THE SOUTH AFRICAN WATER SECTOR SKILLS AUDIT AS PERTAINING TO MUNICIPALITIES

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ABSTRACT

The Department of Water Affairs (DWA) appointed the Water Research Commission (WRC) in June 2011 to manage a research project entitled An Integrated Water Sector Skills Intervention Map Based on a Sector Skills Gap Analysis (referred to as the Skills Audit Project in short form). The project aims to determine, using a sample of 39 institutions, the number of posts per job title in the entire South African public water sector and the percentage of these posts that are filled and vacant. The project further aims, in a sample of 5 institutions, to determine the gaps between the skills required for technical posts as per job titles and the inherent skills of incumbents in the posts.

Three innovative aspects of the research are the development of:
- a Water Sector Competency Framework which is a structured table of over 2 500 skills required in the sector.
- a method to determine the number of staff per job title required in four types of organisations namely, Catchment Management Agencies, Water User Associations, Water Boards and Water Services Authorities, based on technical criteria of the nature of work and the extent of the responsibility.
- an online qualitative skills audit questionnaire for individuals to rate themselves against the skills in the Competency Framework.

This paper only focuses on the work pertaining to municipalities or Water Services Authorities.

WHY CONDUCT A SKILLS AUDIT?

In South Africa, one regularly hears that the country does not have sufficient skills. It is not different within the water sector. When service standards decrease or water does not flow or sewer overflows into the streets, one reason attributed to this is that there is a lack of skills in the municipality managing these services.

In response to repeated declarations that the public water sector in South Africa is lacking (and losing) skills necessary to plan for and maintain supply of services to the public, the Department of Water Affairs (DWA) commissioned the Water Research Commission (WRC) to research the nature and extent of the lack of skills.

The specific objectives of the research were to:
- Review all existing completed work relevant to the sector on the needs and status quo of human capacity and competence and identify the information and knowledge gaps.
- Complete a sector wide quantitative and qualitative skills audit including the current sector skills requirements within the various institutions.

- Determine the scarce, critical and priority skills gaps for the different skills sets and skills areas of the water sector and prioritise them into immediate, medium to long term priorities.
- Develop an integrated water sector skills intervention map which includes:
- A summary of the skills gap analyses, needs, interventions and recommendations;
- Resources and support systems required;
- Define roles, responsibilities and targets.

The reasons or benefits of conducting the research will be to:
- Provide any Water Services Manager with comparative data to argue their staff situation.
- Measure the quantitative skills gap (per job title, organisation and the country).
- Measure the qualitative skills gap (per individual, organisation and the country).
- Develop a method that jointly focuses on the quantitative and qualitative aspects of the "lack of skills" i.e. capacity and skills.
- Promote a standardised methodology to measure capacity and skills.
- Research and be explicit about the reasons for the capacity and skills gaps per organisation.
- Devise common definitions related to skills.

INNOVATIVE PRODUCTS

The research has developed five innovative products that hitherto did not exist in South Africa. The products are as follows:
- A Water Sector Competency Framework (with over 2 500 technical skills).
- A quantitative methodology to determine capacity requirements.
- A Water Sector Skills Matrix which provides the required set of skills for each job title.
- A qualitative methodology to determine technical skills / competency of staff.
- An online questionnaire (to obtain incumbents' actual skills). (Visit www.waterskills.co.za and register to explore the online questionnaire).

DEFINITIONS: CAPACITY VERSUS SKILLS

Many times it is loosely said that an organisation "lacks skills". A comment such as this does not inform the audience whether the organisation lacks skills due to posts not being filled or whether posts are filled, but incumbents lack the ability or skill to do the job. In order to differentiate between these two situations, this paper continuously refers to skills in two different ways. The first is "capacity" and the second is "skills". Capacity is used in the context of the number of staff required by job title e.g. ten plumbers, one hydrologist, four master planners.

Skills is used to refer to the competency of an individual due to his/her formal training and experience e.g. an ability to calculate water demand, ability to analyse microbiological samples, ability to maintain a telemetry system, ability to operate sludge pumps.

Other definitions used on this project are defined in Table 1.

Behavioural Attributes	refers to personal characteristics that are important for performance, e.g. being excellence orientated, showing honesty and integrity, or showing interest in performing.
Competence	the *ability* (in general) to do a particular activity/task to a prescribed standard.
Competency	is a set of defined *behaviours, skills* and *knowledge* that are required to perform a job to prescribed standards. Tests exist which assess knowledge and skills/ability.
Competency Framework	✓ is a structured way of presenting the knowledge, skills and behaviours i.e. competencies across each function within an organisation. ✓ defines the unique competencies required to effectively perform within a specific function or job family, e.g. Water Resources Planning function The number and type of competencies will depend upon the nature and complexity of work, together with the culture and values of the organisation in which the work takes place.
Job Description	is a list of general tasks, functions, roles and responsibilities of a job/position.
Job Profile	is made up of the job description, minimum qualification and experiential requirements, behavioural competencies and the key performance areas (KPAs) for a specific job.
Skill Matrix	• consists of a list of skills, and a grading system, with a definition of what it means to be at a particular level for a given skill. • The skills that are rated will be those required for the job.

Table 1: Definitions

The Department of Cooperative Governance and Traditional Affairs (CoGTA) have developed "competency profiles" for various job titles in municipalities. These competency profiles, amongst other information, provide generic, functional and managerial competencies. The term functional competencies in the CoGTA profiles are the same as the competencies in this research's Water Sector Competency Framework. This research predominantly deals with technical competencies.

PROGRESS TO DATE
Review of Past Work and Initiatives in the Water Sector

As mentioned under the specific objectives of this research project (section 1 above), a review was conducted of relevant skills-related work and documents that had been produced in the South African water sector over the past 10 years. Over 57 documents were reviewed and a 1-page summary written on the usefulness of each document to this research. Furthermore, interviews were held with organisations that are presently involved in skills-related initiatives. The findings of the reviews and interviews are not discussed in this paper as the focus of