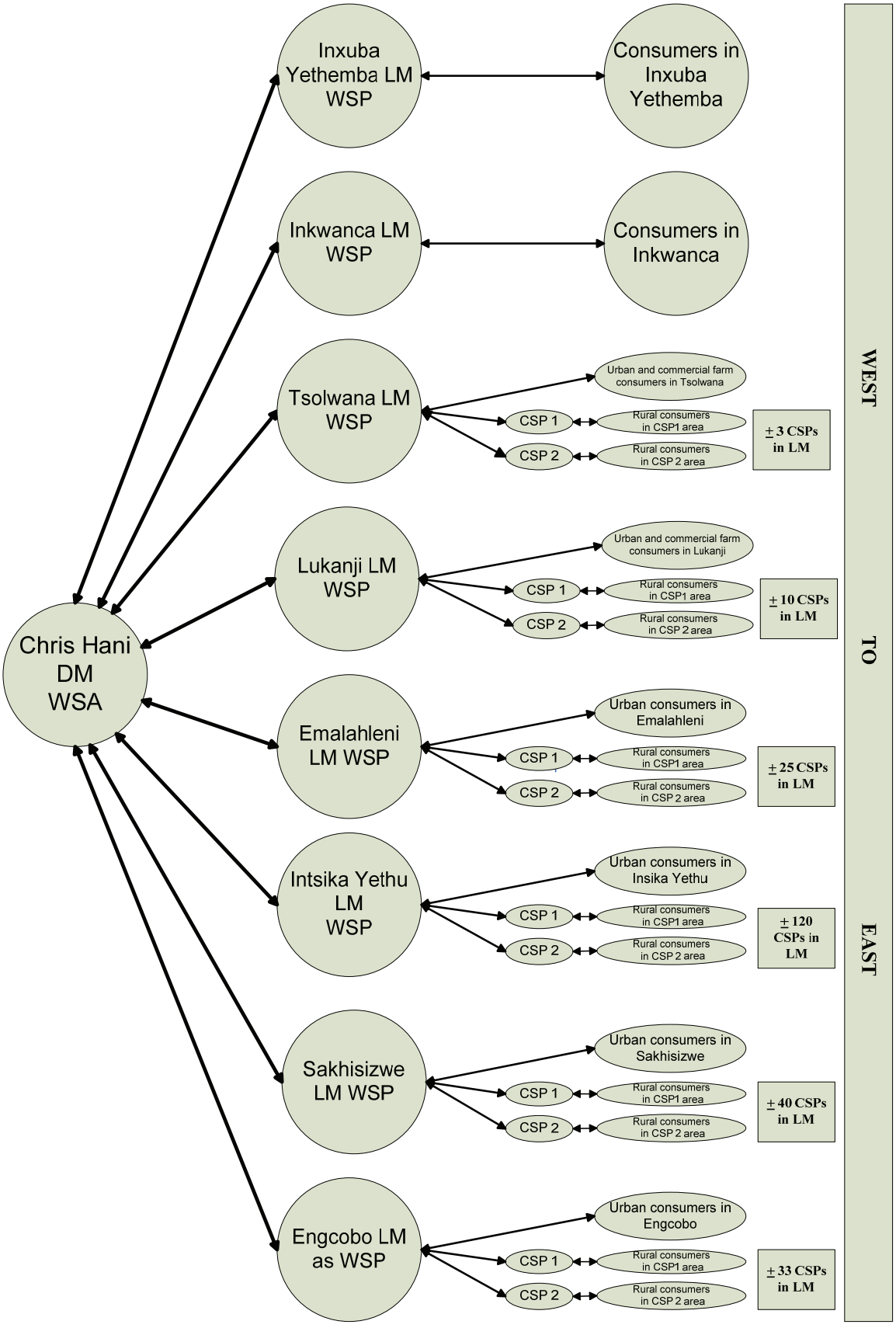


Figure 3: Chris Hani DM – WSA contracts the LMs as WSPs; in rural areas LMs are required by WSA to contract CSPs to undertake selected functions

5.2.2 Background to the water services provision area

Geography

The Chris Hani DM is a land-locked district situated in the north eastern sector of the Eastern Cape. It covers an area of 36 963 km^2.

It represents an amalgamation of formerly separated administrative entities, namely, parts of the former "South African" Eastern Cape, the former "Ciskeian" Districts of Hewu and Ntabathemba, and four magisterial districts of the former "Transkei".

It is made up of eight LMs – as indicated in the map below, along with the main towns and roads.

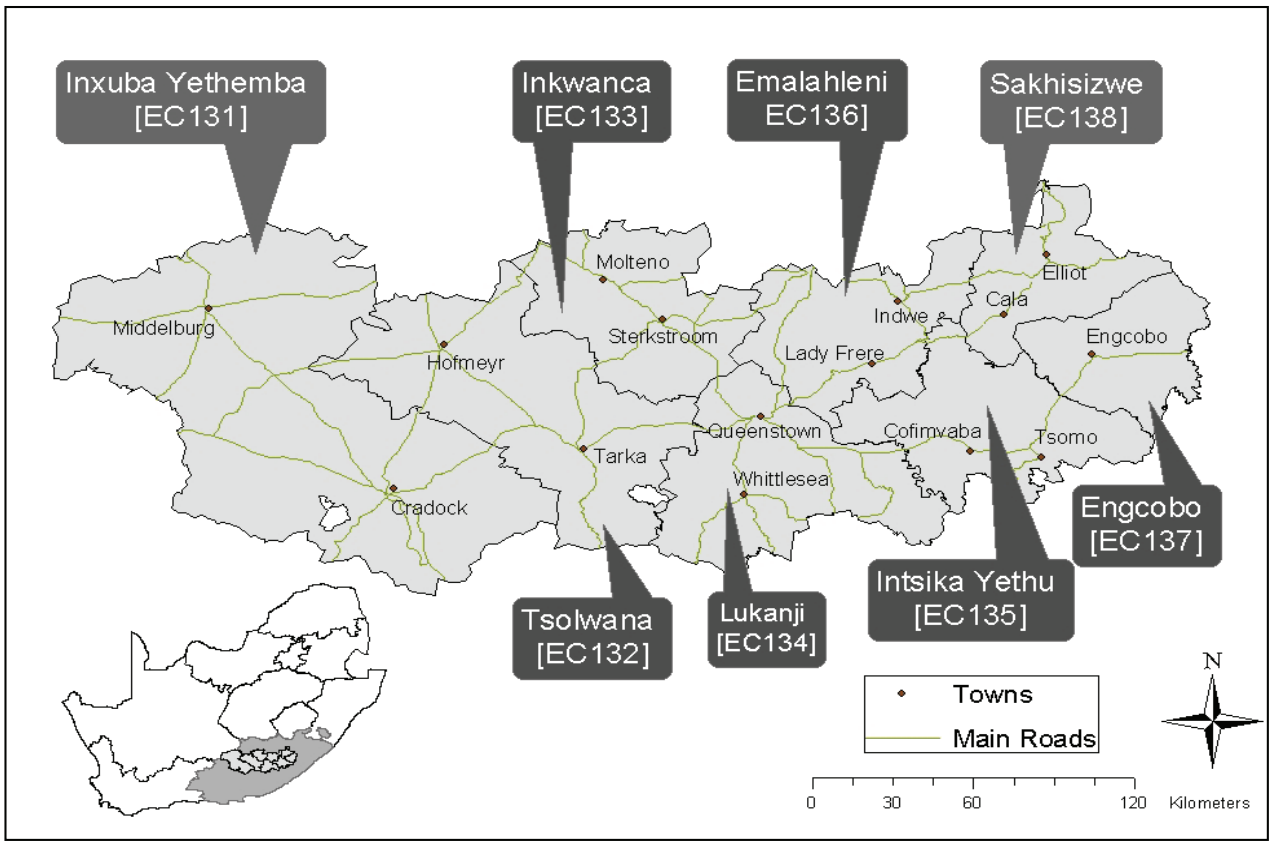


Figure 4: Map of Chris Hani DM showing eight LMs, towns and main roads[27]

Water and sanitation[28]

The majority of the towns in the DM are supplied from surface water sources. Exceptions are the towns of Hofmeyr, Middelburg, Sterkstroom, Tarkastad and Cala (partly), which rely on groundwater (borehole) supplies. Communities in the rural areas generally rely on

[27] Burt, Jane and Sharon Birkholz (2008).

[28] Chris Hani DM Water Services Development Plan Review (2008).

unprotected springs, streams and boreholes for their water supply. Commercial farms are usually supplied by groundwater from boreholes.

The Chris Hani DM has a huge task to provide water and sanitation to its community. Currently an estimated 73% of the total population is served with water and 38% is served with sanitation.

Chris Hani DM has an ambitious plan to eliminate water service delivery backlogs through the implementation of a number of cluster water supply schemes funded through the Bulk Infrastructure Grant (BIG) funding from national government.

Backlog eradication is not the only substantial challenge facing the Chris Hani DM. According to the Water Services Development Plan (WSDP) Review much of the existing water and sanitation infrastructure is not adequately maintained and, in many cases, is not functioning; and that ongoing refurbishment and maintenance is therefore a priority for sustainable water services delivery.

Concern is raised in the WDSP (2008) that the strategy for the development of higher levels of service must take on board the limits to the available water resources, and that it should also accommodate the increasing demand for higher levels of service resulting from the demographic growth in urban centres like Queenstown.

5.2.3 History and current context of institutional arrangement

History of water services

When the Chris Hani DM became the WSA for its entire area of jurisdiction in 2003, it inherited a mixture of existing institutions with differing capacities.

Except for parts of the western LMs of Tsolwana and Lukhanji, the western four LMs (Inkwanca and Inxuba Yethemba, as well as parts of Tsolwana and Lukhanji) had the following marked differences from the eastern four LMs (Emalahleni, Intsika Yethu, Ngcobo and Sakhisizwe):

- Geographically the west is mostly arid Karoo while the east is mountainous and less dry (although still dryer than the KwaZulu-Natal Drakensberg).
- Settlement patterns in the west consist mostly of small Karoo towns and large commercial farms, while the east consists of dispersed rural settlements with some small urban centres.
- Historically the west consisted of resourced Karoo towns that had well functioning municipalities, while the east is a combination of former Ciskei and Transkei homeland administrations that did not have municipalities before 1995.

CBOs existed, mostly in the eastern LMs, which in many cases performed part WSP functions, although none was formalised. Most were established through NGOs with donor funding, and most collected funds from communities to pay for O&M expenses on the schemes. For the most part, the CBOs were doing a good job, particularly in terms of quick turnaround times in responding to breakdowns.

Since the DM had very little capacity, a decision was made to utilise existing institutions and structures to begin building LM WSP capacity. At the time the private sector and NGOs had capacity and experience in rural water services provision, mainly Amanz'abantu from the Build operate Train and Transfer (BoTT) Programme, Maluti GSM and The Mvula Trust from the Alfred Nzo DM programme of utilising community-based WSPs.

Section 78 assessment and initial contracts

The Chris Hani DM completed a section 78 assessment (in two phases) of alternative water service provision mechanisms, as required by the Municipal Systems Act.

Phase 1 of the section 78 assessment was completed in March 2004, and focused solely on the option of fulfilling the WSP function through an internal DM mechanism. Phase 2 commenced in June 2004 and focused on possible external mechanisms. The final Phase 2 Section 78 Report was presented to the Mayoral Committee on 31 August 2005 and to representatives of the LMs on 17 October 2005.

The DM accepted the findings of the Section 78 Assessment Report that the most appropriate WSP arrangement would be a combination of internal and external mechanisms.

The findings of the section 78 assessment indicated that the four western LMs should be appointed as WSPs for their areas of jurisdiction. A Steering Committee was established to drive the process of formalising the relationships between Chris Hani DM and the four western LMs as WSPs. Contracts were negotiated with each of them. This arrangement is deemed to work well since these four LMs have been able to build on their historical WSP capacity.

The four eastern LMs lacked sufficient capacity, and so the DM retained the WSP function in these areas in the short to medium term as an interim solution while capacity of the eastern LMs would be built in order for them to be contracted as WSPs in the future. The DM adopted these recommendations at a Council Meeting in December 2005.

Initially, the four western LMs were appointed as WSPs, and the DM remained the WSP for the four eastern LMs, utilising CBOs with technical support for certain WSP functions.

The CBOs who had played a key role in operating local small-scale water and sanitation projects prior to 2003 had been continuously involved and increasingly formalised as CSPs. When the DM became the WSA (and WSP for the four eastern LMs) it decided to contract Amatola Water Board as SSA to engage directly with the large numbers of CSPs on its behalf – principally in terms of labour, health and safety issues.

Amatola Water required additional capacity, and appointed The Mvula Trust to conduct institutional and social development (ISD) work, and Maluti GSM and WSSA (operating as Zanamanzi in Chris Hani DM) for technical assistance. Their brief was to focus on rural areas and to ensure that CSPs were formed for all new water schemes. Amatola Water remained responsible for health and safety issues and water quality management; as

well as to build capacity within the four eastern LMs to take over the WSP functions in the future – something it wasn't necessarily able to do owing to its own capacity constraints.

The contracts of the SSAs were renewed on a six-monthly basis throughout the section 78 assessment, and for two years from July 2007. The contract with Amatola Water ended in June 2009.

The DM acknowledges that the report and outcomes have limitations, but the approach was to address limitations as implementation lessons were learnt.

Handover to all LMs as WSPs

The DM has relatively good working relationships with its LMs. Regular capital investment programme meetings are held with technical managers and councillors. In this way, trust has been built between the DM and the LMs, and support for this institutional arrangement has been built over time.

Individual contracts were negotiated with each of the eastern four LMs to undertake the WSP function. Since September 2009 all LMs have been appointed, and will (on the instruction of the DM) continue to utilise CSPs for certain functions, along with existing LM systems.

The eastern four LMs still have very little water services capacity, so the DM is in the process of placing the following full time staff in each of the eastern four LMs as follows:

- WSP area manager (a civil technologist).
- One or two civil engineering technicians.
- Electrical and mechanical technician.
- Water quality technician.
- Financial accountant.
- Customer care practitioner.

By September 2009 the area managers were in the process of being appointed by the DM for each LM, and reporting to the technical manager in the LM. The operational staff transferred from DWA were informed and consulted on the issue, and were to be deployed to the LMs but were to stay on the pay roll of the DM, for probable absorption into the LMs.

The approach has evolved over time and is now quite different from what was originally foreseen in the Section 78 Implementation Plan.

Focus on CSPs

As mentioned above, CBOs played a key role in operating local small-scale water and sanitation projects prior to 2003, and were increasingly formalised as CSPs.

Since 2004 the DM has used LM wards committees to initiate the process of setting up the CSPs.

Depending on the scheme, each CSP consists of four or more people – and generally including an Operator, a Treasurer, a Chairperson and a Secretary. The Operator is trained for technical operation and minor maintenance of the scheme. In the cases where there are only three people, some functions are combined – usually those of Chairperson and Secretary. These people are selected by the community and are accountable to the community.

Three of the positions are given a monthly stipend of R270 per month (the Operator is given R350), as well as a monthly airtime allowance of R50.[29] They are not formally employed in any other capacity, and are viewed as volunteers.

The CSP reports to the community at regular community meetings.

Until the third quarter of 2009 facilitation and ISD support had been provided by The Mvula Trust, and technical support by Maluti GSM (in the form of five technicians from Zanamanzi). The two organisations held regular meetings to support and manage the process. This function was taken over progressively by the LMs from 2008 as capacity was built.

Operational rules were developed for the CSPs, e.g. pumping hours.

The CSPs have a good track record in dealing with unauthorised connections.

The DM has a free basic water (FBW) policy in terms of which all people using more than the free basic amount (6 kl per month) should pay. This is not currently enforced.

As part of its integrated planning and economic development strategy's focus on job creation, the DM would like to broaden the training of CSPs to enable them to become more astute at running a business, and offer them opportunities to convert to small, micro and medium enterprises (SMMEs) to ensure their sustainability and independence. The vision of the DM is to ensure job creation, local development and emancipation of women within a sustainable water services institutional arrangement.

5.2.4 Articulation of water services provision challenges

Interviews were held with stakeholders and role players to gain an understanding of the Chris Hani DM institutional arrangement.

Chris Hani DM considers the institutional arrangement as it applies to its western half to be working well. The four LMs have performed water services provision functions for many years to Karoo towns, and there is sound institutional memory. For this reason interviewees tended to focus their comments more on the institutional arrangement as it

[29] Amounts in ZAR provided to A Vermeulen (2009).

finds expression in the eastern four LMs (with some overlaps between two of the western LMs where they have reduced responsibility for rural areas).

The first table below contains a summary description of views articulated in the interviews regarding how each of the 10 key water services provision challenges are met (or attempts are made to meet them) within this arrangement.

The second table below contains a summary description of views articulated in the interviews regarding how the key issue of how municipal politics is seen to enable or constrain the management of water services.

The information contained in the two tables for each of the four institutional arrangements' case studies feeds directly into the analysis in the next section.

Ten key challenges

Table 4: Summary of findings regarding how the Chris Hani DM institutional arrangement attempts to meet the 10 identified water services provision challenges

1. Human resource scarcity
Chris Hani DM has a vision for development of its local communities and rural population, so the approach for water services provision is very closely linked to its local economic development (LED) approach, and is focussed on the development of local people. This includes training of community members, and updating the training according to emerging needs. It considers options for cooperation with Further Education and Training Colleges for development of artisans from local communities. It has decided to separate the WSA and WSP functions to ensure better accountability, but people are needed close to schemes for accessibility and response times. It is considering using existing Environmental Health Practitioners (EHPs) to do monitoring of WSP functions. In order for the four eastern LMs to strengthen their operation as WSPs, staff and skills shortages are being addressed. There is a considerable number of staffing vacancies that exist within the organograms in each of the LMs. In particular, many of the water treatment plants are not currently staffed with the required number and level of staff. In addition, some posts are filled with inappropriately qualified and / or inexperienced people. The Chris Hani DM is following the model used under the Masibambane Programme to place contract staff in municipalities to establish WSP units in the LMs. Posts have been advertised and are in the process of being filled by some very good quality people, according to the DM.
2. Accessing funds and financial viability
The O&M budget of the DM is funded from the ES. The ES is ring-fenced for water services and it is paid to the DM as the WSA. The ES has increased substantially (tripled) in the last few years. It was agreed with the LMs that 15% of the ES would go to

the DM for financing its WSA function. The rest is transferred to the LMs and part of it is used to pay the monthly stipends of the CSPs.

The DM is dependent on grant funds to a great degree, and neither it nor the LMs are managing to show a surplus on services provided.

Using the private sector is expensive, but it is generally fairly efficient. The approach of the DM is to scale down the use of private sector, although still using it for certain specialist functions.

According to the Director of Engineering Services the current model is thought to be quite expensive. The DM will assess the financial viability of the model through its implementation, and after it has been functioning for a while.

3. Procurement

When the DM made the decision to appoint Amatola Water it incorrectly assumed that Amatola's procurement mechanisms would be more efficient than municipal procurement mechanisms.

Since the institutional arrangement was new for the eastern four LMs, the DM did not want to overburden the LMs, so most of the procurement was done initially at the DM level. The DM is looking at appropriate ways to continue to support these LMs, and it is presumed that procurement contracts to access technical support will be part of this.

4. IAM and augmentation

Currently new schemes are implemented in the following way: first the DM receives a budget allocation from National Treasury, then it applies to national government departments (DWA and the Department of Cooperative Governance and Traditional Affairs [CoGTA] [ex-dplg]) for approval, and then the investigations start. In an ideal world it would be the other way around and the municipal systems would be set up to benefit from this.

The LMs have differing systems for implementing non-water services infrastructure, and the DM's PMU takes responsibility for implementation of new water services infrastructure. For O&M the CSP must identify the repair, replacement or augmentation needs, and the WSA (DM) will undertake the implementation thereof. The LMs cannot do anything without approval from the DM as WSA. The Chris Hani DM's PMU has initiated the development of a water master plan for the district.

In terms of the WSP contract with the LMs, all savings and surpluses that might be generated in future must be invested back into improvement and augmentation of the existing water systems.

5. Optimisation of operations

The geographical vastness of its area and the varying nature of the schemes are great challenges to the DM. People's lives are threatened when there are breakdowns, so ensuring ongoing operations is the function of the WSA as much as of the WSP. Chris Hani DM has taken a flexible approach towards provision of water services and has put in place differing arrangements for the western and eastern parts of the DM. This is based on how to optimise the operations of water services provision throughout the district.

The DM expected the water board to provide much more support, but had to consider

other options to support LMs and CSPs as WSPs. The DM is considering whether the CSPs can be turned into SMMEs, and / or could form cooperatives to access support services. No specific decisions had been made at the time of writing the case study.
6. Water services quality
Monitoring of water quality is best done as close to the problem installation and / or source as possible. The CSPs are trained to do basic maintenance and repairs, and receive technical support for more specialised tasks, previously from the private sector, then Amatola Water, and now the LMs. Through the community-based approach, turnaround times for breakages are less than 48 hours (two days) in the DM. People use their own tools to fix the installations. This contributes to creating community ownership of schemes. One of the interviewees claimed that since 2003 all the schemes operated by CSPs have functioned without major interruptions, and no water borne diseases have been reported in any of the communities (which is not the case in neighbouring DMs).
7. Consumer engagement and communication
The CSP model brings services closer to the people. The CSP is able to respond quickly to most issues. Therefore, one of the main benefits of community-based provision is to create accountability and immediate feedback at a very local level, thereby ensuring quicker and cheaper O&M of local schemes. If CSP Operators are not performing, the community can address this quickly and easily (with support from the LMs). The CSP model ensures close interaction with communities. Engagement and awareness create ownership which contributes to safeguarding of infrastructure, e.g. preventing theft and unauthorised connections. The community engagement ensures that the CSP is in a position to facilitate prompt and continuous feedback to the LM, although it seems that communities are not always clear as to whom they should direct their complaints. The DM also has a customer care practitioner and will place a customer care person in each LM as part of the WSP unit to ensure coordination between the DM and LMs.
8. Communication within and between the WSA and WSP
The Council of the DM and officials have a shared vision of what they want to achieve. This has enabled good communication mechanisms with its LMs and stakeholders. The shared vision, passion and commitment among the staff of the DM is a major contributor to the success in implementing this complex arrangement, which means that support for the arrangement is very high. Since the WSP function is contracted out from the WSA (Chris Hani DM) the WSP contracts define communication mechanisms.
9. Alignment of planning
Planning takes place in an integrated manner by the WSA. This allows for the coordination of issues such as raw water availability, storage capacity, water system master planning, water and wastewater treatment development and operations (as

addressed in the WSDP). The LMs performs the housing function. Placing the WSP in the LMs contributes to coordination of planning across departments and functions. A need was expressed for integrated planning at a scale greater than the DM.
10. Water resource availability and scarcity
The Chris Hani DM is a very dry area, and is currently facing a drought disaster with dam levels very low. This has raised awareness in the DM on the importance of water resource constraints and issues. Local accountability at community and ward levels contributes to minimal wastage of water and quick feedback and action in cases of problems. The training of the CSPs includes water conservation and water demand management, and therefore knowledge within the rural communities contributes to addressing issues of water resource scarcity. The DM should look at catchment level planning to ensure sufficient water resource availability. It has identified the need to ensure alignment to planning processes between local and national government (i.e. more efficient engagement with DWA) with regard to water resource management and development. For example, raw water storage capacity (a function of DWA) should be considered in a coordinated manner with the capacity of water treatment works (WTWs) (a function of the WSA and WSP).

Key issue

Table 5: Summary of findings regarding how interviewees in the Chris Hani DM institutional arrangement raised the key issue of municipal politics and the water services business

Municipal politics and the water services business
The Portfolio Councillor for Water Services lived in the area and had a vision for implementing the community-based arrangement. Since he is influential in the DM, political support for this “mixed” approach is very strong in Chris Hani. Senior officials also had a vision for the approach, and people were allowed to try new ideas without undue political interference. Ward committees and councillors are also supportive of the arrangement. It is seen as having the following benefits: • It empowers local people. • It creates ownership of the scheme and service in the local community. • It creates a community commitment to the scheme and to volunteering to keep services sustainable. • It keeps money in rural communities, and has the potential to support the development of community-based cooperatives and / or SMMEs. Because the water infrastructure systems are functioning, good feedback is received by the politicians from the communities. This in turn creates more political support for the arrangement.

5.3 Case Study: Maluti-a-Phofung Local Municipality

5.3.1 Summary of the institutional arrangement

The Maluti-a-Phofung LM is a WSA. It is one of five LMs within Thabo Mafutsanyane DM in the Free State.

In 2006 it established a municipal entity, Maluti-a-Phofung Water (Pty) Ltd (MaP Water), as its WSP. MaP Water is a municipal utility wholly owned by the Maluti-a-Phofung LM.

The municipal-owned utility amalgamated the work undertaken by two pre-existing WSPs (Sedibeng Water Board and Amanziwethu Services – a business unit within the LM built on a public-public partnership with Rand Water Board).

Further, Maluti-a-Phofung LM has a six-year management support contract with Uzinzo Services to provide support to the establishment of MaP Water, and to harmonise services across the two original service provision areas.

As mentioned previously, it was assumed that the institutional arrangement for water services provision in the Maluti-a-Phofung LM presented as **changing from decentralised arrangement to a centralised arrangement** at the LM WSA level – where the WSP functions previously undertaken by two different WSPs (and in two separate geographical areas) were being combined under the new municipal utility.

The institutional arrangement can be shown diagrammatically as follows:

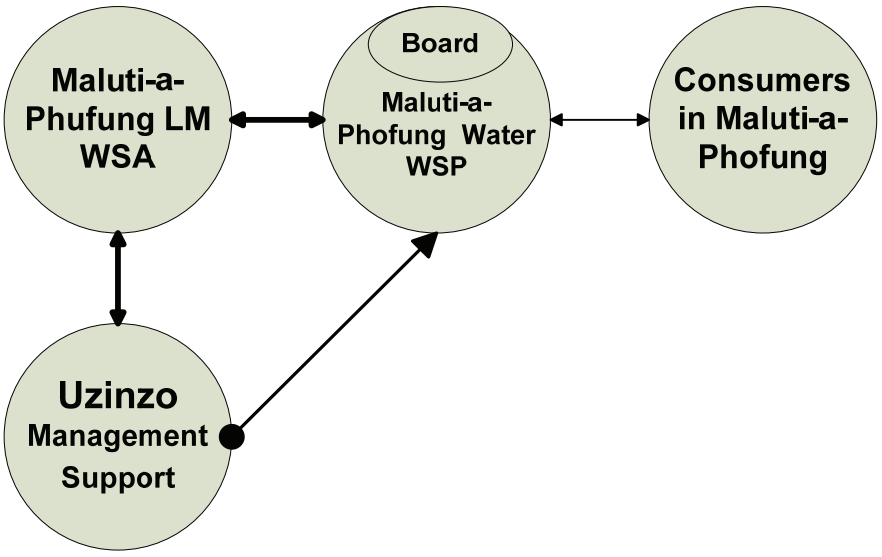


Figure 5: Maluti-a-Phofung LM – WSA contracts both WSP and management support for WSP

5.3.2 Background to the water services provision area

Geography

The Maluti-a-Phofung LM[30] is situated in the Free State Province of South Africa. It was established in terms of the provincial Gazette No. 14 of 28 February 2000 issued in terms of Section 21 of the Local Government Notice and Municipal Demarcation Act (No. 27 of 1998). Maluti-a-Phofung is made up of the four former TLCs of QwaQwa, Phuthaditjaba, Harrismith and Kestell.

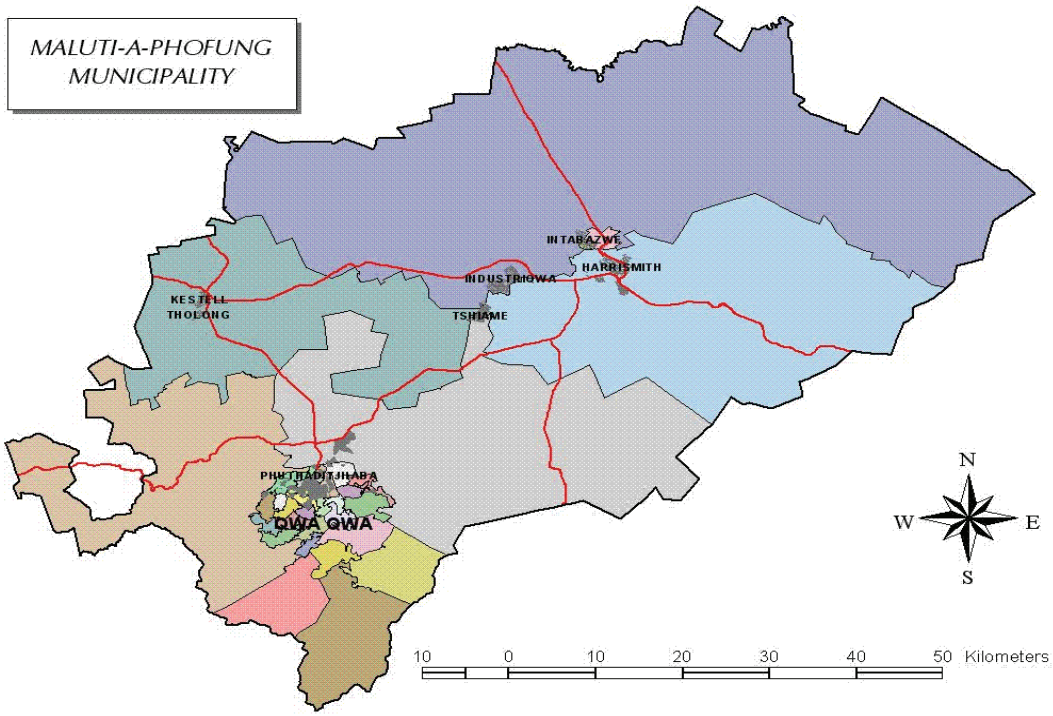


Figure 6: Map of Maluti-a-Phofung LM showing municipal ward boundaries, main settlements and roads[31]

The LM comprises 34 wards and is approximately 4 421 km^2 in size. Phuthaditjaba is the urban centre of QwaQwa[32] and serves as the administrative head offices of both the LM and the Thabo Mofutsanyane DM. Surrounding Phuthaditjaba are rural villages of QwaQwa established on tribal land administered by land affairs.

Harrismith is a service centre for the surrounding rural areas and a trading belt serving the passing N3 which links the Gauteng and KwaZulu-Natal provinces. Harrismith is surrounded by Tshiame located 12 km to the west and Intabazwe, which is located 1.5 km

[30] Maluti-a-Phofung LM web site (12-11-2009).

[31] Ibid (12-11-2009).

[32] QwaQwa was established in 1969 as a self-governing territory under the apartheid system. Though the homeland was disbanded with the end of apartheid, the area is still referred to as QwaQwa.

to the north. The town is an employment centre for people living in Tshiame, Intabazwe and QwaQwa.

Kestell is a service centre for the surrounding agricultural oriented rural area with Tlholong as an adjacent township. Kestell is situated along the N5 road that links Harrismith with Bethlehem.

With regard to water services provision, the LM is comprised of two previously separate service provision areas:

- The former white town of Harrismith as its economic centre, with the townships of Intabazwe and Tshiame.
- The former homeland of QwaQwa with Phuthaditjaba as its main urban area. The small town of Kestell / Tlholong was later included in this part of the arrangement.

Water services

The area of QwaQwa is located in the Vaal River Catchment and has two dams – Fika Patso and Metsi Matso. Eighty percent of water for residents of QwaQwa is provided by Fika Patso, with the other 20% provided by Metsi Matso.

The other two primary water sources in Maluti-a-Phofung LM are the Wilge River and Sterkfontein Dam – with Harrismith the closest urban area to both. The Wilge River takes water from the Letabe Water Scheme in KwaZulu-Natal through Harrismith and into the Vaal Dam. The two most important rivers in Harrismith are the Wilge and the Nuwejaarspruit. The Lesotho Highlands Water Scheme is also a critical water source as it supplies the Wilge River. Currently there is a project to purify water from Sterkfontein Dam to serve some of the areas in the LM.

The service levels in Harrismith were much higher than those of Intabazwe. In turn, both of those areas had higher service levels than Tshiame. Service levels in QwaQwa are the lowest in the region.

There are 17 projects in the LM to provide access to clean water and sanitation, and to address infrastructure backlogs. As of the 2004/5 WSDP, Maluti-a-Phofung LM had the highest service backlogs of the five LMs within the DM. The cost of resolving the backlog situation was also estimated to be the highest in the DM.

Maluti-a-Phofung LM was identified as one of 13 nodal areas designated as needing significant socio-economic development interventions.

5.3.3 History and current context of institutional arrangement

Institutional governance history

In 1994 DWAF inherited QwaQwa's homeland schemes. DWAF provided water services until 1998 when the Sedibeng Water Board was awarded a contract to provide water services to the QwaQwa area. As part of the agreement, Sedibeng was recognised as the

owner of the movable assets, and DWAF of the fixed assets. In 2001, Sedibeng also took on water services provision in Kestell.

The Harrismith Transitional Local Council (TLC) became responsible for Harrismith, Tshiame and Intabazwe after 1994, and remained the WSP for these areas until 2000.

In September 2000 the Maluti-a-Phofung LM was established. In December 2000 the TLCs of Harrismith, Phuthaditjaba, Tshiame, QwaQwa, Intabazwe and Kestell amalgamated into the Maluti-a-Phofung LM.

At that time key officials within Maluti-a-Phofung LM began looking at the possibility of gaining outside assistance to help fill some of the skills gaps faced by the Maluti-a-Phofung LM in water services provision. Mark Armstrong, then town engineer for Harrismith TLC (and later Maluti-a-Phofung LM), was interested in a similar institutional arrangement to that of the Rand Water Board[33] in the Odi area (consisting of the TLCs of Mabopane, Ga-Rankuwa and Soshanguve – all now part of Tshwane). It operated a business unit to provide water services. At this time Rand Water submitted an unsolicited bid to provide water services on behalf of the LM.

In 2000 a contract was signed between Rand Water and the LM. This resulted in the creation of Amanziwethu Services (originally called Greater Harrismith Water), a business unit within the LM comprising a public-public partnership between Rand Water and the Maluti-a-Phofung LM. Amanziwethu Services incorporated private sector business principles, for example, in the areas of cost recovery, credit control, and revenue collection. Staff was seconded by Rand Water to assist in the management of Amanziwethu, while staff from the LM was responsible for Amanziwethu's operations.

Therefore, at this time the Maluti-a-Phofung LM had a contractual relationship with two WSPs:

1. Sedibeng Water Board in QwaQwa / Kestell – providing a fully integrated service.
2. Amanziwethu in Harrismith / Intabazwe / Tshiame – providing some of the water and sanitation functions.

In 2003 when the two service contracts were about to expire, a section 78 process was undertaken – as required by the Municipal Systems Act. A key consideration for the LM was that it wanted to establish one service mechanism to harmonise service levels across the Maluti-a-Phofung LM.

The reasons supporting integration of the two service delivery mechanisms included:

- To standardise levels of water and sanitation services across Maluti-a-Phofung LM. This would involve addressing backlogs and differences in services pertaining to former QwaQwa and Harrismith.

[33] Rand Water (the country's largest public water utility) had begun working in water services reticulation after the promulgation of the Water Services Act in 1997 (having historically only provided regional bulk water).

- To improve financial sustainability by standardising revenue collection and the application of tariffs, including setting up of a single billing system for all services in the LM.
- To resolve pay grade differences between staff working in the different entities (Sedibeng had much higher salaries than Amanziwethu).
- To ensure revenue collected for water services fed back into water services operations (rather than cross-subsidising other services) – through financial ring-fencing.

The section 78 assessment determined a lack of internal capacity which would have to be sourced externally. In addition, it also determined that establishing a separate corporate entity as a ring-fenced business unit would be preferable financially, and should be operated on business principles.

This led to the establishment of MaP Water as a wholly municipal-owned corporate entity which assumed the WSP functions previously undertaken by Sedibeng Water and Amanziwethu.

Maluti-a-Phofung LM – as WSA – entered into a WSP contract with MaP Water in 2006.

In addition, Maluti-a-Phofung LM entered into a six-year management support contract with Uzinzo Services, a private sector joint venture that combines Water Services South Africa and Amanz'abantu Services from the Eastern Cape. Uzinzo was conceived as a "strategic partner" to the LM in order to provide support to the establishment of MaP Water in terms of:

- Providing people for the top three management positions (CEO, Technical Manager and Financial Manager) for the first three years of the contract; and mentoring local people into the positions during years four to six of the contract.
- Integrating old and establishing new systems and processes for water services provision by a single WSP over two former separate service provision areas.

MaP Water was formally established in 2006, but took some time to become operational. It is notable that it took three years from the start of the section 78 process to the point at which Sedibeng and Amanziwethu's functions were formally brought under functional control of MaP Water.

How the institutional arrangement works

MaP Water was established as a municipal entity in terms of the Municipal Systems Act, and is a company wholly owned by the Maluti-a-Phofung LM in terms of the Companies Act (No 81 of 1973) and municipal legislation.

MaP Water has a WSP contract with the Maluti-a-Phofung LM to provide water services on behalf of the LM in its entire area of jurisdiction.

MaP Water is governed by a Board appointed by the LM consisting of three members. The LM sees the Board as the mechanism to manage and interact with MaP Water –

although many interviewees said that more regular (monthly) operational level meetings are required where ongoing operational issues can be dealt with.

Uzinzo is a "strategic partner" appointed by the Maluti-a-Phofung LM to provide management support to MaP Water and to harmonise services.

5.3.4 Articulation of water services provision challenges

Interviews were held with stakeholders and role players to gain an understanding of the Maluti-a-Phofung LM institutional arrangement.

The first table below contains a summary description of views articulated in the interviews regarding how each of the 10 key water services provision challenges are met (or attempts are made to meet them) within this arrangement.

The second table below contains a summary description of views articulated in the interviews regarding how the key issue of how municipal politics is seen to enable or constrain the management of water services.

The information contained in the two tables for each of the four institutional arrangements' case studies feeds directly into the analysis in the next section.

Ten key challenges

Table 6: Summary of findings regarding how the Maluti-a-Phofung LM institutional arrangement attempts to meet the 10 identified water services provision challenges

1 Human resource scarcity
The Maluti-a-Phofung LM is located outside the main urban centres and growth points in South Africa and is experiencing net population shrinkage. The development of greater Harrismith has always been fuelled by its location on the connection between two national routes; but QwaQwa, as a former homeland, was driven by politics, and has no major drivers for economic growth. The Maluti-a-Phofung LM area does not easily attract well-qualified and skilled people – both in terms of remoteness (the offices are located in Phuthaditjaba) and ability to pay attractive remuneration (salary scales are set by the LM). When the two water boards operated in the area, they had access to skilled support outside of the area as the commercial and finance functions were largely undertaken by their head offices. When MaP Water was established it was correctly recognised that skills would be a challenge. For this reason Uzinzo was contracted to provide skills. Uzinzo was able to offer incentives to attract skilled people who, in the first three years of the contract (2006-2009), were expected to fill key senior positions and, in the second three years of the contract (2010-2012), were expected to mentor local people into those management positions. The concept of a "strategic partner" is a good one, but in practice this arrangement has

some challenges:

- Uzinzo brought in good management skills. Unfortunately the consequence of bringing in a Technical Manager from outside is that the Technical Manager did not have the detailed technical and local knowledge of the infrastructure system and its functioning that staff taken over from Sedibeng Water and Amanziwethu had.
- According to some interviewees, Uzinzo did not do so well in establishing systems, processes and procedures; and did not focus on finding local people to place in the top three management positions in order to begin mentoring new managers by 2010. Instead, Uzinzo motivated for an extension of its contract. The LM did not renew the contract of the CEO, and had not yet replaced her (one month later at the time of writing in November 2009). The contracts for the other two managers were renewed.

Further to the concept of the "strategic partner", MaP Water is developing skills in-house, and has trained 17 plumbers to date from the local community. Such a programme is expensive but is cost-effective over time.

Electrical and mechanical technicians and artisans are still a major concern, as MaP Water requires this capacity – although it is uncertain as to how to obtain it.

The organogram designed for MaP Water (to amalgamate the work of the former two WSPs) is not functioning as well as hoped, and some interviewees thought it needed revision.

2 Accessing funds and financial viability

When a municipal utility is established, the service(s) it provides should be ring-fenced; and this ideally includes delegating the billing and revenue function to the utility. However, in this case the LM has retained the billing, collection and revenue management function on a single municipal bill for all municipal services.

MaP Water therefore implements programmes for saving water and increasing payment, but is not necessarily gaining financially as the Maluti-a-Phofung LM collects revenue and pays a percentage back to MaP Water.

Some interviewees believe the LM is using water services to cross-subsidise other functions, and that the LM should increase the amount of money it pays back to the utility. However, one of the problems in trying to accurately quantify what should be paid to MaP Water is that the LM does not know to what extent it subsidises other services from water.

MaP Water interviewees thought that in order to ensure long-term sustainable water services, the revenue management function should be allocated to the utility. The utility also reported that it is getting fewer funds now than Amanziwethu got in 2005 (the year before it was disestablished), despite many improvements in water services.

Implementation of all capital projects is done by the infrastructure section of the Maluti-a-Phofung LM. The projects are mainly funded from MIG and the ES. Some interviewees thought that delegating implementation of capital infrastructure projects to MaP Water would add to its viability and efficiency. MaP Water implements maintenance projects with a limited budget.

Since there is 85% indigency in the rural areas of QwaQwa (where 75% of the population of the LM live), there is very little revenue to be collected. When Sedibeng operated schemes in QwaQwa it implemented a flat rate charge for water services since most people are supplied by standpipes. When MaP Water was established, the LM knew that

it would need subsidies to survive.

Some interviewees in MaP Water felt that MaP Water does not get a sufficient portion of the ES from the Maluti-a-Phofung LM, and that this affects its operational viability.

3 Procurement

Procurement had until very recently been undertaken by MaP Water, and conformed to the MFMA regulations. The utility was able to procure services fairly quickly – a most important capability as central to its business is fast turnaround times in addressing breakdowns and similar problems.

Recently the LM decided to take over the procurement function, but the reason is unclear. Because procurement processes within the LM are slower than they were within MaP Water, procurement now takes much longer. This is a major concern for MaP Water since it needs to make decisions and access the right goods and services timeously to keep the systems functioning.

An example is a current need at MaP Water to replace old, inherited vehicles. Broken vehicles sometimes mean teams don't have transport to take them to the site of problems. At the time of the research MaP Water was waiting for the procurement process of the LM to approve the purchase of new vehicles.

The change in procurement responsibility has been raised with the Board of MaP Water in the hope that the Board will address it with the LM and delegate procurement back to MaP Water.

4 IAM and augmentation

MaP Water's biggest challenge is ageing, deteriorating sewerage systems and old technology at WWTWs, and a lot of money is required for refurbishment. MaP Water also has concerns about the quality of workmanship of new infrastructure installed by the LM (since it has to operate the installations once completed). This issue has a very strong link to planning, which needs to be done on a regional basis.

When the DWAF operational subsidy was still received for schemes in QwaQwa there was money for preventative maintenance. Currently infrastructure assets are not properly managed owing to lack of funding, and also due to political decisions by the Maluti-a-Phofung LM on investments which, in the opinion of MaP Water, were not the most pressing (e.g. installations of water meters throughout QwaQwa where there is not much income generation potential).

Maluti-a-Phofung LM is only now embarking on a process to develop a water services master plan. Some MaP Water interviewees said that it would be better if MaP Water had the function to implement the plans (WSDP and master plans) developed by the LM.

5 Optimisation of operations

MaP Water has various local offices, depots and stores to optimise costs; these are all managed centrally, and MaP Water has one central store manager. Most of the work done by MaP Water is addressing urgent operational issues of breakages and repairs of old infrastructure. Optimisation is done with regard to repairs, e.g. carrying stock in the stores.

To further optimise operations, MaP Water is currently implementing a "centralised" telemetry system and a preventative maintenance schedule. It also takes water quality

samples twice a week and these are analysed by a laboratory. If the skills to operate these cannot be built in house, outsourcing will have to be considered (with a cost implication).

6 Water services quality

Currently MaP Water is meeting water quality standards very well, but effluent discharge standards are a challenge, and are becoming increasingly so. This is largely due to inherited infrastructure and technology that is old, and a lack of funds to upgrade these.

MaP Water is aiming to be granted a blue drop status[34] this year – missing out last year mainly due to sub-standard paper work.

Reporting of leakages needs to be improved by customer education.

Sedibeng put a fault logging system in place which has been taken over by MaP Water.

MaP Water will be able to measure water losses once it has completed the installation of bulk meters.

Generally people are happy with the services provided. This is reflected in the fact that water and sanitation were not issues raised during recent (2009) service delivery protests in the Maluti-a-Phofung LM.

7 Consumer engagement and communication

MaP Water has a customer charter in place. It believes the charter has been well communicated to its consumers within an effective consumer engagement framework.

It has a “centralised” call centre, and “decentralised” customer care units in local offices in all its main areas of supply. The “centralised” call centre handles an average of 2 500 queries per month. Complaints are addressed quickly based on a job card system.

Both Sedibeng Water and Amanziwethu Services put much effort into consumer engagement, and MaP Water has taken these initiatives forward in a positive way. The customer care officials of MaP Water visit individual households where queries have been logged to ensure that issues are addressed, and to educate people on water services related issues. This greatly supports credit control. MaP Water also produces pamphlets, radio shows and campaigns.

The Maluti-a-Phofung LM operates various pay points throughout the area located in municipal offices. These pay points are used by MaP Water as an effective feedback mechanism since people are able to raise issues at these pay points.

8 Communication within and between the WSA and WSP

Although the institutional arrangement has the potential to work very well, it has experienced challenges in terms of the relationship between the WSA and the WSP. The challenges were expressed by some interviewees of MaP Water in terms of:

- There is no mechanism for structured engagement between MaP Water and the LM on issues such as day-to-day operations, coordination of planning (including

[34] Blue Drop Certification is a DWA programme which accords a blue drop status to a municipality. The blue drop status indicates the effectiveness of the WSA and the WSP regarding their management of drinking water quality. The award is granted if there is 95% or greater compliance with the programme criteria.

with different sections such as Housing) and quality control of implementation of new infrastructure projects.
- Decisions affecting the functioning and viability of MaP Water are taken by the LM without due consultation with the utility, and not always in accordance with the contract.

Communication channels currently seem to be unclear, and this has created much confusion as to how and where problems can be resolved. The impact is that problems can remain unresolved for long periods of time or not get resolved at all.

MaP Water submits a monthly report to the LM. The CEO engages with the Municipal Manager and other senior LM managers, i.e. there is some form of high-level engagement. However, some MaP Water interviewees were of the opinion that feedback could improve, and there is a serious need for structured communication and engagement around operational issues.

To date regular meetings to discuss operational issues between the utility and the LM have not occurred since the political leadership sees this as the function of the Board. However, the Board meets quarterly – which is not often enough to address ongoing operational issues.

Seemingly a good start to solving the problem would be the appointment of an official in the LM who would take specific responsibility for managing the WSP contract; and putting in place useful mechanisms to ensure appropriate engagement – such as regular and structured meetings with defined scope and agendas to address both strategic and operational issues.

In terms of engagement with ward councillors, MaP Water has weekly phone calls with all of them to identify and address issues early and quickly. Some interviewees expressed the opinion that communication with ward councillors is more important than communicating with the public.

Finally, frequent changes of both politicians and officials in the LM are a challenge for continuity of relationships and ongoing understanding of the issues.

9 Alignment of planning

The LM plans various developments, especially housing (done by the town planning section); but it does not always ensure that water will be available when projects are implemented. Storage capacity for water is a challenge (in some cases less than 12 hours). This leads to misalignment between water and other services.

MaP Water has not had much success in interacting with the town planning department, although it is an important link.

The water services planning function sits with the Maluti-a-Phofung LM. MaP Water gives input to the plans and planning processes, but does not always see its priorities and recommendations taken into consideration.

The LM has recently initiated a process to develop integrated master plans for all services. Some interviewees from MaP Water cited the lack of water master plans as a challenge to effective operation of the utility, including proper management of the water services system.

Currently the PMU is responsible for capital project planning, but does not coordinate very well with MaP Water.

All interviewees identified planning as a key function to be performed “centrally”. Perhaps

if the DM had capacity, then the planning function might be better placed there.
10 Water resource availability and scarcity
Both the Maluti-a-Phofung LM and MaP Water identified the issue of water resource scarcity as a major issue that need to be addressed at a level higher than the LM (perhaps at least at the DM level), taking into consideration inter-catchment issues. Eighty percent of the LM's population is served by the Fiko Patso Dam, which has an assurance of supply challenge. The LM undertook a study to examine the prospects for augmentation of water supply from the Sterkfontein Dam (located within its area of jurisdiction). Engagement on this matter with DWA water resources planning has been good, and DWA agreed to fund 94% (of the cost estimate) of the capital cost for the scheme – estimated at 2009 prices at R257 million.[35] This new scheme will supply water to Phuthaditjaba, Tshiame and Kestell / Tlholong from Sterkfontein Dam, and will relieve pressure on the Fika Patso Dam. The scheme will be completed in three years, and water restrictions may be required in the interim. The new scheme is due mainly to great foresight and long term planning undertaken by Sedibeng Water when it operated the QwaQwa schemes.

Key issue

Table 7: Summary of findings regarding how interviewees in the Maluti-a-Phofung LM institutional arrangement raised the key issue of municipal politics and the water services business

Municipal politics and the water services business
When the WSP contracts for Sedibeng Water and Amanziwethu Services ended, so did the DWAF operational subsidy for the former QwaQwa homeland infrastructure (which had been transferred to the LM). When the two former WSP contracts were ending the Maluti-a-Phofung LM undertook a business case analysis as part of its section 78 process to determine appropriate replacement contracts. The business case analysis indicated that a municipal utility owned by the LM – and supported by a "strategic partner" – would probably offer the LM as WSA the best WSP option. The role of the "strategic partner" was seen as the placement of senior management staff into MaP Water for a limited period of time in order to establish the institution, and to mentor appropriate staff into management positions. The establishment of MaP Water had very strong political ownership and was driven by Council. Since its establishment three years ago the political drive and ownership has been declining as MaP Water has become more independent. This has lead to a loss of understanding of why MaP Water was established, the importance and contents of the WSP contract, and operational issues for which it exists. This in turn has lead to a loss of focus on services delivery issues from the LM, and a loss of understanding within the LM

[35] At the request of DWAF a study of the Eastern Free State was done to consider extending the proposed scheme so that other areas could benefit. It was found to be too expensive.

of what it means to have a fully municipal-owned utility.

With changes in politicians, new councillors (sometimes with little understanding of the issues) have become involved. The LM is sometimes accused of not conducting affairs according to the WSP contract, and this has been seen as political interference by some. A decision was recently taken by Council not to renew the contract of the CEO (an Uzinzo appointment), despite there being no person appointed to take her place. This is deeply problematic for the management of the utility.

When the two WSPs operated within the Maluti-a-Phofung LM they had two separate contracts and sets of operating procedures. A coordinating committee was established to ensure alignment and resolve day-to-day operational issues and concerns. The coordinating committee structure also served as a monthly operations' meeting. Since its disestablishment no replacement structure has been created to address ongoing operational issues.

In water services provision operations quick decisions and flexible solutions are essential, and political and administrative systems of municipalities often are not geared for this. Any decision must be based on a strong and well-considered business case and the focus must always be and remain on the main issue: service delivery. The way the utility is financially and otherwise dependent on the LM is one of the difficulties in the current institutional arrangement.

5.4 Case Study: Ugu District Municipality

5.4.1 Summary of the institutional arrangement

The Ugu DM is both the WSA and WSP for its entire area, both for bulk and reticulation services, and for both water and sanitation.

It has good capacity and institutional knowledge, having provided water services for many decades to the well developed coastal strip known as the KwaZulu-Natal South Coast.

Post 1994 community-based WSPs were set up in rural areas in the KwaZulu-Natal South Coast hinterland through the CWSS Programme of DWAF. They performed some WSP functions. The 1995 and 2000 demarcation processes changed the boundaries of the municipality, and added this large, rural hinterland.

Ugu DM formalised the CBOs with contracts for a period of about two years. When the contracts ended it absorbed the majority of the CBO employees into its own staff.

As mentioned previously, it was assumed that the institutional arrangement for the Ugu DM presented as a **centralised arrangement** at a DM WSA level that had changed from aspects of decentralisation when it ceased to use community-based WSPs. However, it seemed to have retained some significant **decentralised functions** (notably in terms of aspects of its operations).

The institutional arrangement can be shown diagrammatically as follows:

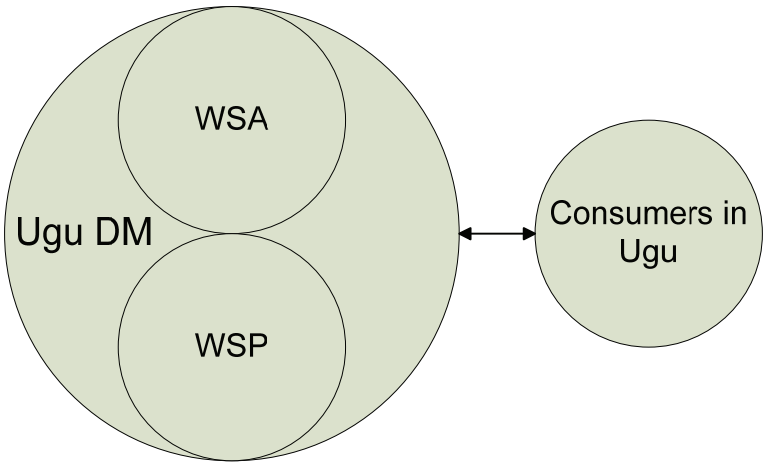


Figure 7: Ugu DM – as both WSA and WSP – has ring-fenced its WSP business within the municipality, and has a contract with its consumers

5.4.2 Background to the water services provision area

Geography

The Ugu DM is located on the South Coast of KwaZulu-Natal. It covers an area of 5 866 km^2, and is comprised of the six LMs of Ezinqoleni, Hibiscus Coast, Umdoni, Umzumbe, uMuziwabantu and Vulamehlo.

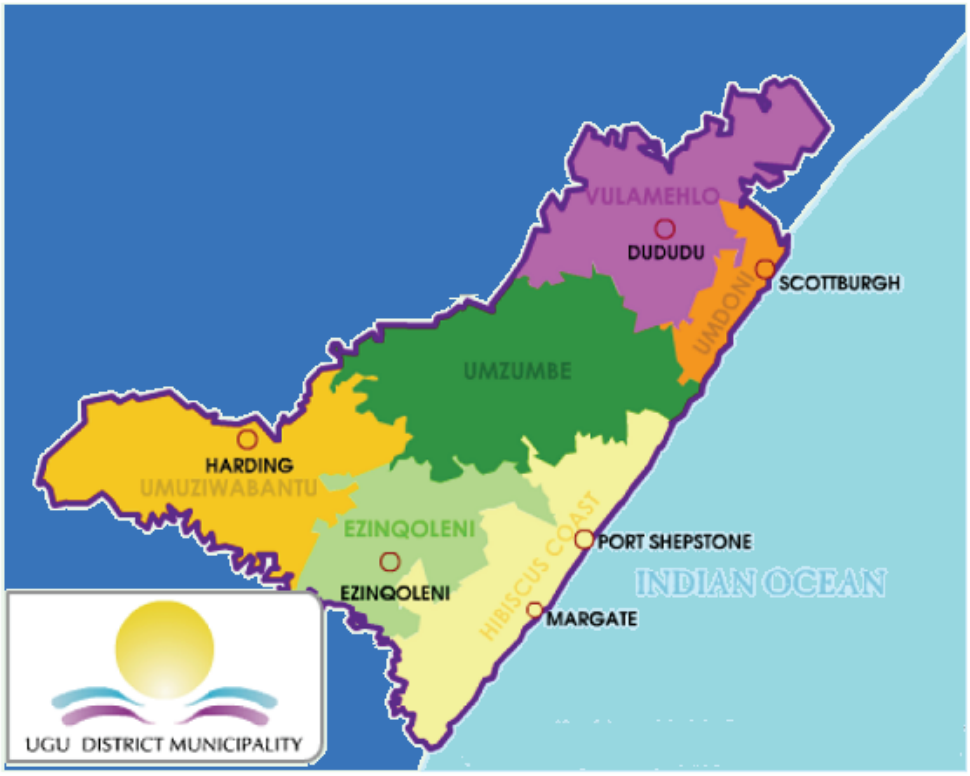


Figure 8: Ugu DM and its six LMs[36]

It is characterised by a well-developed coastal strip and a large inland rural area – physically divided by the N2 freeway. The coastal strip is largely urban, and the hinterland largely rural.

Water and sanitation

The DM is both the WSA and its own WSP (both bulk and retail). It owns and operates all water services infrastructure in its area – with the exception of two WTWs which are operated by the Umgeni Water Board and eThekwini Metro through bulk water agreements.

According to Dr Johan van der Walt, Head: WSA Unit, the water backlog in Ugu is 36%, and the sanitation backlog is 39%[37].

[36] Provided by Ugu DM.

[37] Interview with A Vermeulen (2009).

The DM is performing well relative to other DMs, when looking at the rate of improving access to services, financial management, low service interruption rates and water quality. The National Water Services Benchmarking Initiative[38] found Ugu to have the highest rate of payment collection (between 90 and 100%), the lowest proportion of water quality sample failures (less than 5%), and an impressive rate of eliminating backlogs (between 6 and 10% annually). Yet substantial investments are required to provide effective, equitable and affordable water. The biggest challenge is to ensure equitable access to water services through the extension of infrastructure to previously un-served areas.

FBW is given to all households using less than 6 kl monthly, and free basic sanitation is offered to households with waterborne sewage that are on the indigent register.

The area is less water scarce than the rest of South Africa, but still requires water from other catchments. The region's water supply comes mainly from run-off river sources, groundwater, and protected and unprotected springs. Most of the existing main water works in Ugu abstract raw water directly from rivers. Boreholes are generally low yielding, and are mostly inadequate sources for piped supply schemes. The same is true for the protected and unprotected springs.

The DM also makes bulk purchases from Umgeni Water and eThekwini Metro. Water purchased from Umgeni Water is mostly used to service the northern coastal strip (i.e. Craigieburn, Umzinto and Umtwalume) while the southern coastal strip is serviced by water extracted from a number of rivers and dams.[39]

5.4.3 History and current context of institutional arrangement

Institutional History

Along the coastal strip of the KwaZulu-Natal South Coast water services have been provided at a regional level for more than 70 years, despite each small town having its own municipality before 1994. The core of this function was established as the South Coast Water Corporation, later the JSB, which became integrated into the Regional Services Council (RSC) in 1995, and then become the Ugu DM in 2000.

So, although the boundaries have changed and the rural hinterland added, the core of the institution has existed and been built over many decades. This has created an institutional memory and capacity that could fairly easily cope with additional challenges and new service delivery areas, even though most of the rural hinterland formed part of the former KwaZulu homeland administration.

The creation of community-based structures

[38] Begun in 2006, the goal of which is to promote improved performance of water services by all water services providers (WSPs) in South Africa (and promoted by SALGA, the WRC and DWA).

[39] Ugu DM (2006:a).

From 1994-2000 DWAF took national responsibility for the enormous backlogs in water services delivery. It adopted a community-based delivery approach, working in collaboration with local and national NGOs.

Firstly, physical infrastructure was extended via DWAF and the national CWSS Programme infrastructure grants to an Implementing Agent (IA) through DWAF's regional offices. Next, a local water committee was nominated and elected through participatory processes undertaken at village level. These community-based committees were referred to as Village Water Committees (VWCs) in The Mvula Trust implemented schemes, and as Project Steering Committees (PSCs) in DWAF implemented schemes. The community-based water committee would then appoint four to six paid employees (generally a Chairperson, Secretary, Treasurer and maintenance positions); receive training in project and financial management; and establish an office with equipment to perform various provision and management functions, including billing, community communication and decision making. In Ugu, some of these committees were formalised as community-based WSPs, and some signed two year WSA-WSP contracts with the then Ugu Regional Council.

Municipal concerns with community-based structures

Ugu DM was formed in 2000 and included both urban coastal and rural hinterland areas. When the division of powers and functions took effect in July 2003 Ugu DM was delegated the WSA function. The DM chose to disband the CBOs, absorb most of the employees into its municipal structures, and develop an internal model to deliver water and sanitation services.

Reasons given by municipal officials for the disbandment of the CBOs included poor management, political ambitions, and costly to support.

Current institutional arrangements

In 2002 Ugu decided to retain the WSP function, and absorbed about 70% of the community-based WSP staff into its water services reticulation department. Ugu kept the existing WSP offices in the communities and retained the staff to perform the WSP function. Some communities did not even realise that a change had taken place.

The DM is now responsible for providing water services in all six of its LMs,[40] and its roles and functions include those of WSA, IA, WSP and bulk WSP.

In terms of its institutional arrangement, Ugu has separated its water services functions in the following way:

- **Project implementation** is undertaken by the "centralised" PMU in the DM.
- **Integrated planning** is undertaken by the WSA Unit in the DM for water services, and by the planning units in the LMs for other functions.

[40] Ugu M (2006:b).

- **O&M** is undertaken by Water Services Operations (the WSP) in the DM for water services, and by the LMs for other functions.

The benefit of separating these functions is that each Unit has a dedicated focus.

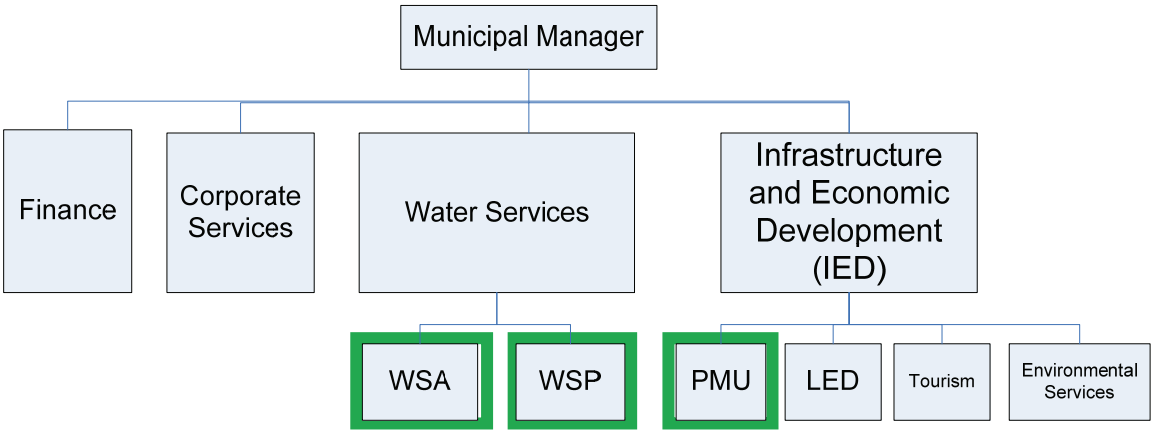


Figure 9: Ugu DM organogram (highlighting the three Units with direct responsibility for aspects of water services)

In 2009 the DM created teams for each of the catchment areas (the two main catchments and sub-catchments). Each team will work on one specific system. The area managers will be responsible for overseeing all water and sanitation services in their territory and will be the 'point person' for all water and sanitation issues both within the organisation and for outside inquiries.

The "centralised" PMU

The PMU was set up over a period of two years. It was set up as an IA to implement projects. When it started, Ugu received seed funding from the KwaZulu-Natal Department of Local Government, Housing and Traditional Affairs (LGHTA) of R6.5 million over three years, as well as R2 million from the MIG for overhead costs (commonly referred to as 'top up'). The vision for funding the PMU was to use savings from economies of scale, as well as savings from not using consultants once capacity had been developed within the Municipality.

5.4.4 Articulation of water services provision challenges

Interviews were held with stakeholders and role players to gain an understanding of the Ugu DM institutional arrangement.

The first table below contains a summary description of views articulated in the interviews regarding how each of the 10 key water services provision challenges are met (or attempts are made to meet them) within this arrangement.

The second table below contains a summary description of views articulated in the interviews regarding how the key issue of how municipal politics is seen to enable or constrain the management of water services.

The information contained in the two tables for each of the four institutional arrangements' case studies feeds directly into the analysis in the next section.

Ten key challenges

Table 8: Summary of findings regarding how the Ugu DM institutional arrangement attempts to meet the 10 identified water services provision challenges

1 Human resource scarcity
As experienced by all organisations in the municipal, engineering and water sectors, Ugu faces the challenge of attracting and retaining skilled staff. Ugu mainly loses staff to provincial and national government, as well as to the private sector. However, there is strong evidence that Ugu is better able to retain skilled staff than many other municipalities because it: • Has a positive corporate culture and work environment. • Is able to offer and support good salary packages. This is due to its grading, which in turn is based on its capital and operational expenditure and income streams. • Has put in place training programmes for tertiary education (conforming to government policies and systems) and special programmes which focus on training artisans and operators (including a Mayoral bursary programme). The "centralised" PMU utilises economy of scale in that it applies scarce skills situated in the PMU over its entire geographical area, as well as for all the various services. This enables the DM the flexibility and ability to rotate people and better develop skills. This is particularly important in terms of application to scarce skills such as electricians, plumbers, fitters, foremen and plant operators, i.e. the institutional arrangement allows for vocational specialisation. The PMU is involved in the full project cycle, including feasibility, design, supply chain management, construction management, project reporting and tracking, cash flow tracking and analysis, payments and reconciliation, and auditing. It therefore requires many skills and wide expertise. It employs a variety of skills, including engineering, technical, financial and social. Ugu manages 19 WTWs for which certain standards for operators have been set. Operating so many on a "centralised" basis it is able to apply scarce skills across all the works. For example, effectively it only needs one class 4 operator that can service all WTWs. Ugu is also developing scarce skills. It is undertaking a recognition of prior learning (RPL) programme for plumbers. This is to be extended to fitters and turners, and electricians. Ugu also trains all PMU staff in project management.
2 Accessing funds and financial viability
The well-developed coastal strip is a source of income for the Municipality. It is used to cross-subsidise the inland rural areas. The DM and LMs respectively charge separate municipal rates for different functions to the same consumers. A consolidated rates system will be less costly to consumers since overheads to administer will also be less. Combining the municipal rates account has

been identified by the DM as a possible future benefit of scale.

The “centralised” PMU utilises economy of scale in its management of all the various funding sources:

- MIG (via CoGTA).
- Masibambane and other funding from national DWA.
- Development Bank of Southern Africa (DBSA) sanitation and bulk water.
- LGHTA.
- Ugu DM’s own capital funds.
- uMuziwabantu and Umzumbe LM’s MIG.
- Sports and recreation grants from the Province.
- Ad hoc projects.

The PMU enhances Ugu’s ability to access loan funding. DWA and MIG funds subsidise basic levels of service, and Ugu uses loans to fund higher levels of service. It services such loans by means of consumer capital contributions, savings, and water use tariffs. Due to its effective operations and large budgets, it has a good credit rating, and therefore is more able to access such loans.

3 Procurement

“Centralised” procurement enables bulk purchasing power.

Skills required for procurement are also scarce. A “centralised” procurement system requires fewer people to do procurement for larger areas of operations, i.e. fewer procurement skills. Strong in house capacity decreases dependency on consultants, thereby further lowering costs.

In Ugu the “centralised” PMU administers the procurement of goods and services for the WSP unit. Because the PMU is able to manage its supply chain management system consistently, tender prices are lower since contractors know the system, and have more certainty as to how and when payments are done. This, in turn, enables them to procure materials at cheaper prices. The PMU manages an effective system, and savings resulting from this efficiency can be given back to consumers in the form of cheaper and more efficient services.

4 IAM and augmentation

The main benefit of this arrangement for IAM is the benefit of scale in planning, procurement and resourcing over a larger area. “Centralising” human resources allows for specialisation which is required for effective IAM and the IT skills and systems associated with it. The WSP and PMU work closely together on planning for IAM and augmentation.

5 Optimisation of operations

In Ugu, as in other rural areas in South Africa, there are many unviable small water schemes and systems. The benefit of ~~a~~ “centralised” operations is the ability to consolidate operations, bringing down the operational costs of the individual schemes.

Because Ugu is managing various different schemes, works and installations, it has the

ability to experiment with different approaches and compare results to check effectiveness and efficiency.

The “centralised” PMU utilises economy of scale in that it manages project implementation for the various services funded by the MIG: water, roads, sanitation, community facilities (such as community halls), street lighting, storm water and sports facilities.

“Centralisation” of auxiliary services is a major benefit – this includes the PMU.

“Centralised” management of water services allows for total water cycle management in Ugu and a focus on the core business of water services provision.

Stormwater management is linked to the roads functions, and is therefore undertaken by the LMs. Some in Ugu would prefer the DM to perform the stormwater management function as it is so closely linked to water services, and to also consider alignment of water management boundaries with that of water services provision boundaries.

This institutional arrangement ensures a regional perspective which increases the potential to improve the quality of services, improved O&M and routine replacement of infrastructure.

Ugu maintains various sub-regional units throughout its area of supply – important for local accountability and short breakdown turnaround times. This is effected through the catchment-based teams as well as the CBO staff they inherited (ensuring a local presence in rural communities).

6 Water services quality

Once again the benefit is in economy of scale. The operation of bulk services is less complicated than the operation of reticulation systems. Water quality monitoring and analysis are also scarce skills.

Generally consumers and stakeholders are satisfied with Ugu’s performance to the extent that all LMs have now handed over the operation of their WWTWs to Ugu.

The National Water Services Benchmarking Initiative mentioned above found Ugu to have the lowest proportion of water quality sample failures in the country (less than 5%).

7 Consumer engagement and communication

Communication in rural areas is a challenge. The Ugu DM, as mentioned previously, has a local presence in rural areas through the ex-CBO WSP offices.

The DM, through its PMU, further engages with consumers and potential consumers through the establishment of a community-based PSC during project implementation. This enables the community to guide the implementation of the project.

An advantage of the arrangement is that specialist functions such as call centres and record keeping are more cost effective when done on a “centralised” basis.

Some officials reported challenges with respect to the existing call centre system.

8 Communication within and between the WSA and WSP

The units of the WSP, WSA and PMU create good coordination at senior management level. This opinion was expressed by all people interviewed.

It is the opinion of the research team that both formal and informal communication work

exceptionally well, and are largely due to a positive work environment and mutual respect between councillors and officials.
9 Alignment of planning
The WSA Unit and Operations (the WSP) both report to the General Manager: Water Services. The PMU reports to the General Manager: Infrastructure and Economic Development. Water Services is responsible for water and sanitation services: operations, maintenance, and capital projects. The PMU and the WSA work very well together. The WSA sets the service standards and checks that these are conformed to in the planning, design and construction phases. The PMU does the project management. The Operations section does the planning. Implementation is then given to the PMU – with input from Operations in order to ensure that the correct quality and specification of materials are used. Operations are also involved in PSCs with the PMU. This relationship enables economies of scale and scope. There is still a challenge in ensuring coordination of planning, particularly between the municipality and provincial and national government on infrastructure issues. But this particular institutional arrangement has the potential to enable good coordination. Further alignment of planning could result in further savings in operational costs.
10 Water resource availability and scarcity
Even in a fairly water rich area like Ugu water resource availability is a concern. This is because the rivers in the Ugu DM are generally short and fast flowing, and some are seasonal. This means that storage capacity options are limited, and assurance of supply is not good. Therefore it is very important for Ugu to work with its neighbouring municipalities and Umgeni Water to provide regional schemes to improve assurance of supply.

Key issue

Table 9: Summary of findings regarding how interviewees in the Ugu DM institutional arrangement raised the key issue of municipal politics and the water services business

Municipal politics and the water services business
Generally Ugu is doing well in many respects such as provision of bulk and reticulation water and sanitation services and implementation of infrastructure (not just water services). Its institutional arrangement evolved over time and takes cognisance of ~~on~~ the practical realities of its existing water services systems. While it is challenging to disaggregate rural from urban water services provision and draw general conclusions regarding institutional arrangements for water services, what appears certain is that the DM has yet to fill the gap CBOs left in the rural communities. Ugu has yet to find a way to fully serve the areas previously served by CBOs. It may be worthwhile for the DM to revisit the community-based WSP model to see if there are aspects of the design worth re-integrating into its current institutional arrangements. Ugu is engaging its neighbouring municipalities and other institutions (water boards) in respect of bulk water supply, water resource availability and regional planning. The South Coast pipeline project undertaken with Umgeni Water and eThekwini Municipality

is an example of how the DM is looking broader and to expand its business.

In terms of the dismantling of the CBOs, some in the DM today contend the CBOs were never fully-fledged WSPs. However, the CBOs did perform functions of a WSP: consumer liaison, operational management, financial management and minor maintenance. They had some kind of agreement with the DM, and they would have had a certain amount of financial risk since they had to pay the DM for bulk water.

It has been suggested that the CBO model offered the following advantages:

- It provided a local source of employment and community development. Although there were only a small number of full-time jobs at each community-based WSP, a few CBOs were successful enough to be able to raise sufficient capital to make micro-loans to community members, thus creating new opportunities for growth.
- Having the office located in the community meant the costs of metering the few household or business connections and administration costs were kept to a minimum, and that users had a familiar face nearby they could engage with if they have questions, concerns or complaints.

5.5 Case Study: uThukela Water (Pty) Ltd

5.5.1 Summary of the institutional arrangement

In June 2004, on the advice of expert reports and supported by a variety of provincial and national government departments, the following four WSAs in KwaZulu-Natal established uThukela Water in terms of the Companies Act:

- Amajuba DM.
- Newcastle LM.
- uMzinyathi DM.
- uThukela DM.

This company was wholly owned by the WSAs as a multi-jurisdictional municipal utility. It was mandated by its owners to provide bulk water services to all four WSAs and for reticulation directly to consumers in the three DMs.

It was established to make use of economies of scale to provide services more cheaply and to equalise tariffs throughout the supply area.

In December 2004 uThukela DM withdrew from the partnership and uThukela Water to date serves the remaining three WSAs.

uThukela Water is the first and only multi-jurisdictional municipal entity established for water and sanitation services delivery in South Africa.

As mentioned above, it was assumed that the institutional arrangement for uThukela Water presented as a **centralised** (regional) **institutional arrangement** at a level higher than DM WSAs, with three WSAs using one multi-jurisdictional utility as WSP. However, it seemed to have a significant proportion of **decentralised functions** (particularly in terms of governance and aspects of operations).

The institutional arrangement can be shown diagrammatically as follows:

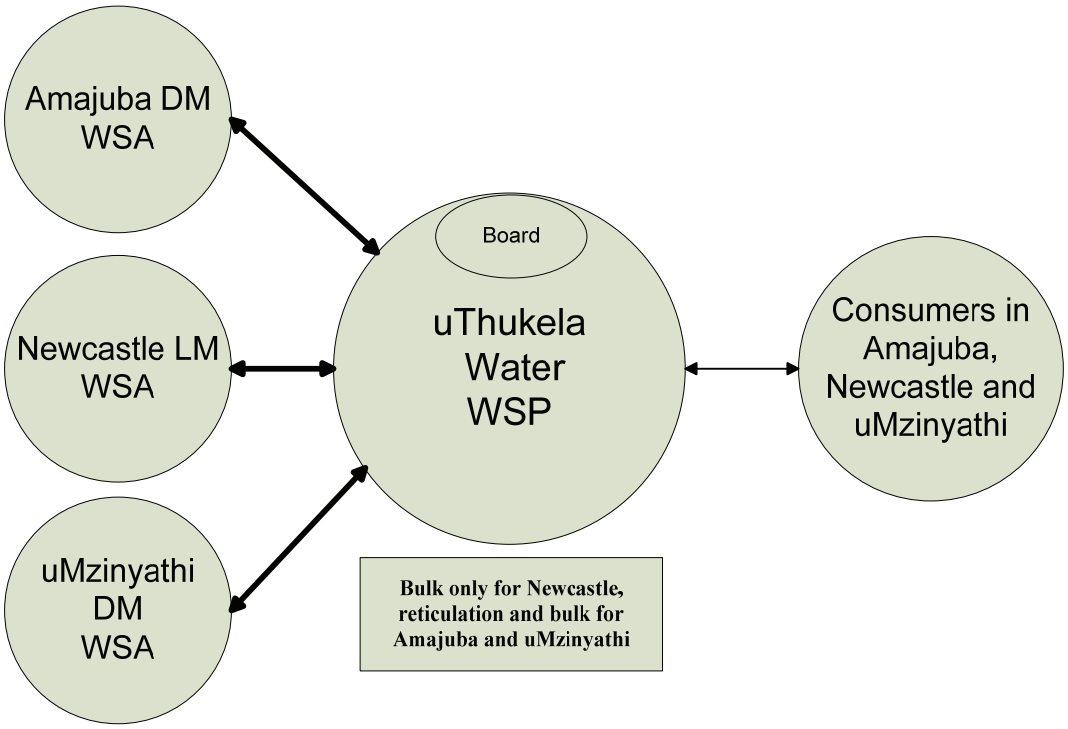


Figure 10: uThukela Water – three WSAs contract one multi-jurisdictional municipal utility as WSP

5.5.2 Background to the water services provision area

Geography

The uThukela Water service area forms part of the north western region of KwaZulu-Natal stretching from the northern reaches of the Drakensberg Mountains through to areas in the far north west of the Province, and taking in substantial areas of the north western sections of the KwaZulu-Natal Midlands. It includes towns such as Winterton, Bergville, Ladysmith, Ezakheni, Newcastle, Madadeni, Osizweni, Dundee, Glencoe and Greytown.

The area is clustered around the catchment of the Tugela River which rises in the Drakensberg Mountains. It is characterised by a large dispersed rural settlement pattern including extensive commercial agricultural, protected reserves and considerable areas of communal land under the Ingonyana Trust Act (No 3 of 1994). The largest towns are Ladysmith and Newcastle, both characterised by considerable industrial and tertiary economic activity. Other centres such as Greytown and Bergville serve as agri-industry and service hubs. The bulk of households are rural residents.

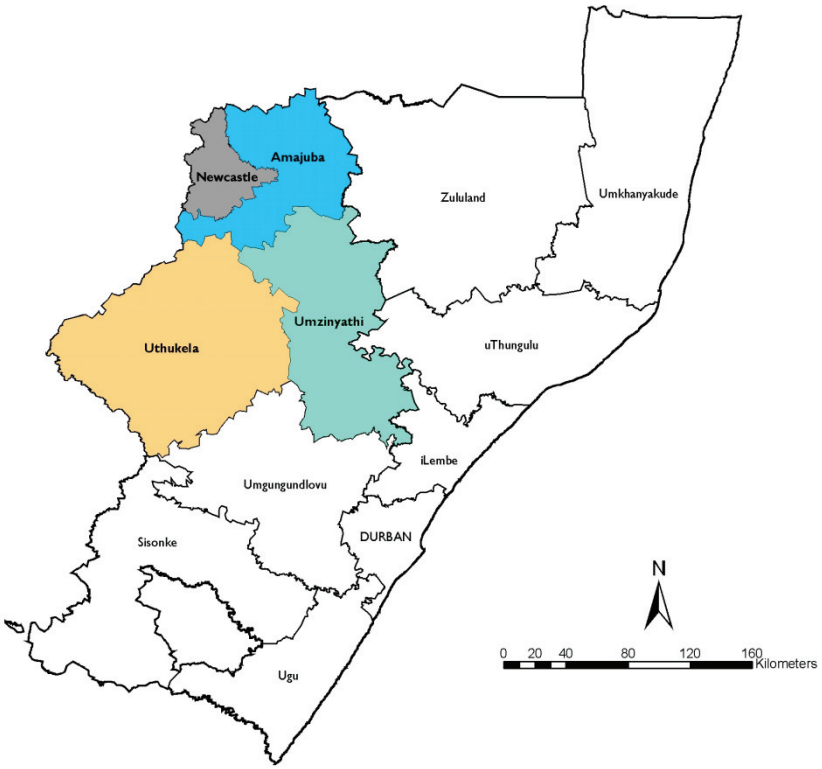


Figure 11: Map of the Province of KwaZulu-Natal with the four WSAs originally part of the uThukela Water water services provision area (uThukela DM has since withdrawn from the institutional arrangement)[41]

Water and sanitation

650 000 people in 119 000 households were being supplied with water leaving a backlog level of around 52%. The sanitation backlog was around 70% with 420 000 people or 75 000 households being supplied with sanitation related services.[42]

Payment levels were estimated to be around 60%, but deemed considerably lower than this in some areas. Tariff levels were deemed to be below those charged by other municipalities, and did not allow for recovery of costs of delivery and capital – although the absorption of certain delivery costs into other functions made clear accounting on this difficult.[43]

Municipal and uThukela Water staff pointed out that meeting Reconstruction and Development Programme (RDP) standards on predominantly rural schemes in an area of almost 20 000 km^2 with dispersed settlement patterns, low infrastructure and complex topography was not easy. Under these circumstances one municipal official suggested that

[41] Sigodi Marah Martin Engineers (2006).

[42] uThukela Water Strategic Plan (2002) (known as SP2030).

[43] Ibid (2002).

water delivery was probably better than 50% if such basic delivery was taken into account.

5.5.3 History and current context of institutional arrangement

Basis for establishment of uThukela Water

During the late 1990s a regional water services study was undertaken by DWAF which showed the viability of a regional utility in the area. This was taken forward by the three DMs who considered various international examples. Based on this a strong business case was developed which showed that providing water services at a regional level would create a 21-30% saving for consumers (when compared with each of the DMs providing the services themselves).

Timeline in the establishment of uThukela Water

Table 10: Establishment timeline for uThukela Water

Year	Activity
1997	A Regional Water Services Survey (RWSS) was commissioned by 15 LMs and two RSCs, with AusAid funding, to examine possible creation of a regional WSP.
1999	The RWSS findings suggested tariff rates to customers were low enough to make a regional WSP viable. Participating municipalities agreed to work towards the formation of a joint utility (rather than a water board).
2001	Amajuba, Umzinyathi and uThukela DMs agreed to form the uThukela Water Partnership on 7 September 2001 as a multi-jurisdictional service utility. The three DMs approved a partnership agreement. R18 million was raised from the European Union and R14 million from DWAF to facilitate the process to decide on the specific institutional arrangement. uThukela Water Partnership created an establishment team to initiate studies and report on options. The establishment team advised municipalities that the lack of an identifiable legal entity under the broad multi-jurisdictional arrangements of the Municipal Systems Act would be unsuitable for a service delivery entity. uThukela Water Partnership board appointed Ceenex to prepare the uThukela Water Strategic Plan (2002) (known as SP2030) to guide the selection of appropriate institutional options and service delivery models.
2002	The uThukela Water Partnership approved SP2030 and its recommendations that proposed the establishment of a wholly-owned, non-profit, municipal entity in the form of a Proprietary Limited Company established in terms of the Companies Act. The three DMs each resolved that the creation of uThukela Water was their preferred option to meet the requirements of SP2030.

Year	Activity
2003	The Newcastle LM was authorised as WSA by the Minister of Provincial and Local Government. In March the Newcastle LM adopted a resolution to become a member of the uThukela Water Partnership. uThukela Water Partnership recommended that the participating WSAs should engage in an integrated section 78 assessment. Ceenex was appointed to do this after resolutions in support by the four participating WSAs. The aligned section 78 assessments for the WSAs reported that the four WSAs did not have the capacity to meet WSP requirements for their full geographic scope, and that the creation of a multi-jurisdictional entity would best serve the interests of effective delivery to consumers. All WSAs adopted the aligned section 78 process outcomes.
2004	On 1 July uThukela Water was formally established. In December uThukela DM withdrew from uThukela Water citing irreconcilable differences with the approach of uThukela Water to operationalising itself, and with the majority of the Board (constituted by representatives of the other three WSAs).
2005	The KwaZulu-Natal Member of the Executive Council (MEC) for LGHTA, in terms of section 106 of the Municipal Systems Act, appointed specialist consultants to review uThukela Water. The findings of the review were conveyed to the Mayors of all four WSAs, the Chairperson of uThukela Water, the Minister of Provincial and Local Government, the Minister of Water Affairs and Forestry, and the Minister of Finance on 3 November. No agreement could be reached with the WSAs on a way forward.
2006	In June the full Board resigned in response to widespread criticism around the governance and management of uThukela Water. Representation of politicians on the Board was no longer allowed in terms of the MFMA. In December the three participating WSAs agreed to the appointment of a new Board.
2007	The participating WSAs reached agreement on the reallocation of shares in uThukela Water in an equitable manner to take account of uThukela DM's withdrawal in 2004. The WSAs initiated a Due Diligence of uThukela Water which was blocked by the uThukela Water Board of Directors, resulting in the partner WSAs suspending the uThukela Water Board and Managing Director. The MEC for LGHTA obtained Cabinet approval towards the end of 2007 for initiating an investigation and audit process into uThukela Water, resulting in the uThukela Water Board being suspended, and an administrator appointed for uThukela Water with technical advisors.

Year	Activity
2008	An LGHTA investigation was instituted to assess the existing agreements and processes, and consider future options for the effective delivery of services in the area. The three participating WSAs considered disestablishing uThukela Water, but could not do so until audited financial records (since establishment) became available. DWAF advised participating WSAs that prospects for them to assume the WSP roles independently with official approval were limited.

Current operational and governance context

Influenced substantially by the rising levels of concern articulated by provincial and national government departments the three participating WSAs in uThukela Water initiated processes to try and reach agreement on a solution. This entailed in part the bringing in of some new skilled personal and the reworking of partnership agreements to reflect a more equitable share structure that had not been adjusted since the departure of the uThukela DM some years previously. Once the transfer of shares was effected the three partner WSAs initiated a due diligence study into uThukela Water. However, the team undertaking this exercise was blocked by the uThukela Water Board who was unhappy that certain preconditions they had set were not met. In response the three partner WSAs moved for the suspension of the uThukela Water Board and its Managing Director.

In response to this evolving governance crisis, in late 2007 the LGHTA MEC was authorised by the Provincial Cabinet to suspend the Board of uThukela Water and replace it with an administrator. This step was taken because of ongoing concerns about the performance of the entity, failure to provide audited financial statements and allegations of impropriety. The process had both a forensic audit element as well as an exercise to work with stakeholders to determine the best route to meet their service delivery obligations in future. At the time of writing this case study (2009) the process had not reached its conclusion.

As part of this exercise additional technical expertise was also brought into uThukela Water in order to try and secure effective governance and operations of the entity. This took the form of a senior Umgeni Water official acting as administrator in place of the Board, and direct technical inputs from staff of Umgeni Water and eThekwini Water. The results of this intervention are already to be seen in revised planning and information systems, improved communication between uThukela Water and the WSAs, and systematic management processes being introduced – for example the building of an asset register with detailed information on asset conditions, location and performance.

There remains considerable uncertainty as to the longer-term prospects of the utility.

It was suggested that in order for the entity to survive some restructuring in its mandate and mode of operation might be required. Options in this regard included:

- Leaving bulk functions with uThukela Water and shifting reticulation back to the WSAs.
- Maintaining the mandate of uThukela Water but bringing in an operator to carry some or all of the functions on a management contract either from the private sector or from an existing parastatal such as Umgeni Water.
- Reworking existing business plans and legal agreements to reflect the contemporary reality – recognising that the previous assumptions and lack of follow up on generalised agreements resulted in major disputes.

5.5.4 Articulation of water services provision challenges

Interviews were held with stakeholders and role players to gain an understanding of the uThukela Water institutional arrangement.

The first table below contains a summary description of views articulated in the interviews regarding how each of the 10 key water services provision challenges are met (or attempts are made to meet them) within this arrangement.

The second table below contains a summary description of views articulated in the interviews regarding how the key issue of how municipal politics is seen to enable or constrain the management of water services.

The information contained in the two tables for each of the four institutional arrangements' case studies feeds directly into the analysis in the next section.

Ten key challenges

Table 11: Summary of findings regarding how the uThukela Water institutional arrangement attempts to meet the 10 identified water services provision challenges

1. Human resource scarcity
This was one of the main motivations for forming the "centralised" arrangement at a regional level, and the main benefit still advocated by uThukela Water. Scarce skills include: • Professional technical and engineering. • Professional scientific, such as water chemistry and biology. • Professional finance. • Project management for infrastructure. • Specialised operators for WTWs and WWTWs. • Artisans to produce specialised materials and parts. • Information technology (IT) skills for software and IT systems maintenance. Local knowledge of the practical and operational challenges of the specific area is also in short supply. The institutional arrangement allows the institution to utilise these scarce skills over the entire operations of the institution. It allows a single set of standards, human resources

policies and salary structure which enables better attraction and retention of skilled people. It also allows for better flexibility to build and develop the skills base by being able to transfer people between functions and works, thereby developing a range or a specialised skills' set. It also allows for better management of specialised skills and sharing of overhead costs. "Decentralisation" could mean loss of ability to develop and maintain specialist skills.

Two examples:

- According to the DWA standard requirements for operators, uThukela Water requires 48 fully trained WTW operators. uThukela Water currently has six, of whom only one is fully qualified. The institutional arrangement supports application of this scarce skill over the entire area and all 16 WTW operated by uThukela Water.
- uThukela Water has established a specialised maintenance team to service all infrastructure as well as to train other staff in maintenance functions. This provides uThukela Water with more flexibility in this function than if the three WSAs had done it themselves. The team is drawn mainly from the Ngagane WTW which is the biggest operated by uThukela Water. It also holds a cost benefit since the overheads are distributed over more operations.

According to Mr Hennie Basson (consultant to uThukela Water), even though uThukela Water is seemingly under-resourced in terms of its technical staff, it has still managed to significantly improve the effluent quality of its WWTWs.

uThukela Water has put in place an apprenticeship program for operators and technicians.

2. Accessing funds and financial viability

uThukela Water's area is largely rural and therefore relies heavily on grant funding – the MIG for capital expenditure (CAPEX) and the ES for O&M.

Accessing funding on the market depends on the size of the asset base and the size of the business – having a larger business and asset base makes it easier to access loan funding.

The parts of the business that generate a funding stream should not be overburdened for cross-subsidy – there is a limit on how far the surplus can be stretched. It is important to note that only 30% of consumers can pay for water services in uThukela Water's supply area.

uThukela Water bills individual consumers in Amajuba DM and uMzinyathi DM, but in Newcastle billing is done by the Newcastle LM. This creates a problem for leveraging the economies of scale that a more "centralised" arrangement generally offers. If the benefit is to be achieved, the billing function needs to be consolidated into one system. uThukela Water is engaging the WSAs on this issue.

uThukela Water staff pointed to the fact that not only did the withdrawal of uThukela DM result in a loss of critical mass in resources and assets to meet collective targets, but also that subsequent funding flows from the participating WSAs proved to be somewhat below the section 78 process indicative figures.

3. Procurement

Supply chain management policy and procedures depend on their management for effectiveness, so "centralising" the function does not necessarily hold any specific

benefit. uThukela Water as a municipal entity is also subject to the MFMA and therefore its procurement requirements.

The main benefit of "centralising" for uThukela Water procurement is in bigger buying power, which means many items can be bought more cheaply, including:

- Materials for construction and spares.
- Chemicals for water and wastewater treatment.
- Energy for operations (electricity and diesel).

uThukela Water considers this a very important cost saving mechanism. This argument is so strong that it was mentioned that there are proposals to set up a system by which all water utilities can negotiate cheaper materials by combining their buying power – which means that this institutional arrangement is not crucial for this benefit – but it may enable a more simple application of the benefit.

4. IAM and augmentation

The main benefit of "centralising" IAM and augmentation relates to the ability to plan for IAM and augmentation at a regional scale. uThukela Water is undertaking this function at a regional scale and is able to access the right skills by outsourcing.

However, interviewees from the utility noted that the insufficient budget for IAM and augmentation meant that its ability to address this challenge is very constrained.

5. Optimisation of operations

A benefit of "centralising" operations is that a consistent set of standards can be set and achieved for example, currently all uThukela Water's WWTWs comply with national standards.

Another benefit is that water services operations are generally ring-fenced at a "centralised" level – and therefore it is easier to ensure a dedicated focus on water services.

Smaller schemes are more expensive to operate per unit cost than larger ones. The sharing of cost on a regional basis therefore enables bulk water costs to be consistent throughout the area and enables a single bulk tariff to be set for the area.

uThukela Water is of the opinion that it manages "decentralisation" of operations well because it has established a number of local offices according to the nature of the schemes, settlements and needs, and is able to maintain a local presence.

An important benefit of this arrangement is the "centralisation" of auxiliary services.

A "centralised" reporting system can contribute greatly to operational effectiveness.

According to uThukela Water, "centralisation" allows more flexibility to experiment with and test new approaches and techniques of the institutional arrangement.

A benefit is operating on behalf of, but not within, a municipal environment, means that the utility is subject to less bureaucracy. Decisions are made more efficiently. Note: this is not so much a feature of this institutional arrangement as a feature of operating with delegated responsibility on behalf of government (i.e. any institutional arrangement can access this benefit). It is assumed that a structure set up at regional level to serve municipalities will automatically realise the benefit.

The uThukela Water business model would be more sustainable if uThukela Water provided both bulk and reticulation services since provision of bulk water services is

relatively easy to perform and fund (commonly referred to as the 'cherries'), and reticulation of water services is difficult to manage and recover costs, and may need to depend on subsidisation from the bulk revenue.

6. Water services quality

Services quality may improve in a "centralised" (regionalised) arrangement since there is greater potential for the setting of basic standards and standardisation. For example, interviewees from uThukela Water believe they have been able to drastically improve O&M because they control the following:

- Use of materials.
- Procurement of equipment.
- Layout of installations – for easier maintenance.
- Design standards.
- Standard installations' designs.

7. Consumer engagement and communication

Water services is a highly politicised issue and access to individual household consumers must usually be done through the political structures that exist. These are "decentralised" and it is therefore important for a "centralised" institution to have a 'local presence'.

The benefit of a "centralised" system is that a "centralised" consumer care centre and billing database can lead to cost savings, if properly managed.

8. Communication within and between the WSA and WSP

Communication is a challenge in all organisations, but especially in public institutions. The smaller the organisation, generally the easier communication is to manage.

This institutional arrangement at regional level therefore has no specific benefit, except that the water services function is ring-fenced, and that a specialised institution has a more focused set of communication needs.

uThukela Water is a fairly small institution and its internal communication functions well.

9. Alignment of planning

The area (with the exception of uThukela DM – which no longer participates in the ownership of the utility) does not have sufficient water resources, and therefore needs large bulk schemes for sustainability. For example, in winter many of the boreholes become dry. This requires planning at a regional scale – which is not happening since the WSAs currently still do their own planning for reticulation.

uThukela Water addresses bulk services in SP2030. It takes into account the MIG contribution for bulk services as well. The institutional arrangement should address this, but owing to differing political priorities, benefits are not being realised.

10. Water resource availability and scarcity

There is a major national concern regarding water resource scarcity in the country. In the uThukela Water's case this is also true. Most of the available water resources fall geographically within the uThukela DM (the upper Tugela catchment in the Drakensberg

Mountains). Since uThukela DM is more water rich than the other DMs, the original plan was that this arrangement would contribute towards better water resources management and availability. This has unfortunately been nullified by the withdrawal of uThukela DM from the arrangement. The LGHTA is again considering the creation of so-called 'wall-to-wall' water utilities by expanding the boundaries of the three existing regional water utilities (Umgeni Water Board, Umhlatuzi Water Board and uThukela Water) in KwaZulu-Natal. This may provide sufficient pressure to ensure that the uThukela DM rejoins uThukela Water – something that needs to happen in order to realise the benefits of setting up the utility in the first place: to ensure greater benefits of scale, and to address the regional water resource scarcity issue.

Key issue

Table 12: Summary of findings regarding how interviewees in the uThukela Water institutional arrangement raised the key issue of municipal politics and the water services business

Municipal politics and the water services business
<u>Politics</u> Municipalities and their councillors often find it difficult to know where to draw the boundary in involvement in operational affairs, often leading to complaints of 'undue political interference'. Having the institution operate more independently can provide a useful distance between politics and operations, although this can be achieved just as effectively in any institutional arrangement. The current political environment is very fluid in this part of KwaZulu-Natal. A number of interviewees suggested that "Councils often change from one party to another" indicating that political imperatives have changed over time and among the WSAs since the planning for the establishment of uThukela Water took place. Changes on the political landscape in uThukela Water's service area have had enormous impacts on uThukela Water in terms of which WSAs participate in the multijurisdictional service arrangement. Officials in uThukela Water believe that the more independence it achieves, the more effective it can be in its operations, and the more cost-effective a service it can deliver. Most of the interviewees in uThukela Water would like to see appointments to the Board based on knowledge and expertise rather than on allegiance to party politics, but this seems unlikely since the utility is owned by the WSAs, and decisions taken by councillors will generally be political in their orientation. uThukela Water sees a need to redefine its reporting and regulatory environment since it is cumbersome and difficult to report separately to three institutions, and to be regulated separately by three institutions. uThukela Water had serious establishment and performance problems. Much of this can be attributed to political uncertainty and changes, as well as a difficult establishment process. It is crucial for the success of an institution that it be properly established. This includes defining the core business of the institution and ensuring binding contractual

commitments.

It is important to recognise that the challenges uThukela Water has faced are not only of its own making, but have also arisen out of the failures within the respective WSAs both individually and collectively. It is important that the participating WSAs take responsibility to secure a sound corporate governance environment for the utility, in whatever form it takes in the future – particularly as the lack of sound corporate governance impacts on the ability of the utility to be accountable to its stakeholders and consumers.

The current political view held by the three participating WSAs is that uThukela Water should become a bulk water utility only, and hand the reticulation functions back to the WSAs. Bulk supply on a regional scale still has cost benefits, but the individual WSAs are likely to struggle with the reticulation – they will not have the ability to subsidise the reticulation from the bulk, and much of the economies of scale benefits will be lost to the individual WSAs.

Business model

With the planning for uThukela Water, a detailed financial analysis was undertaken to establish its viability and sustainability.

Water services were not ring-fenced before the establishment of uThukela Water, and they were largely under-funded. uThukela Water inherited infrastructure in a bad state of repair. It is systematically improving the operational condition of the infrastructure and has made good progress according to the interviewees from uThukela Water.

Before the establishment of uThukela Water, the focus of the municipalities was on providing services to urban areas. The focus of uThukela Water is on its entire geographical area, including the largely unserved rural areas. Subsidising the large rural areas is a huge cost largely funded by the ES.

When uThukela Water was established, the main motivation was bringing the cost of services down by utilising benefits of scale. According to uThukela Water, the best way to achieve this is to manage the services from source to tap, including bulk and reticulation (also referred to as “vertical integration”) as well as at a regional basis (also referred to as “horizontal integration”). This enables cost sharing between areas and works which helps to lower the costs overall.

Currently each individual WSA has to approve business plans and tariffs. This has led to inconsistency; uThukela Water would prefer to have joint decision-making. (One of the difficulties in not having a single Business Plan is that the WSAs set their own tariffs, and do not necessarily approve increases requested by uThukela Water to cover rising costs.)

uThukela Water would like to add supply of raw water to industry and water pollution control to its functions since it believes this will further enhance potential for cost savings through benefits of scale.

According to the Water Dialogues Case Study, uThukela Water has struggled to demonstrate consistent and significant performance improvements. While there has been recognised performance in some fields much of this has been overshadowed by areas of weak performance, controversy and failure to provide adequate reporting on activities. The WSDPs of the WSAs reflect widespread challenges that remain, and comment on the inadequate pace of service delivery, largely with respect to rural schemes, but also in relation to expansion of urban and peri-urban schemes.

Again, according to the Water Dialogues Case Study, municipal stakeholders tended to be quite critical of the performance of uThukela Water, pointing out that delivery was

some way off what was indicated in SP2030 where it was assumed that backlogs in water could be eradicated by the end of 2009.

The Managing Director of uThukela Water stressed that despite the lack of funding it was notable that uThukela Water unit costs were lower than those projected in the section 78 process. However, this also came at a cost owing to insufficient funding which meant uThukela Water was not able to carry out its full mandate in terms of the WSP agreement:

- There have been constraints in alleviating backlogs, refurbishment of old infrastructural assets (pump stations, WTWs, WWTWs, pipelines and reservoirs) and upgrading to meet the increasing demands.
- Insufficient maintenance expenditure has affected the reliability of the supply.
- Lack of adequate and sufficient skills (e.g. qualified operators at water and waste works and maintenance staff) has resulted in inadequate monitoring of operations with slow response time to reported failure from customers and WSA queries.
- Lack of resources has resulted in inadequate and / or delayed reporting to the WSAs.

As a further consequence of the lack of funding, uThukela Water said it had been forced to engage in less than desirable operating practices that breach DWA regulations, the Occupational Health and Safety Act (No 85 of 1993) and the Basic Conditions of Employment Act (No 75 of 1997).

Since the establishment of uThukela Water over R400 million has been rolled out for infrastructure. In the light of this the Managing Director of uThukela Water thinks that there has been an achievement as a number of projects have been implemented and backlogs reduced. Yet, he acknowledges that the challenge is still huge.

Since there is still 26 years of the 30 year plan, the Managing Director of uThukela Water thinks that the overall 2030 objectives can possibly be met, depending on available funding.

The staff of the participating WSAs does not share this perspective of the Managing Director. They suggest there is little in the way of effective delivery to reflect on, although some did express the view that this did not necessarily mean the entity could not improve its functioning in the future.

6 ANALYSIS OF THE INSTITUTIONAL ARRANGEMENTS' CASE STUDIES

6.1 Introduction

The previous section presented the four case studies developed as part of this research – Chris Hani DM, Maluti-a-Phofung LM, Ugu DM and uThukela Water – in terms of:

- A summary of the institutional arrangement.
- Background to the water services provision area.
- A history and current context of the institutional arrangement.
- An articulation of how the institutional arrangement seeks to meet the 10 key water services challenges, and the ways in which municipal politics enables or constrains the management of water services (as presented in section 2.4 (Current Water Services Provision Challenges).

This section examines the 10 key water services challenges articulated as water services provision functional areas and analyses the research using four matrices.

The matrices begin by using the terms "centralised" and "decentralised" to articulate functional areas, and then begin to present the grouping of functional areas in terms of whether they are "consolidated" or "non-consolidated" within the institutional arrangement – the latter terms are thought to highlight more usefully the fact that all water services provision in South African takes place within a decentralised governance framework.

Matrix 1	Matrix 1 presents a summary description per functional area per case study – based on information in section 5: Case Studies. It enables a comparison across the four different institutional arrangements in terms of how each arrangements seeks to meet its water services provision challenges.
Matrix 2	Matrix 2 takes the summary description from Matrix 1 and looks, per case study, at: 1. The ability of the institutional arrangement to meet the needs of its different water services provision functional areas. 2. Which water services provision functional areas in the institutional arrangement are "consolidated" (i.e. "centralised" in terms of its operations) and which are not. There are four versions of Matrix 2, i.e. one per case study.
Matrix 3	Matrix 3 takes the information concerning which water services provision functional areas are consolidated or not from the four case study specific versions of Matrix 2, and produces findings across the case studies regarding how many functional areas per institutional arrangement case study are organised within a consolidated arrangement, and how many are organised within a non-consolidated arrangement.
Matrix 4	Matrix 4 takes the information on the number of functional areas per institutional arrangement case study that are consolidated or not from Matrix 3, and enables findings across case studies in terms of

	commonalities and trends with respect to how water services provision functional areas are organised across institutional arrangements.

Each matrix is explained in more detail in introductory text to each sub section below.

Of particular interest were the perspectives of scale and scope:

Scale	In uThukela Water the geographical area of the WSP area is the size of three WSAs. In Ugu DM and Maluti-a-Phofung LM the geographical area for both the WSA and the WSP is exactly the same area (although Ugu DM covers a larger area than Maluti-a-Phofung LM). In Chris Hani DM the geographical area of each WSP varies in size from the size of an LM to the size of a standalone rural scheme.
Scope	An interesting mix of "centralised" and "decentralised" functional areas (based on the key challenges)[44] is to be found within each institutional arrangements' case study – generally dependant on practical realities and / or prevailing political influences.

6.2 Description per Functional Area per Case Study

Matrix 1 presents a summary description per functional area per case study – based on information in section 5: Case Studies.

It enables a comparison across the four different institutional arrangements in terms of how each arrangement seeks to meet its water services provision challenges.

[44] Defined for this research and elaborated on in detail in section 2.4 (Current Water Services Provision Challenges).

Table 13: MATRIX 1 – Description per functional area per case study

FUNCTIONAL AREA	Chris Hani DM	Maluti-a-Phofung LM	Ugu DM	uThukela Water
Human resources	• Placing full time staff in LMs, as required • Application of scarce skills over large geographical area and for various services • Trained community members • Experimental and changing approach based on experience gained through implementation	• Ability to procure outside skills through management support contract • Application of scarce skills over entire geographical area • Trained community plumbers	• Application of scarce skills over large geographical area and for various services • Occupational specialisation and development of in-house capacity supports retention of skills • Training more cost effective	• Application of scarce skills over large geographical area and for various services • Occupational specialisation and development of in-house capacity supports retention of skills • Application of a single set of standards, human resources policies and salary structure enables better attraction and retention of specialist skills • Training more cost effective
Accessing funds and financial viability	• Access to funds is "centralised" at DM level • LED Strategy supports distribution of ES across all WSPs	• Water services not ring fenced in WSA • LM does the billing and revenue collection and pays portion to MaP Water • Very little revenue to be collected because high indigency levels	• Opportunities for cross-subsidisation • Opportunity to combine municipal rates account • "Stretching" and good management of funds and grants • Enhanced ability to access	• Larger asset base enables greater access to loan funding • Limited opportunities for cross subsidisation • Single set of bulk and potable water tariffs

Table 13: MATRIX 1 – Description per functional area per case study

FUNCTIONAL AREA	Chris Hani DM	Maluti-a-Phofung LM	Ugu DM	uThukela Water
			loan funding	
Procurement	• "Centralised" at DM level to benefit from economy of scale (and because of limited capacity in some LMs)	• Procurement undertaken by LM	• Occupational specialisation and development of in-house capacity supports selective procurement of service providers • Procurement of goods benefit from bulk purchase power • Procurement system consistent throughout DM and known (and trusted) by service providers	• Procurement of goods benefit from bulk purchase power
IAM and augmentation	• IAM "decentralised" to LMs in urban centres • Implementation of new infrastructure "centralised" at DM level in PMU	• LM implements capital projects • Utility does not always agree with IAM implementation decisions	• Benefit of scale in planning, procurement, resourcing and management • Ability to experiment with different approaches	• Benefit of scale in planning, procurement, resourcing and management
Optimisation of operations	• Great flexibility allows for different WSP mechanisms for different parts of the DM • CSPs do basic maintenance, with support	• "Centralised" stores management and "decentralised" operations (through local offices, depots and stores)	• "Centralised" PMU manages project implementation across various services funded by MIG	• Consistent set of standards set and achieved (e.g. for WTWs) • Ring-fencing of municipal service enables dedicated

Table 13: MATRIX 1 – Description per functional area per case study

FUNCTIONAL AREA	Chris Hani DM	Maluti-a-Phofung LM	Ugu DM	uThukela Water
	from LMs • Efficient reporting of problems through well developed (and sometimes informal) communications network • Less than 48 hour turnaround time on problems • Community involved in safeguarding of infrastructure	• "Centralised" telemetry system • "Centralised" preventative maintenance schedule • Sound business case and strong political ownership on which the utility was established had decreased over time; and the WSA has taken back some functions	• "Centralised" management enables total water cycle management • Consolidation of operations of smaller schemes and allows for benefit of scale • Benefits of scale for auxiliary services • "Decentralisation" of rural schemes through sub-regional units (ex-CBO WSP offices) and catchment-based teams ensure short breakdown turnaround times • Ability to experiment with different approaches	focus on water services • Benefits of scale for auxiliary services and "centralised" reporting system (including call centre) • Ability to experiment with different approaches • "Decentralisation" through establishment of local offices – according to the nature of the schemes, settlements and needs • Operating with delegated responsibility on behalf of government means less impact of government bureaucracy • Political uncertainty affects entire operations
Water services quality	• Monitoring done very efficiently at "decentralised" level through CSPs • Less than 48 hour turnaround time on	• Monitoring done very efficiently and water quality standards being met (although not effluent discharge standards owing	• Monitoring done very efficiently at "centralised" level • Single set of basic	• Greater potential for setting basic standards and ensuring standardisation • "Decentralised" reporting and feedback through local

Table 13: MATRIX 1 – Description per functional area per case study

FUNCTIONAL AREA	Chris Hani DM	Maluti-a-Phofung LM	Ugu DM	uThukela Water
	problems • Reporting and feedback through CSPs	to old technology)	standards throughout area • "Decentralised" reporting and feedback through local offices	offices
Consumer engagement and communication	• High levels of community engagement and ownership • Immediate feedback • "Centralised" call centre	• Efficient "centralised" call centre • Customer charter and consumer education media • "Decentralised" customer care units for local presence and accountability – visiting households where queries have been logged, etc	• "Centralised" call centre • "Centralised" record keeping • "Decentralisation" of rural schemes assists with local presence and accountability (including community-based PSC during project implementation)	• "Centralised" consumer care centre • "Decentralised" local offices for local presence and accountability
Communication within and between the WSA and WSP	• Good relationship between DM and LMs, and good use of existing political structures such as the ward committees • Single shared vision across politicians and officials • WSP contracts spell out communication mechanisms between the	• Lack of structured engagement between WSA and utility re operations • Good (inherited) communication mechanisms between MaP Water and ward councillors at ward level, i.e. "decentralised"	• Extremely good communication at senior management level owing to "centralised" WSA, WSP and PMU and positive work environment • Excellent alignment of understanding and communication between councillors and officials	• Lack of communication mechanisms and political uncertainty • Effective within utility owing to single focus on water services provision

Table 13: MATRIX 1 – Description per functional area per case study

FUNCTIONAL AREA	Chris Hani DM	Maluti-a-Phofung LM	Ugu DM	uThukela Water
	DM and the LMs			
Alignment of planning	• Water services planning "centralised" at DM level (and better enables macro planning) • Building WSP capacity in LMs ensures better coordination of housing function	• Water Services Master Plan is developed by the WSA (rather than the WSP), and the WSP feels recommendations not always addressed • Insufficient alignment of planning functions between the WSA and the utility (for example, town planning and housing)	• Competent staff enables sound internal municipal planning • Good alignment with neighbouring municipalities and Umgeni Water	• Good alignment of planning for water services across entire area • Minimal links with other LM functions (e.g. housing)
Management of water resources	• Water conservation education well conducted through CSPs • Integrated planning required at scale greater than DM	• Effective engagement with national government	• Regional overviews and greater responsibility for water scarcity enabled • Good links with neighbouring municipalities and Umgeni Water	• Potential for improved regional planning lost through the withdrawal of uThukela DM

6.3 Analysis per Functional Area per Case Study

Matrix 1 presented a summary description per functional area per case study – based on information in section 5: Case Studies.

Matrix 2 takes the summary description from Matrix 1 and considers, per case study:

1. The ability of the institutional arrangement to meet the needs of its key water services provision functional areas.
2. Which water services provision functional areas in the institutional arrangement are "consolidated" (i.e. centralised in terms of its operations only) and which are not.

Because Matrix 2 examines the water services provision functional areas per case study there are four versions of Matrix 2, i.e. one per case study (**Matrix 2.1-Matrix 2.4**).

In terms of the ability of the institutional arrangement to meet the needs of its key water services provision functional areas a rating was given in terms of the following eight categories:

very good	good	fair	improving	mixed	deteriorated	weak	unknown

A functional area rated "good" was one considered to be (fairly) well functioning (i.e. it is not a carefully measured assessment but a generalised comment in terms of an assumed national average in a context where the provision of water services encounters severe restraints).

A functional area rated "weak" was one considered to have much room for improved performance.

Each comment was qualified, based on information from interviewees.

In terms of which water services provision functional areas in the institutional arrangement are "consolidated" and which are not, one of four observations was offered:

consolidated	non-consolidated	combination[45]	not applicable

This time each comment was qualified in terms of where the consolidation / non-consolidation of functions is to be found, i.e. is it:

- Consolidated / non-consolidated at
  - WSA (DM) level?
  - WSA (LM) level?
  - WSA / WSP (DM) level?
  - WSP level?
- Consolidated / non-consolidated within WSP?

[45] "Combination" means a combination of consolidated and non-consolidated functions within the institutional arrangement.

6.3.1 Chris Hani DM case study

Table 14: MATRIX 2.1 - Analysis per functional area for Chris Hani DM

FUNCTIONAL AREA	Summary description of case study	Ability of arrangement to meet needs of key functional area?	Functional area consolidated or non-consolidated?
Human resource s	• Placing full time staff in LMs, as required • Application of scarce skills over large geographical area and for various services • Trained community members • Experimental and changing approach based on experience gained through implementation	**Unknown** Presumed good potential because of experimental approach	**Consolidated** at WSA (DM) level
Accessing funds and financial viability	• Access to funds is "centralised" at DM level • LED Strategy supports distribution of ES across all WSPs	**Good** Dependent on receipt of subsidies and grants ES is appropriately spread across WSPs and invested in the area	**Consolidated** at WSA (DM) level
Procurement	• "Centralised" at DM level to benefit from economy of scale (and because of limited capacity in some LMs)	**Good** WSA (DM) takes responsibility	**Consolidated** at WSA (DM) level
IAM and augmentation	• IAM "decentralised" to LMs in urban centres • Implementation of new infrastructure "centralised" at DM level in PMU	**Good** Used capacity where it exists in LMs (WSPs)	**Combination** Non-consolidated at WSP level where WSPs have capacity

Table 14: MATRIX 2.1 - Analysis per functional area for Chris Hani DM

FUNCTIONAL AREA	Summary description of case study	Ability of arrangement to meet needs of key functional area?	Functional area consolidated or non-consolidated?
			Consolidated at WSA (DM) level where WSPs do not have capacity
Optimisation of operations	• Great flexibility allows for different WSP mechanisms for different parts of the DM • CSPs do basic maintenance, with support from LMs • Efficient reporting of problems through well developed (and sometimes informal) communications network • Less than 48 hour turnaround time on problems • Community involved in safeguarding of infrastructure	**Good** Appropriate functions undertaken at appropriate levels	**Non-consolidated** at WSP level
Water services quality	• Monitoring done very efficiently at "decentralised" level through CSPs • Less than 48 hour turnaround time on problems • Reporting and feedback through CSPs	**Good** Close to the consumers Dedicated focus	**Non-consolidated** at WSP level
Consumer engagement and communication	• High levels of community engagement and ownership • Immediate feedback • "Centralised" call centre	**Good** Ability to provide immediate feedback Local presence	**Non-consolidated** at WSP level but supported by consolidated auxiliary services at WSA (DM) level
Communication	• Good relationship between DM and LMs, and good use of	**Good**	**Not applicable**

Table 14: MATRIX 2.1 - Analysis per functional area for Chris Hani DM

FUNCTIONAL AREA	Summary description of case study	Ability of arrangement to meet needs of key functional area?	Functional area consolidated or non-consolidated?
within and between the WSA and WSP	existing political structures such as the ward committees • Single shared vision for institutional arrangement across politicians and officials • WSP contracts spell out communication mechanisms between the DM and the LMs	Clarity on roles and responsibilities Political support Effective network between WSA and WSPs (including CSPs)	
Alignment of planning	• Water services planning "centralised" at DM level (and better enables macro planning) • Building WSP capacity in LMs ensures better coordination of housing function	**Fair** Good potential because of scale	**Consolidated** at WSA (DM) level
Management of water resources	• Water conservation education well conducted through CSPs • Integrated planning required at scale greater than DM	**Weak** Good potential because planning is consolidated at DM level	**Consolidated** at WSA (DM) level

6.3.2 Maluti-a-Phofung LM case study

TABLE 15: MATRIX 2.2- Analysis per functional area for Maluti-a-Phofung LM

FUNCTIONAL AREA	Summary description of case study	Ability of arrangement to meet needs of key functional area?	Functional area consolidated or non-consolidated?
Human resources	• Ability to procure outside skills through management support contract • Application of scarce skills over entire geographical area • Trained community plumbers	**Good** Hampered by decreasing political support	**Consolidated** within WSP
Accessing funds and financial viability	• Water services not ring fenced in WSA • LM does the billing and revenue collection and pays portion to MaP Water • Very little revenue to be collected because high indigency levels	**Good** Hampered by decreasing political support	**Consolidated** within WSP
Procurement	• Procurement undertaken by LM	**Good** Hampered by decreasing political support	**Consolidated** within WSP
IAM and augmentation	• LM implements capital projects • Utility does not always agree with IAM implementation decisions	**Good** Hampered by decreasing political support	**Consolidated** within WSP
Optimisation of operations	• "Centralised" stores management and "decentralised" operations (through local offices, depots and stores) • "Centralised" telemetry system • "Centralised" preventative maintenance schedule	**Good** Appropriate functions undertaken at appropriate levels	**Non-consolidated** within the WSP but also supported by consolidated auxiliary

TABLE 15: MATRIX 2.2- Analysis per functional area for Maluti-a-Phofung LM

FUNCTIONAL AREA	Summary description of case study	Ability of arrangement to meet needs of key functional area?	Functional area consolidated or non-consolidated?
	• Sound business case and strong political ownership on which the utility was established had decreased over time; and the WSA has taken back some functions		services within WSP
Water services quality	• Monitoring done very efficiently and water quality standards being met (although not effluent discharge standards owing to old technology)	**Good** Ring-fenced with dedicated focus	**Consolidated** within WSP
Consumer engagement and communication	• "Centralised" call centre which works very well; customer charter; consumer education media • "Decentralised" customer care units for local presence and accountability – visiting households where queries have been logged, etc	**Good** Ability to provide immediate feedback Local presence	**Non-consolidated** within the WSP but also supported by consolidated auxiliary services within WSP
Communication within and between the WSA and WSP	• Lack of structured engagement between WSA and utility re operations • Good (inherited) communication mechanisms between MaP Water and ward councillors at ward level, i.e. "decentralised"	**Mixed** **Good** between utility and ward councillors (regarding engagement with consumers) **Weak** between utility and WSA owing to lack of structured engagement	**Not applicable**
Alignment of planning	• The Water Services Master Plan is developed by the WSA (rather than the WSP), and the WSP feels recommendations not always addressed	**Good** Hampered by decreasing political support	**Consolidated** at WSA (LM) level

TABLE 15: MATRIX 2.2- Analysis per functional area for Maluti-a-Phofung LM

FUNCTIONAL AREA	Summary description of case study	Ability of arrangement to meet needs of key functional area?	Functional area consolidated or non-consolidated?
	• Insufficient alignment of planning functions between the WSA and the utility (for example, town planning and housing)		
Management of water resources	• Effective engagement with national government	**Good** Benefiting from foresight and long term planning of previous WSP (Sedibeng Water Board)	**Consolidated** within WSP

6.3.3 Ugu DM case study

TABLE 16: MATRIX 2.3- Analysis per functional area for Ugu DM

FUNCTIONAL AREA	Summary description of case study	Ability of arrangement to meet needs of key functional area?	Functional area consolidated or non-consolidated?
Human resources	• Application of scarce skills over large geographical area and for various services • Occupational specialisation and development of in-house capacity supports retention of skills • Training more cost effective	**Very good** Able to attract, build and maintain scarce skills	**Consolidated** at WSA / WSP (DM) level
Accessing funds and financial viability	• Opportunities for cross-subsidisation • Opportunity to combine municipal rates account • "Stretching" and good management of funds and grants • Enhanced ability to access loan funding	**Very good** Strong financial management	**Consolidated** at WSA / WSP (DM) level
Procurement	• Occupational specialisation and development of in-house capacity supports selective procurement of service providers • Procurement of goods benefit from bulk purchase power • Procurement system consistent throughout DM and known (and trusted) by service providers	**Very good** Relevant experience and good systems	**Consolidated** at WSA / WSP (DM) level
IAM and augmentation	• Benefit of scale in planning, procurement, resourcing and management • Ability to experiment with different approaches	**Good** Efficient systems in place	**Consolidated** at WSA / WSP (DM) level

TABLE 16: MATRIX 2.3- Analysis per functional area for Ugu DM

FUNCTIONAL AREA	Summary description of case study	Ability of arrangement to meet needs of key functional area?	Functional area consolidated or non-consolidated?
Optimisation of operations	• "Centralised" PMU manages project implementation across various services funded by MIG • "Centralised" management enables total water cycle management • Consolidation of operations of smaller schemes allows for benefit of scale • Benefits of scale for auxiliary services • "Decentralisation" of rural schemes through sub-regional units (ex-CBO WSP offices) and catchment-based teams ensure short breakdown turnaround times • Ability to experiment with different approaches	**Very good** Relevant experience and appropriate systems	**Non-consolidated** at WSA / WSP (DM) level but supported by consolidated systems, including auxiliary services within WSA / WSP (DM)
Water services quality	• Monitoring done very efficiently at "centralised" level • Single set of basic standards throughout area • "Decentralised" reporting and feedback through local offices	**Very good** Relevant experience and good systems	**Non-consolidated** at WSA / WSP (DM) level but supported by consolidated auxiliary services within WSA / WSP (DM)
Consumer engagement and communication	• "Centralised" call centre • "Centralised" record keeping • "Decentralisation" of rural schemes assists with local presence and accountability (including community-based PSC during project implementation)	**Good** Appropriate functions undertaken at appropriate levels Local presence	**Non-consolidated** at WSA / WSP (DM) level but supported by consolidated auxiliary services within WSA /

TABLE 16: MATRIX 2.3- Analysis per functional area for Ugu DM

FUNCTIONAL AREA	Summary description of case study	Ability of arrangement to meet needs of key functional area?	Functional area consolidated or non-consolidated?
			WSP (DM)
Communication within and between the WSA and WSP	• Extremely good communication at senior management level owing to "centralised" WSA, WSP and PMU and positive work environment • Excellent alignment of understanding and communication between councillors and officials	**Very good** Single shared vision for service delivery	**Consolidated** at WSA / WSP (DM) level
Alignment of planning	• Competent staff enables sound internal municipal planning • Good alignment with neighbouring municipalities and Umgeni Water	**Very good** Relevant experience and appropriate systems	**Consolidated** at WSA / WSP (DM) level
Management of water resources	• Regional overviews and greater responsibility for water scarcity enabled • Good links with neighbouring municipalities and Umgeni Water	**Very good** Appropriate cooperation with neighbouring municipalities and Umgeni Water	**Consolidated** at WSA / WSP (DM) level

6.3.4 uThukela Water case study

TABLE 17: MATRIX 2.4 - Analysis per functional area for uThukela Water

FUNCTIONAL AREA	Summary description of case study	Ability of arrangement to meet needs of key functional area?	Functional area consolidated or non-consolidated?
Human resources	• Application of scarce skills over large geographical area and for various services • Occupational specialisation and development of in-house capacity supports retention of skills • Application of a single set of standards, human resources policies and salary structure enables better attraction and retention of specialist skills • Training more cost effective	**Good** Scale and scope enables WSP to attract, train and maintain good skills, and to apply them over a wide area	**Consolidated** at WSP (3 x WSA) level
Accessing funds and financial viability	• Larger asset base enables greater access to loan funding • Limited opportunities for cross subsidisation • Single set of bulk and potable water tariffs	**Good** Scale and scope enables WSP to attract, train and maintain good skills, and to apply them over a wide area	**Consolidated** at WSP (3 x WSA) level
Procurement	• Procurement of goods benefit from bulk purchase power	**Good** Scale and scope enables WSP to attract, train and maintain good skills, and to apply them over a wide area	**Consolidated** at WSP (3 x WSA) level

TABLE 17: MATRIX 2.4 - Analysis per functional area for uThukela Water

FUNCTIONAL AREA	Summary description of case study	Ability of arrangement to meet needs of key functional area?	Functional area consolidated or non-consolidated?
IAM and augmentation	• Benefit of scale in planning, procurement, resourcing and management	**Good** Scale and scope enables WSP to attract, train and maintain good skills, and to apply them over a wide area BUT hampered by politics	**Consolidated** at WSP (3 x WSA) level
Optimisation of operations	• Consistent set of standards set and achieved (e.g. for WTWs) • Ring-fencing of municipal service enables dedicated focus on water services • Benefits of scale for auxiliary services • "Centralised" reporting system (including call centre) contributes to operational effectiveness • Ability to experiment with different approaches • "Decentralisation" through establishment of local offices – according to the nature of the schemes, settlements and needs • Operating with delegated responsibility on behalf of government means less impact of government bureaucracy • Political uncertainty affects entire operations	**Good** Scale and scope enables WSP to attract, train and maintain good skills, and to apply them over a wide area BUT hampered by politics	**Non-consolidated** within the WSP but also supported by consolidated auxiliary services within WSP
Water services	• Greater potential for setting basic standards and ensuring	**Improving**	**Consolidated**

TABLE 17: MATRIX 2.4 - Analysis per functional area for uThukela Water

FUNCTIONAL AREA	Summary description of case study	Ability of arrangement to meet needs of key functional area?	Functional area consolidated or non-consolidated?
quality	standardisation • "Decentralised" reporting and feedback through local offices	Because scarce skills are being applied over a large area and range of functions	at WSP (3 x WSA) level
Consumer engagement and communication	• "Centralised" consumer care centre • "Decentralised" local offices for local presence and accountability	**Good** Appropriate functions undertaken at appropriate levels Local presence	**Non-consolidated** within the WSP but also supported by consolidated auxiliary services within WSP
Communication within and between the WSA and WSP	• Lack of communication mechanisms and political uncertainty • Effective within utility owing to single focus on water services provision	**Mixed** **Good** within utility because of dedicated focus **Weak** between utility and 3 x WSAs owing to political uncertainty and lack of structured engagement	**Not applicable**
Alignment of planning	• Good alignment of planning for water services across entire area • Minimal links with other LM functions (e.g. housing)	**Weak** Owing to politics Good potential presumed because of benefit of scale	**Consolidated** at WSP (3 x WSA) level

TABLE 17: MATRIX 2.4 - Analysis per functional area for uThukela Water

FUNCTIONAL AREA	Summary description of case study	Ability of arrangement to meet needs of key functional area?	Functional area consolidated or non-consolidated?
Management of water resources	• Potential for improved regional planning lost through the withdrawal of uThukela DM	**Deteriorated** Because of withdrawal of uThukela DM (WSA)	**Consolidated** at WSP (3 x WSA) level

6.4 Mix of Functional Areas across Case Studies

Matrix 2 took the summary description from **Matrix 1** and considered, per case study:

1. The ability of the institutional arrangement to meet the needs of its different water services provision functional areas.
2. Which water services provision functional areas in the institutional arrangement were "consolidated" and which were not.

There were four versions (one per case study) of **Matrix 2** (**Matrix 2.1-Matrix 2.4**).

Matrix 3 takes the information concerning which water services provision functional areas are consolidated or not from the four case study specific versions of **Matrix 2**, and compares the information across the four case studies.

It enables findings across the case studies regarding how many functional areas per institutional arrangement case study were organised within a consolidated arrangement, and how many were organised within a non-consolidated arrangement.

These findings enable more conclusive findings and recommendations on terminology regarding how functional areas are organised within institutional arrangements.

TABLE 18: MATRIX 3- Mix of functional areas across case studies

FUNCTIONAL AREA	Chris Hani DM	Maluti-a-Phofung LM	Ugu DM	uThukela Water	INITIAL FINDINGS ACROSS CASE STUDIES
Human resource scarcity	**Consolidated** at WSA (DM) level	**Consolidated** within WSP	**Consolidated** at WSA / WSP (DM) level	**Consolidated** at WSP (3 x WSA) level	4 x consolidated arrangement
Accessing funds and financial viability	**Consolidated** at WSA (DM) level	**Consolidated** within WSP	**Consolidated** at WSA / WSP (DM) level	**Consolidated** at WSP (3 x WSA) level	4 x consolidated arrangement
Procurement	**Consolidated** at WSA (DM) level	**Consolidated** within WSP	**Consolidated** at WSA / WSP (DM) level	**Consolidated** at WSP (3 x WSA) level	4 x consolidated arrangement
IAM and augmentation	**Combination** Depending on capacity of WSP	**Consolidated** within WSP	**Consolidated** at WSA / WSP (DM) level	**Consolidated** at WSP (3 x WSA) level	3 x consolidated arrangement 1 x combination (dependant on capacity of WSP)
Optimisation of operations	**Non-consolidated** at WSP level Supported by **consolidated services**, including **auxiliary services**	**Non-consolidated** within the WSP Supported by **consolidated auxiliary services**	**Non-consolidated** at WSA / WSP (DM) level Supported by **consolidated services**, including **auxiliary services**	**Non-consolidated** within the WSP Supported by consolidated **auxiliary services**	4 x non-consolidated arrangement All supported by consolidated auxiliary services
Water services	**Non-consolidated**	**Consolidated**	**Non-consolidated**	**Consolidated**	2 x consolidated

TABLE 18: MATRIX 3- Mix of functional areas across case studies

FUNCTIONAL AREA	Chris Hani DM	Maluti-a-Phofung LM	Ugu DM	uThukela Water	INITIAL FINDINGS ACROSS CASE STUDIES
quality	at WSP level Supported by **consolidated services**, including **auxiliary services**	within WSP	at WSA / WSP (DM) level Supported by **consolidated auxiliary services**	at WSP (3 x WSA) level	arrangement 2 x non-consolidated arrangement (both supported by consolidated auxiliary services)
Consumer engagement and communication	**Non-consolidated** at WSP level Supported by **consolidated auxiliary services**	**Non-consolidated** within the WSP Supported by **consolidated auxiliary services**	**Non-consolidated** at WSA / WSP (DM) level Supported by **consolidated auxiliary services**	**Non-consolidated** within the WSP Supported by **consolidated auxiliary services**	4 x non-consolidated arrangement All 4 supported by consolidated auxiliary services
Communication within and between the WSA and WSP	**Not applicable**	**Not applicable**	**Not applicable**	**Not applicable**	4 x not applicable
Alignment of planning	**Consolidated** at WSA (DM) level	**Consolidated** at WSA (LM) level	**Consolidated** at WSA / WSP (DM) level	**Consolidated** at WSP (3 x WSA) level	4 x consolidated arrangement
Management of water resources	**Consolidated** at WSA (DM) level	**Consolidated** within WSP	**Consolidated** at WSA / WSP (DM) level	**Consolidated** at WSP (3 x WSA) level	4 x consolidated arrangement

6.5 Mix of Functional Areas per Case Study

Matrix 3 took the information concerning which water services provision functional areas are consolidated or not from the four case study specific versions of **Matrix 2**, and compared the information across the four case studies.

It enabled findings across the case studies regarding how many functional areas per institutional arrangements' case study were organised within a consolidated arrangement, and how many were organised within a non-consolidated arrangement.

Matrix 4 takes the information on the number of functional areas per case study that are consolidated or not from **Matrix 3**, and compares the information across the four institutional arrangements.

It enables initial findings across case studies in terms of commonalities and trends with respect to how water services provision functional areas are organised across the institutional arrangements.

These initial findings enable more conclusive findings and recommendations regarding an appropriate "mix" of consolidated and non-consolidated functional areas within any institutional arrangement.

TABLE 19: MATRIX 4 - Mix of functional areas per case study

FUNCTIONAL AREA	NUMBER OF FUNCTIONAL AREAS PER CASE				INITIAL FINDINGS ACROSS CASE STUDIES
	Chris Hani DM	Maluti-a-Phofung LM	Ugu DM	uThukela Water	
Consolidated	**5**	**7**	**6**	**7**	Most functional areas are consolidated across the case studies As a rule it is the same functional areas that are consolidated
Non-consolidated (without consolidated auxiliary services)	**0**	**0**	**0**	**0**	No functional area is non-consolidated without structured support (especially in the form of consolidated auxiliary services)
Non-consolidated (with consolidated auxiliary services)	**3**	**2**	**3**	**2**	Case studies have two or three two functional areas that are non-consolidated As a rule it is the same functional areas that are non-consolidated Auxiliary services are consolidated across all four case studies
Combination	**1**	**0**	**0**	**0**	Case specific finding owing to capacity constraint within the Chris Hani DM (WSA)
N/A	**1**	**1**	**1**	**1**	All four N/A findings relate to “communication within and between the WSA and WSP” “Communication within and between the WSA and WSP” will be considered in section 7 (Findings and Recommendations) as a key issue (rather than a functional area), along with discussion on the other key issue: municipal politics and the water services business

7 FINDINGS AND RECOMMENDATIONS

7.1 Introduction

The previous section examined the 10 key water services challenges articulated as water services provision functional areas, and analysed the research using four different matrices.

The matrices began by using the terms "centralised" and "decentralised" to articulate functional areas, and then presented the grouping of water services provision functional areas in terms of whether they are "consolidated" or "non-consolidated" within the institutional arrangement.

This section brings together findings emanating from all aspects of the research – the Literature Review, engagement with stakeholders and role players in the sector, and an analysis of the four institutional arrangements' case studies.

There are findings in terms of:

- Terminology.
- Problems presented by the South African decentralised governance framework.
- Functions deemed necessary to always centralise at national level.
- Benefits of scale and scope.
- Factors influencing choices around consolidation or non-consolidation of functional areas within an institutional arrangement.
- Service delivery components as overriding challenges.
- Municipal politics and the water services business as a key issue.

7.2 Terminology

The terms "centralised" and "decentralised" to describe institutional arrangements for water services provision in South Africa either do not take account of South Africa's decentralised institutional framework, or the terms are assumed (by some) to refer to operational (technical) decentralisation only.

Because this is not made explicit, the same institutional arrangement may be described differently by different practitioners or in different contexts – generally dependent on the perspective (or vantage point) of the observer.

Some examples are offered to illustrate this point:

- Perspective: WSA
  Retains entire scope of WSP functional areas (scope) and / or its entire geographical area (scale) as own WSP, i.e. deemed a "**centralised**" arrangement for water services provision

  OR

Contracts out one or more WSP functional areas and / or geographical areas to one or more WSPs, i.e. deemed (in part, at least) a "**decentralised**" arrangement for water services provision.

- Perspective: WSP

  Undertakes entire scope of WSP functional areas and / or provides services to the entire geographical service area as defined by the WSA(s), i.e. deemed a "**centralised**" arrangement for water services provision

  OR

  Undertakes some WSP functional areas and / or provides services over part of the service area as defined by the WSA(s), i.e. deemed a "**decentralised**" arrangement for water services provision.

From the above Maluti-a-Phofung LM might be termed, depending on the context and perspective, either a "**centralised**" or a "**decentralised**" arrangement. This is because the WSP covers the entire area (scale) and scope of operations (i.e. "**centralised**"), but the WSA has contracted out the water services provision function (i.e. "**decentralised**"). Or, it might be referred to (as in section 3.5.2 [Case study options] at the start of the research) as "changing from a ***decentralised*** to a ***centralised*** institutional arrangement" because water services provision was previously undertaken by two (external) WSPs, and now only one (municipal utility).

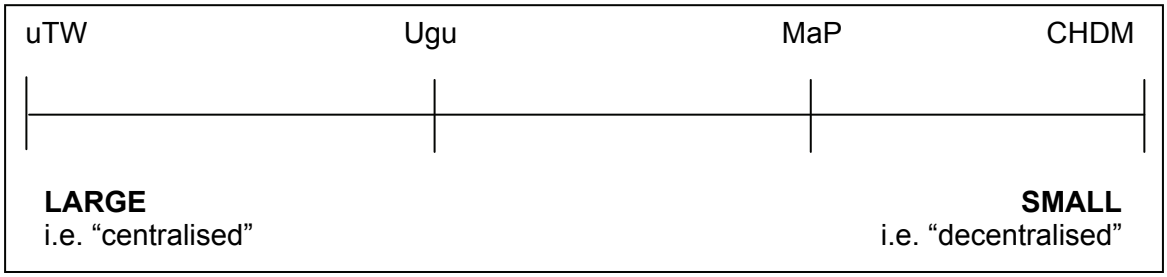
This lack of clarity is also reflected in section 1.2 (Research Objectives): "Assist water services authorities (WSAs) to make well-informed decisions regarding an appropriate institutional arrangement (centralised or decentralised) for its water services provision".

Arising from initial findings across case studies, the researchers are of the opinion that it is more useful to describe an institutional arrangement in terms of whether its water services provision functions are "consolidated" or "non-consolidated" than to describe them as "centralised" or "decentralised". It is a more accurate description. And it enables comment on the "mix" (i.e. the degree to which functional areas are consolidated within the water services provision institutional arrangement, or not).

Using the terms "consolidated" and "non-consolidated", it is proposed that the assumptions about whether institutional arrangements were "centralised or "decentralised" (as presented in section 3.5.3: [Scale and scope: impact and assumptions]) may in fact be rendered less than useful.

The scale and scope assumptions articulated in section 3.5.3 are reproduced here to illustrate the point more easily?

Scale assumptions (whether functions were "centralised" over an extremely large geographical area or "decentralised" to very small areas) placed the four case studies on the following spectrum in relation to each other:



Scope assumptions (whether all functions were "centralised" within a single entity or "decentralised" across one or more contracted WSPs) placed the four case studies on the following spectrum in relation to each other:

The differences in the above two figures suggest that it is not necessarily useful to use scope and scale to describe an institutional arrangement as "centralised" or "decentralised" in South Africa, even if the focus is exclusively an operational (technical) one.

What the research offers is a description of the institutional arrangements in terms of consolidation or non-consolidation of functional areas (taking cognisance of South Africa's decentralised governance framework), and it places the four case studies on the following spectrum quite differently in relation to each other:

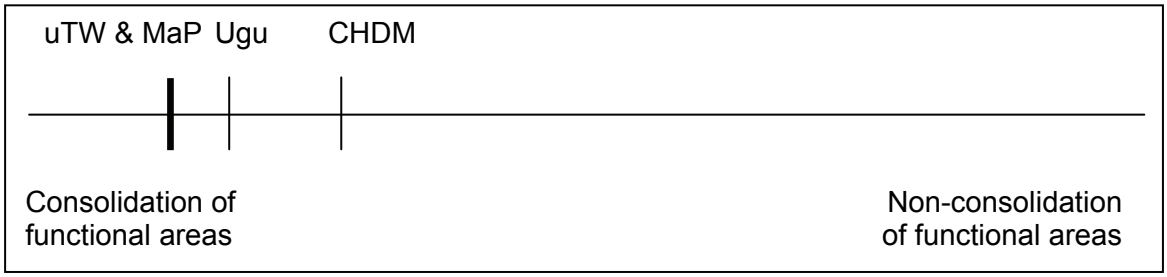


Figure 12: Describing the case study institutional arrangements in terms of functional areas

uThukela Water and Maluti-a-Phofung LM have seven of their nine WSP functional areas consolidated; and a further two non-consolidated functional areas that are supported by consolidated auxiliary services. They therefore sit at exactly the same point on the spectrum in the left hand (consolidated) half. Ugu DM has six of its nine functional areas consolidated; and a further three supported by consolidated auxiliary services. It therefore sits just to the right of uThukela Water and Maluti-a-Phofung LM on the spectrum; and again in the left hand (consolidated) half. Chris Hani DM has five of its nine functional

areas consolidated; and a further three supported by consolidated auxiliary services. It therefore also sits in the left hand (consolidated) half of the spectrum, but to the right of the other three institutional arrangements.

Therefore, key terminology findings of this research are summarised as follows:

1. The terms "centralised" and "decentralised" when used in South Africa to describe institutional arrangements for water services provision are misleading as the Constitution determines a decentralised framework for water services.
2. It is useful to focus on describing arrangements for functional areas for water services provision, based on the need to meet water services provision challenges.
3. The terms "consolidated" and "non-consolidated" are useful in describing arrangements for functional areas for water services provision.

It is the opinion of the researchers that the terms "consolidated" and "non-consolidated" are sufficiently useful, even though these terms may still need qualification since they are used synonymously with "centralised" and "decentralised" in, for example, the United States of America.

RECOMMENDATIONS
1. The terms "centralised" and "decentralised" should be used in South Africa only within the context of the decentralised institutional framework and, if used, should specify application to operational (technical) responsibilities only.
2. It is preferable to describe institutional arrangements for water services provision in respect of WSP functional areas (based on challenges); and to use the terms "consolidated", "non-consolidated" or a "combination" of both.

7.3 Problems Presented by the Decentralised Governance Framework

The analysis of the South African institutional arrangements' case studies supports the findings of the literature – that the following problems (among others) have been caused by the South African decentralised governance institutional framework:

1. Loss of potential for economies of scale.
2. Reduced potential for cross subsidies.
3. Lack of incentive to protect watersheds and control water pollution.

The case studies either attempt to address these in their chosen institutional arrangement, or identify them as issues requiring further attention (for example, uThukela Water was established for the Upper Thukela catchment).

7.4 Functions Deemed Necessary to Always Centralise at National Level

There is general agreement from literature and the interviews that some functional areas typically always belong at centralised level. These include:

- Policy development.
- Enabling environment.
- National regulation and oversight.
- Support.

From the case studies the issues centre on appropriate support – the role of national (and provincial) government.

This is experienced very much in terms of guidance and support in setting up and maintaining a vision for a practical institutional arrangement based on good practice; and in terms of alignment of water resource planning and implementation – across political and catchment boundaries.

But it also involves the enabling environment – which includes the development of both a policy framework and a regulatory framework for institutional arrangements – including the development of an appropriate framework which looks at water resource issues from a national perspective, and scales that down, as appropriate, to province and local government.

Where the functionality of institutional arrangements is impeded by governance issues (as is the case with the two municipal water utilities which form part of this study – uThukela Water and MaP Water), it is imperative that national (and provincial) government intervene timeously and judiciously, with practical guidance and a plan for overcoming hindrances to sustainable water services provision.

Richard Franceys and others[46] conclude that most countries seem to muddle along – adapting as lessons are learnt. One approach is to look at whatever situation exists, and to look at how regulation can enable the arrangement to work better.

Recent service delivery protests have been a key indicator that the general public is not satisfied with service delivery, so it is critical for government institutions to ensure that functional arrangements are improved.

In South Africa water resource management is also centralised at national level owing to scarcity of the resource. In terms of climate change scenarios, it appears that South Africa will get warmer and dryer, with a higher variability in hydrology due to more extreme climatological events. This negatively impacts on ability to store water for assurance of supply. South Africa needs to become more innovate in managing its scarce water resources. This could mean that the decentralised governance framework for water

[46] Regulating Water and Sanitation for the Poor: Economic Regulation for Public and Private Partnerships, edited by Richard Franceys and Esther Gerlack (2008).

services provision may need to be reconsidered since South Africa will then be too water scarce to submit water services provision to local politics.

South Africa could consider the creation of a stable environment of regional utilities that have a fair share of both the economic base and social challenges in order to build the sector equally, not place undue stress on poorer parts, and can optimally utilise scarce water resources. In this respect the finalisation of the Institutional Reform Phase II (which must give direction to the rationalisation of regional water utilities) process is vital. It must take away present uncertainties. It must ensure a framework for appropriate decision making. It must provide practical insights and application. And the implementation of the Reform Process must be appropriately resourced.

RECOMMENDATION
If the decentralised governance framework for water services provision does not serve South Africa well in terms of water resource scarcity, then management of water could be re-conceptualised to include both integrated water resources management and water services provision on a catchment based geographical scale. This would require a Constitutional amendment, and could include setting up water authorities based on both catchment boundaries and the relationship between catchments (e.g. the Thukela and Upper Vaal Catchments – because of major transfers). Such water authorities would be responsible for all water management within their areas, and could include the appointment of WSPs.

7.5 Benefits of Scale and Scope

Dimensions of scale and scope, as understood in this research, are as follows:

Geographical scale	Functional scope
relates to: size / area	relates to: functional areas examined in this research (but not necessarily full range of "source to tap")
achieved by: HORIZONTAL INTEGRATION	achieved by: VERTICAL INTEGRATION

Whether in terms of spreading scarce skills over a larger geographical area and range of functions, or greater buying power, or synchronizing IT, records, planning and other systems, the obvious point must be made that geographical scale and functional scope are inextricably linked, and that every opportunity must be made to maximise benefits presented by scale and scope.

However, a point less obvious is that economies of scale and scope are offset by the "cost of complexity" of the institutional arrangement, and a balance between the two must be found if a successful arrangement is to be put in place.

RECOMMENDATIONS
1. Every institutional arrangement for water services provision must always seek to maximise benefits of scale and scope, while factoring in the "cost of complexity".
2. Further research is required to define and explore issues related to "cost of complexity".

7.6 Factors Influencing Choices around Consolidation / Non-Consolidation

As noted above, while the Municipal Systems Act (which covers all municipal service departments) identifies a range of issues against which WSAs have to assess different WSP options; it does not identify the key functions (or functional areas) for water services provision, i.e. it does not assist with the configuration of the institutional arrangement.

An analysis of the four institutional arrangements case studies in terms of which functional areas are consolidated or non-consolidated enables an emerging picture of which functional areas are more effectively performed at a consolidated level (for benefits of scale and scope) within an institutional arrangement, which at a non-consolidated level, and which in some combination or mix.

Matrix 4 presents the following initial findings across case studies:

Most functional areas are consolidated across the case studies. It is the same functional areas that are consolidated. Auxiliary services support non consolidated functions, and are consolidated across all four case studies.
No functional area is non-consolidated without structured support (especially in the form of consolidated auxiliary services).
Case studies have two or three two functional areas that are non-consolidated. As a rule it is the same functional areas that are non-consolidated.

Therefore, key findings on factors influencing choices around consolidation or non-consolidation of functions are summarised as follows:

1. All four institutional arrangements have more consolidated functional areas than non-consolidated functional areas.
2. To a large degree the same functional areas are consolidated and / or non-consolidated within each institutional arrangement.

The following groupings of functional areas are therefore offered as a guide in making decisions regarding institutional arrangements:

1. Functional areas best consolidated within an institutional arrangement:

    - Human resources (in terms of application of scarce skills).
    - Accessing funds and financial viability.
    - Procurement.
    - IAM and augmentation.
    - Alignment of planning.
    - Management of water resources.

2. Functional areas best non-consolidated within an institutional arrangement, but with support from consolidated auxiliary services:

    - Optimising operations.
    - Consumer engagement and communication.

3. Functional areas that can be met equally well within a consolidated or a non-consolidated institutional arrangement (or do not have relevance for meeting the water services provision challenge):

    - Water services quality.
    - Communication within and between the WSA and WSP (to be commented on as a key issue in section 7.8: Municipal politics and the water services business).

4. In addition, auxiliary services should always be consolidated to ensure benefits of scale and scope. These include:

    - Supply chain management.
    - Call centre.
    - Meter reading.
    - Billing, revenue collection and management.
    - Laboratories for water quality and soil testing, analysis and monitoring.
    - Stores for materials.
    - Workshops where components of the supply system can be produced and /or customized (e.g. fittings and couplings).
    - Equipment management.
    - Health and safety installations on works' sites.

Accountability at the local level is important to success. Accountability is complex and multi-faceted. The further the area is from its urban service centre, the more difficult it is to ensure accountability. It is noted that all four case studies have "consumer engagement and communication" as a non-consolidated function, with support from consolidated auxiliary services (generally including a call centre in a larger urban area).

In order to arrive at a sound decision for an appropriate institutional arrangement for sustainable water services provision this research demonstrates that addressing the

requirements of the challenges related to the functional areas, and how to maximise the benefits of scale and scope in terms of these, together with the physical nature of the area and the infrastructure system, should be the main considerations.

Therefore, it is proposed that answers to the following questions will provide guidance to WSAs:

1. What are the functions to be undertaken / challenges to be met?
2. What combination of consolidated, non-consolidated or a mix of the functional areas is most likely to address the challenges?
3. Are benefits of scale and scope being maximised?

Perhaps the most important lesson from the South African electricity sector, which is supported by the Literature Review, is that there is rarely a single solution for an entire geographical area. Where structures currently work well, leave them alone. Where the potential to strengthen existing structures exists, do so in consultation with stakeholders. Be pragmatic. Ensure the support of the majority in the sector. Provide certainty. And ensure the least disruption possible.

Flexibility is key in identifying and implementing functions in an appropriate mix of consolidated or non-consolidated arrangements.

RECOMMENDATIONS
1. Water services provision functional areas must be used as a basis for decision making for water services provision institutional arrangements – in the context of ensuring benefits of scale and scope.
2. In deciding on the precise nature of the proposed institutional arrangement, start with what practical realities exist, work with and build on successes, and improve over time.
3. Sound business principles must always guide decisions.

7.7 Service Delivery Components as Over Riding Challenges

Service delivery has three primary components, all of which must be well-understood and well-resourced:

- Infrastructure.
- Skills.
- Systems and structures.

Infrastructure

Since 1994 there has been great focus and progress on extending infrastructure to previously unserved and marginalised areas. This has not been matched by maintenance, upgrade and augmentation of existing systems, or by the appropriate focus on operational

requirements. Therefore the water services infrastructure asset base in South Africa is ageing and deteriorating.

This issue is fairly well understood in South Africa, and it is being somewhat resourced. However, it remains an overwhelming challenge.

Skills

Availability of skills (primarily technical) is a key deciding factor in ensuring sustainable services.

In South Africa, as internationally, there is an enormous scarcity of skills. Sometimes the scarcity of skills means that a system simply cannot run, and then every issue (including that of appropriate institutional arrangements) becomes complete irrelevant. Set skills will always be required for set tasks – but some skills will be required in large numbers over a small geographical area (e.g. for operation of works), and others in small numbers over a large geographical area (e.g. management).

Skills required over a large geographical area are best placed in a consolidated context, contracted in, or employed on a part time basis.

People learn skills by application of training; learning by doing; and support, coaching and mentoring from experienced people.

The human resources of the institution need to fit the needs of the institution.

People need to understand the physical functioning of the system in order to perform their functions effectively.

There is recognition of the over-riding importance of this issue in South Africa; but improving scarce skills remains an overwhelming challenge.

Systems and structures

Current municipal structures-are rooted in the apartheid legacy in terms of whether they formed part of previously well-resourced or previously under-resourced local governance structures (i.e. pre-1994 South Africa or homelands). This implies that some municipalities have inherited a history of sound water services provision, infrastructure assets in relatively good condition, and sound institutional memory – with attendant systems and structures. Others have not. There is also the imperative to extend services to previously un-served citizens. This, generally more than the choice of institutional arrangement, has the most overwhelming impact on the current viability of the structure.

A key issue here is the development of non-hierarchical networks of people who understand the issues and tasks, have devolved responsibility to make decisions and act quickly, and are enabled to ensure a successful service. Generally a reliance on government bureaucracy means slower decision-making and longer response times. (The CSP approach in the Chris Hani DM demonstrates this by means of the networks between

the DM and LMs, and the DM, LMs and CSPs.) A network of accountable people is generally more effective than hierarchical or bureaucratic structures.

Another important factor is that in well-resourced structures (municipalities, utilities, etc) the choice of institutional arrangement is less relevant than in under-resourced structures. The cost of making a mistake may much more easily be absorbed in well-resourced structures. In under-resourced ones, primarily in rural areas, one single mistake could have fatal consequences. (For example, in OR Tambo DM high levels of service failure have occurred over a number of years despite legal compliance with two rounds of the section 78 process.)

This importance of these issues is largely lost when making decisions for appropriate institutional arrangements. They are generally not well understood, and therefore largely not addressed.

RECOMMENDATIONS
1. Use examples of good practice (this research contains some) to find ways to attract, build and maintain skills at a consolidated level within the chosen institutional arrangement.
2. Further research into the range of water services provision systems and structures for WSPs – what they are, current problems in inadequate systems, and how improved systems might support sustainable water services provision.

7.8 Municipal Politics and the Water Services Business as a Key Issue

There is a critical success factor that has absolutely nothing to do with whether the institutional arrangement is consolidated or non-consolidated. Apart from infrastructure, skills, systems and structures (mentioned above), of overriding importance is political will. This needs to be built and maintained, and regulated through a binding contract that defines functions and obligations of all contracting parties.

It is incumbent on national government, as supporter, to create and sustain an enabling environment for politicians to know the business and to make appropriate decisions for water services.

Secondly, a key challenge that did not fit the analysis in terms of a functional area was that of "Communication within and between the WSA and WSP" – an issue raised consistently in the research as linked to "municipal politics" and having either a positive and enabling role, or a negative and disenabling role in the provision of water services.

Political will is seen as absolutely key to the success of water services provision. Institutional arrangements have succeeded or failed as often around political will as around failure of the three service delivery components mentioned above.

The two case studies where politics is a challenging issue (Maluti-a-Phofung LM and uThukela Water) are the two institutional arrangements where communications between the WSA(s) and WSP are not structured. It is noted that both are external service delivery mechanisms in terms of the Municipal Systems Act: municipal-owned entities. Both started off with high levels of political support and a shared vision between the WSA(s) and the WSP. Both have been losing that support over time, and will require structured engagement and increased political support to realise many potential benefits of the arrangement for sustainable water services provision.

In the other two case studies (Ugu DM as WSA and its own WSP; Chris Hani DM as WSA with multiple WSPs, including CSPs) municipal politics enables more efficient water services operations. There is a shared vision between councillors and officials. Communication channels and mechanisms are clear and useful. Councillors have a good understanding of the water services business, and support sound decision making on the part of the ring-fenced WSP Unit within the municipality.

Of interest is that Ugu DM is an internal service delivery mechanism and Chris Hani a range of external service delivery mechanisms.

Therefore this research concludes that very critical to sustainable services provision is that councillors understand and support the water services business, and enable effective operations through sound decision making. In fact, as the institutional arrangements' case studies illustrate, this is as important as deciding on the mix of consolidated or non-consolidated functional areas, and considered way more important than whether an internal or external service delivery mechanism is favoured.

It seems that embedded in the above point is the need to find an institutional arrangement that allows for the balance between technical responsibility for service provision and political accountability. There are hints at mechanisms whereby a regional WSP can still be held politically accountable at a local (or even community) level – a little similar to the situation in Mozambique with a single infrastructure owner but many city-based service providers who have to develop a relationship with the local municipality. Getting the political accountability / technical responsibility balance right is critical for an effective system. This is an issue which would probably benefit from additional research.

Another key issue here is that the drawing of WSA boundaries has been political and not catchment-based (i.e. linked to the physical nature of the resource). This will always present a challenge with respect to water services provision, and stand in the way of otherwise obvious benefits of economies of scale and scope.

It is noted that the section 78 process is about due diligence. It has been noted that it has a focus on process to determine a service delivery mechanism, but is silent on form and content. Political will is not an issue for the section 78 assessment – because there is a legislated obligation on WSAs to undertake the assessment.

However, grave misunderstandings of the economies of scale and scope for water services provision means that in some cases very bad decisions have been made within the section

78 assessments – complex decisions that are legally compliant with section 78 of the Municipal Systems Act, but that are not implementable owing to lack of relevant skills.

In addition, government procurement regulations are aimed at eliminating corruption, but unfortunately they sometimes seem to have rather hampered service delivery owing to drawn out and complicated procurement processes and lengthy legal battles around corruption.

Water services must be run on sound business principles. Decisions about managing sustainable water services provision are technical and financial, not essentially political. Therefore a WSP requires delegated authority to enable it to effectively managed water services and make appropriate decisions.

RECOMMENDATIONS
1. Politicians hold themselves accountable in understanding the water services business to enable sound decision making based on good business principles and the most pressing water services challenges.
2. Further research into what it means to get the political accountability / technical responsibility balance right, and how this might be achieved.

8 CONCLUSIONS

In section 3 (Research Methodology), the two essential decisions deemed necessary to be made by WSAs in relation to water services provision were identified as:

1. The most appropriate size of the area to be served by the WSP(s).
2. The most appropriate number of functions or functional areas (or services or aspects of the service) to be undertaken by the WSP(s) (i.e. all functions by one WSP, many functions by many WSPs, or some combination of functions and WSPs).

These decisions were seen as having to be made within a "centralised" or "decentralised" institutional framework. Based on the data gathered, analysis and findings, the conclusions in relation to the above are as follows:

1. It is important that the South African water services sector explores issues of "centralisation" and "decentralisation" in a much more nuanced way, and within the decentralised institutional framework for water services provision.

2. Institutional arrangements for water services provision in South Africa may be described as "more consolidated" or "less consolidated" in terms of how functional areas within the institutional arrangement are configured. They will generally be a mix of consolidated and non-consolidated functional areas supported, as appropriate, by consolidated auxiliary services.

3. Most challenges are better met within a more consolidated institutional arrangement, but even those which are best met within a less consolidated arrangement require consolidated support from auxiliary services for optimised functioning.

4. All institutional arrangements should be viewed as context specific, guided by the needs of the functional areas and challenges as presented at the time of the section 78 assessment, and by opportunities for benefits of scale and scope.

5. Politicians have a responsibility to understand the water services business, and to enable sustainable water services provision through whatever institutional arrangement they have chosen for their WSA.

6. The link between integrated catchment management and water services provision needs to be further explored and developed in terms of the institutional realignment and reform process (important on its own, and again highlighted by climate change scenarios which point to an exacerbated water resource scarcity in South Africa).

9 OPPORTUNITIES FOR FURTHER RESEARCH

9.1 Introduction

The research presented in this report was seen as exploratory, and as needing to highlight further areas of study to be undertaken to assist further with improved decision making for institutional arrangements for water services provision.

This section presents opportunities for further research. The list emanates directly from this study. It is not seen as exhaustive; its intention is to highlight important gaps for future work.

It is envisaged that further research will take a range of forms – from less complex desk top studies to intensive, multi-year action research in selected WSAs and WSPs.

The focus of the opportunities for research is on finding and sharing practical solutions to currently overwhelming problems in the water services sector.

9.2 Broadening Current Research to Include Greater Range of Case Studies

This research has questioned some fundamental assumptions in the water services sector in South Africa regarding terminology for describing institutional arrangements for water services provision. It also questions national governance and operational responsibilities in terms of the way current legislation configures them.

However, the research is based on four case studies only – all four chosen because they were deemed to be (fairly) well functioning, innovative, and representing a mix of "centralised" and "decentralised" institutional arrangements.

Further research could be done into a larger range of existing WSP arrangements in South Africa to check findings emanating from this current research.

Cognisance is also taken of the fact that many case studies exist in South Africa which look at issues of institutional arrangements for water services provision – but from different perspectives and for different target audiences; and that new case studies do not necessarily build on the existing body of work. Therefore, further research could identify the suite of case studies in existence and suggest ways in which to build on that body by identifying common themes and gaps.

This further research could be linked to ongoing benchmarking initiatives such as the Blue Drop Drinking Water Quality Programme undertaken by DWA to ensure more sustainable services provision.

It could also emanate in a set of guidelines for municipalities for appropriate decision making and institutional stability.

9.3 Finding New Ways for Useful Comparative Analysis of WSPs

Charles Perrow, in *A Framework for the Comparative Analysis of Organizations*[47] (1967), argues that "technology" is a better basis for comparing organisations than most other bases.

The organisation is conceptualised as a whole, rather than dealing only with specific processes or sub-parts. Defining characteristics of his approach include:

i. Technology is defined as "the work done in organisations", and is considered the defining characteristic of organisations. That is, organisations are seen primarily as systems for getting work done, for applying techniques to the problem of altering raw materials (people, symbols or inanimate objects).
ii. As a strategy of analysis, technology is treated as an independent variable; structure (the arrangements among people for getting work done) as a dependent variable. Goals are conceived of as being in part a dependent variable.

Perrow argues that "The first implication of this for comparative studies is that we cannot expect a particular relationship found in one organization to be found in another unless we know these organizations are in fact similar with respect to their technology... [a less obvious] point [is] that types of organization – in terms of their function in society – will vary as much within each type as between types. Thus, some schools, hospitals, banks and steel companies may have more in common, because of their routine character, than routine and nonroutine schools, routine and nonroutine hospitals, and so forth. To assume that you are holding constant the major variable by comparing several schools or several steel mills is unwarranted until one looks at the technologies employed by various schools or steel mills."

It is considered an important opportunity for further research to analyse WSPs in South Africa in terms of this perspective. It is anticipated that such a study would use a range of systems analysis techniques, as appropriate.

9.4 Political Accountability vs. Technical Responsibility

Research questions here include:

- How to ensure that politicians are accountable to their communities and enable effective water services provision?
    - What do we mean by "political accountability"?
    - Which countries do not have water services as a local government competence? Does this impact on "political interference"?
    - Which (South African) municipalities could benefit from less political interference? What might be changed? How might it be changed?
- Where are there best practice examples of councillors who are known to have excellent understanding of water services issues and / or provide appropriate support to their officials?

[47] Accessed on the internet: http://www.jstor.org/stable/2091811 (12-08-2008).

        - What does that support look like?
        - How was it built, and how is it maintained?
        - What are continuing challenges?
    - Should water services provision with its obvious critical link to water resource scarcity be a local government function, be subjected to local politics?
    - At what point might it be appropriate to "re-centralise" operational / technical responsibility?
    - At what point might it be appropriate to "re-centralise" governance responsibility?

It is envisaged that an action research component could explore:

- Opportunities for working with councillors to pilot the successful building and maintenance of political support.
- Documenting and sharing success stories (including the possibility of developing a DVD).

9.5 Guidance for Appropriate Section 78 Assessments

This research has noted that section 78 processes generally do not result in sound decisions for sustainable water services provision. Sometimes inappropriate or un-implementable decisions are taken, and these can have long term, negative implications for WSAs.

The South African Local Government Association (SALGA) Terms of Reference entitled "WSP Arrangements" (dated 21-10-09) seeks to understand the section 78 as a legal process, and why inappropriate decisions emanate from the legislated process.

There are probably opportunities for focused water services research to support the SALGA research. These should be explored with SALGA.

An envisaged action research component could explore:

- Documenting and sharing success stories (including development of guide).
- Proposing changes to policy and legislation.

9.6 LED and Community-Based Service Providers

Issues here include:

- Undertake a review of municipal LED strategies.
- What are indicators for successful implementation of LED strategies?
- Unpack the Chris Hani DM arrangement (in its various forms over time) and others.
- Find parallels (similar municipal commitments to using community-based service providers and / or institutional arrangements) in other areas of South Africa and / or Africa and / or developing countries.
    - What are the critical success factors?

    - What are the continuing challenges?
- Sharing lessons (including development of guide).
- Proposing legislation change.

9.7 Water Services Provision Systems and Structures

Further research is identified into the range of water services provision systems and structures for WSPs:

- What are considered to be simple, affordable and effective systems and structures to support sustainable water services provision?
- What are the problems inherent in inadequate systems and structures?
- How might improved systems and structures support benefits of scale and scope?
- How can systems and / or structures address the overriding issue of skills scarcity?
- How can systems and / or structures support the development of efficient non-hierarchical networks that can contribute to more sustainable services provision?

9.8 Lessons from the Electricity Sector

In South Africa there was a political decision to "centralise" (to regional level) all electricity distribution through the REDS. This decision has consistently been opposed by municipalities. Spending time understanding the motivations for both positions would be helpful since electricity distribution a deemed a relatively simple technical exercise, and there are perhaps useful comparisons with water services provision.

10 BIBLIOGRAPHY

Acts Online: http://www.acts.co.za/company/index.htm.

Bahl, Roy (undated), Fiscal Decentralization: Lessons for South Africa (accessed on the Internet: http://www1.worldbank.org/wbiep/decentralization/library1/bahl.htm, 07-09-2008).

Bahl, Roy (1994), Worldwide trends in fiscal decentralization (accessed on the Internet: http//info.worldbank.org/etools/docs/library/128803/Bahl%20trend%20in%20Fiscal%20Decentralization.pdf, 07-09-2008).

Bardhan, Pranab (2002), Decentralization of Governance and Development, Journal of Economic Perspectives, Vol 16, Number 4 – Fall 2002, pages 185-205.

Basta, Lidija R. (undated), Decentralization – Key Issues, Major Trends and Future Developments (accessed on the Internet: http://www.ciesin.org/decentralization/English/General/SDC_keyissues.pdf, 13-03-2008).

Batho Pele: http://www.dpsa.gov.za/batho-pele/Principles.asp.

Burt, Jane and Sharon Birkholz (2008), Desktop review of Chris Hani DM Water Service Delivery, Rhodes University, Grahamstown.

Ceenex (2002), uThukela Water Strategic Plan (SP2030).

Center for International Earth Science Information Network, Colombia University: http://www.ciesin.org.

Chris Hani District Municipality (2007), Water Services Development Plan.

Chris Hani District Municipality (2008), Water Services Development Plan Review.

CoGTA (2009), State of Local Government in South Africa: Overview Report: National State of Local Government Assessments (*Working Documents).*

Concise Oxford Dictionary, The (1995), 9th Edition, Clarendon Press, Oxford.

Cranfield University, UK: www.cranfield.ac.uk.

De la Harpe, Jean (2003), Scaling up community management in South Africa: Alfred Nzo District Municipality Case Study, May 2003.

De la Harpe, Jean (2006), Sector Wide Approach for Water Services: Masibambane – Moving forward through collaboration, DWAF, SALGA and the EU.

De la Harpe, Jean (2010), Scaling up and sustainability challenges, IRC, The Hague.

Decentralization Thematic Team, (undated), What is Decentralization? World Bank (accessed on the Internet: http://www.ciesin.org/decentralization/English/General/Different_forms.html, 03-10-2008).

Department of Minerals and Energy: www.dme.gov.za.

Department of Water Affairs: www.dwaf.gov.za.

Domestic PSP Initiative, The (2005), presentation to the Global Practitioners' Workshop, 20-21 June 2005, Nairobi.

DWAF (1994), Water Supply and Sanitation Policy White Paper, Pretoria.

DWAF (1999:a), Institutional and Social Development Package for water supply projects.

DWAF (1999:b), Regional Workshop: (East and Southern Africa): Financing Community Water Supply and Sanitation Workshop, Papers Volume I and Volume II, 28 November – 2 December 1999.

DWAF (2003), Strategic Framework for Water Services, Pretoria.

DWAF (2006:a), A Joint National Water Services Sector Support Strategy: Working together for transformation and effective delivery, Draft 5, 16 November 2006.

DWAF (2006:b), Boundary Study: Status Quo Assessment – Preliminary Draft Report, Institutional Reform Phase II, 17 March 2006.

DWAF (2006:c), Governance and Strategic Issues in the Institutional Reform of Water. Institutional Reform Phase II, 1 July 2006.

DWAF (2006:d), Governance Conceptual Study: Comparison of Entities, Institutional Reform Phase II, March 2006.

DWAF (2007), National Boundary Study: Towards Regional Water Service Provider Boundaries, Preliminary Draft Report, Institutional Reform Phase II, April 2007.

DWAF (2008), Institutional Re-Alignment Project: Emerging Institutional Models for Water Sector in South Africa, Draft 001, July 2008.

DWAF (2009), Blue Drop Report: South African Drinking Water Quality Management Programme, Version 1.

Eales, K and L Smith (2008), Accountability in Public Services in South Africa, June 2008.

Eberhard, Anton (2007:a), EDI Restructuring: avoiding institutional instability and ensuring supply security, presentation to the National Energy Summit, 25-27 September 2007, Sandton.

Eberhard, Anton (2007:b), Rosier future without the REDs, Business Day, 4 April 2007.

ERM (2005), Models for Aggregation for Water and Sanitation Provision, Water Supply and Sanitation Working Notes, Note No 1, January 2005, Water Supply and Sanitation Sector Board of the Infrastructure Network of the World Bank Group.

Everatt D, P Ravenscroft, D Still, M J Smith, N Dube, N McLeod, J Gibson, C Illing, D Hazelton, J Khanyi, P Mbanjwa, R Jennings and fieldwork teams from Q&A and Field Focus, (2007), Summative Evaluation of the Masibambane 2 Programme: Project Evaluation Report, August 2007, DWAF.

Franceys, Richard and Esther Gerlack (eds) (2008), Regulating Water and Sanitation for the Poor: Economic Regulation for Public and Private Partnerships, Earthscan, London.

Google books: http://books.google.co.za.

Graduate School of Business, University of Cape Town: www.gsb.uct.ac.za.

Harris, K, L Colvin, T Sigwaza, N Duma and N Khoza (2007), Building a learning water services sector through collaboration: The South African experience. eds S Smits, P Moriarty and C Sijbesma (eds): Learning Alliances: Scaling up innovations in water, sanitation and hygiene, IRC, Delft.

Harris, Kerry and Abri Vermeulen (2009), Literature Review Report for Situational Analysis of Water Services Provision in South Africa – Establishing Future Strategies for Consideration by Municipalities, March 2009.

Harris, Kerry and Jean de la Harpe (1999), Institutional and social development package for water supply projects, presentation to 25th WEDC Conference, Addis Ababa.

Helm, Dieter (2008), A new regulatory model for water: the periodic review, financial regulation and competition, 6 May 2008, Oxford.

Infrastructure Finance Corporation Limited: www.inca.co.za.

International Council on Human Rights Policy (2002), Local Rule: Decentralization and Human Rights, Switzerland.

International Water Association (IWA): http://www.iwahq.org.

IRC International Water and Sanitation Centre (IRC): www.irc.nl.

IRC, About Community Management (undated), (accessed on the Internet: http://www2.irc.nl/manage/whatisit/index.html, 19-03-09).

Jones, D and T Williamson, (2005), Review of sector collaboration in the water services sector, South Africa, Pretoria. DWAF.

Lenton, Roberto, Albert M. Wright and Kristen Lewis (2005), Health, dignity, and development: what will it take? – Achieving the Millennium Development Goals, UN Millennium Project Task Force on Water and Sanitation, Earthscan, London.

Maluti-a-Phofung Local Municipality: www.map.fs.gov.za/en/index.html.

Maluti-a-Phofung Local Municipality (2004), Water Services Development Plan, 2004/05.

Maluti-a-Phofung Local Municipality (2005), Integrated Development Plan.

Manzodidi, T, G Mackintosh, A Wensley, L Manus and S Gadzikwa (undated), The role of regulatory and co-operative governance in ensuring the quality of water services in South Africa.

Marquard, Andrew, Bernard Bekker, Anton Eberhard and Trevor Gaunt (2007), South Arica's electrification programme: an overview and assessment, Working paper, December 2007, Graduate School of Business, University of Cape Town.

Mckenzie, R S, W Wegelin, P Mohajane and S Shabalala (2006), Benefits of Pubic Private Partnerships in the Municipal Environment, IMESA Conference, 1-13 October 2006, Soweto.

Md Awal Hossain (undated), Administrative Decentralization: A Framework for Discussion and its Practices in Bangladesh.

Muller, Mike, Robin Simpson, and Meike van Ginneken (2008), Ways to improve water services by making utilities more accountable to their users: A review, Water Working Notes, Note No 15, May 2008, Water Sector Board of the Sustainable Development Network of the World Bank Group.

Municipal Infrastructure Investment Unit (undated), Lessons Learnt with the Establishment of a Municipal Entity through the Formation of uThukela Water (Pty) Ltd. Draft 1.

Mvula Trust, The: www.mvula.co.za.

NETWAS (undated), Community management of water supplies in Kenya, Tanzania and Uganda (accessed on the Internet: http://www2.irc.nl/manae/manuals/cases/kenya.html, 16-03-09).

PDNA (undated), Prevention is better than cure: How a regional approach to audits of water treatment works can lead to more sustainable water quality, Cape Town.

Perrow, Charles (1967), A Framework for the Comparative Analysis of Organizations, American Sociological Review, Vol. 32, No. 2, April 1967, pp. 194-208, American Sociological Association (accessed on the internet: http://www.jstor.org/stable/2091811, 12-08-2008).

Plummer, Janelle (2002), Focusing Partnerships: A Sourcebook for Municipal Capacity Building in Public-Private Partnerships, Earthscan. London.

Republic of South Africa (1996), The Constitution of the Republic of South Africa Act (No 108 of 1996), Pretoria.

Republic of South Africa (1997), The Water Services Act (No 108 of 1997), Pretoria.

Republic of South Africa (1998:a), Municipal Demarcation Act (No. 27 of 1998), Pretoria.

Republic of South Africa (1998:b), The Municipal Structures Act (No 117 of 1998), Pretoria.

Republic of South Africa (1999), The Public Finance Management Act (No 1 of 1999), Pretoria.

Republic of South Africa (2000), The Municipal Systems Act (No 32 of 2000), Pretoria.

Republic of South Africa (2003), The Municipal Finance Management Act (No 56 of 2003), Pretoria.

Rouse, Michael (2007), Institutional Governance and Regulation of Water Services: The Essential Elements, IWA Publishing, London.

Saleth, R Maria, and Ariel Dinar (1999), Water Challenge and Institutional Responses: A Cross-County perspective, World Bank Policy Working Paper No 2045, January 1999.

SALGA (2009), Terms of Reference: WSP Arrangements.

Saravanan, V S (2000), Institutionalising Community-based Watershed Management in India, New Delhi, India (accessed on the Internet: http://www2.irc.nl/manae/manuals/cases/india.html, 16-03-09).

Shah, Anwar (ed) (2006), Local governance in Developing Countries, Public Sector Governance and Accountability Series, The World Bank, Washington, D.C..

Sjödin, Johanna (2006), Determinants of the performance of pubic water services in Chile 1977-1999, December 2006, Santiago.

Sigodi Marah Martin Engineers (2006), Consolidation of lessons learned from the experiences of establishment and management of the Multi-Jurisdictional Municipal Entity: uThukela Water (Pty) Ltd, Report produced for DWAF.

Solanes Miguel (unknown), The Law for the Regulation of Public Water-Related Utilities (accessed on the Internet: http://www.africanwater.org/PPP_debate6_miguea_solanes.htm, 19-03-09).

Solanes, Miguel (2006), Balancing local resources and capabilities in decentralization processes, presentation to the International Symposium on Public Service Systems in China, 28-29 October 2006, Haikou.

Solanes, Miguel and Andrei Jouravlev (2006), Water Governance for development and sustainability, June 2006, Santiago.

Solanes, Miguel and Andrei Jouravlev (2007), Revisiting privatization, foreign investment, international arbitration, and water, November 2007, Santiago.

South African Government Information: http://www.info.gov.za/documents/constitution/index.htm.

Ugu District Municipality (2006:a), Integrated Development Plan 2006/07.

Ugu District Municipality (2006:b), Integrated Development Plan Review, 2006/07.

UN Economic Commission for Latin America and the Caribbean (ECLAC): www.eclac.org.

(unknown) (2006), Appraisal document: Water Sector Performance Improvement Project, June 2006, Zambia.

Vermeulen, Abri (2001), Institutional frameworks to support community management in South Africa, DWAF (accessed on the Internet: http://www2.irc.nl/manae/manuals/cases/southafricancs.html, 16-03-09).

Vermeulen, Abri (2009), The Ugu Approach to Infrastructure Development: Centralised PMU and Strong Partnerships, WIN-SA.

Vermeulen, Abri and Kerry Harris (2009:a), Chris Hani District Municipality Case Study for Situational Analysis of Water Services Provision in South Africa – Establishing Future Strategies for Consideration by Municipalities, October 2009.

Vermeulen, Abri and Kerry Harris (2009:b), Maluti-a-Phofung Local Municipality Case Study for Situational Analysis of Water Services Provision in South Africa – Establishing Future Strategies for Consideration by Municipalities, November 2009.

Vermeulen, Abri and Kerry Harris (2009:c), Ugu District Municipality Case Study for Situational Analysis of Water Services Provision in South Africa – Establishing Future Strategies for Consideration by Municipalities, March 2009.

Vermeulen, Abri and Kerry Harris (2009:d), uThukela Water Case Study for Situational Analysis of Water Services Provision in South Africa – Establishing Future Strategies for Consideration by Municipalities, March 2009.

Vermeulen, Abri and Takalani Sidimela (2008), Inception Report for Situational Analysis of Water Services Provision in South Africa – Establishing Future Strategies for Consideration by Municipalities, October 2008.

Water Dialogues-South Africa, The (undated:a), Bushbuckridge Local Municipality Case Study, Draft, for limited The Water Dialogues circulation only.

Water Dialogues-South Africa, The (undated:b), Regulation and WSA-WSP Relations.

Water Dialogues-South Africa, The (2006), Consolidation of lessons learned from the establishment and management of the Multi-Jurisdictional Municipal Entity uThukela Water (Pty) Ltd, 6 April 2006.

Water Dialogues-South Africa, The (2008:a), Discussion Document on Cross Cutting Issues: From WD-SA's Ugu, Ilembe and Bushbuckridge Pilot Case Studies, October 2008.

Water Dialogues-South Africa, The (2008:b), Ilembe Case Study, Draft 15 July 2008, For limited The Water Dialogues circulation only.

Water Dialogues-South Africa, The (2008:c), Ugu Case Study, June 2008.

Water Dialogues-South Africa, The (2008:d), uThukela Case Study, October 2008.

Water Dialogues-South Africa, The (2009:a), Chris Hani Case Study, June 2009.

Water Dialogues-South Africa, The (2009:b), Maluti-a-Phofung Case Study, September 2009.

Water Page, The (incorporating The African Water Page)" www.africanwater.org.

Water Page, The: www.thewaterpage.com.

World Bank, The: http://www.worldbank.org.

Documents generated in the course of this research:

1. Harris, Kerry and Abri Vermeulen (2009), Literature Review Report for Situational Analysis of Water Services Provision in South Africa – Establishing Future Strategies for Consideration by Municipalities, March 2009.
2. Vermeulen, Abri and Kerry Harris (2009:a), Chris Hani District Municipality Case Study for Situational Analysis of Water Services Provision in South Africa – Establishing Future Strategies for Consideration by Municipalities, October 2009.
3. Vermeulen, Abri and Kerry Harris (2009:b), Maluti-a-Phofung Local Municipality Case Study for Situational Analysis of Water Services Provision in South Africa – Establishing Future Strategies for Consideration by Municipalities, November 2009.
4. Vermeulen, Abri and Kerry Harris (2009:c), Ugu District Municipality Case Study for Situational Analysis of Water Services Provision in South Africa – Establishing Future Strategies for Consideration by Municipalities, March 2009.
5. Vermeulen, Abri and Kerry Harris (2009:d), uThukela Water Case Study for Situational Analysis of Water Services Provision in South Africa – Establishing Future Strategies for Consideration by Municipalities, March 2009.
6. Vermeulen, Abri and Takalani Sidimela (2008), Inception Report for Situational Analysis of Water Services Provision in South Africa – Establishing Future Strategies for Consideration by Municipalities, October 2008.

The documents are appended to this report in the CD on the inside back cover.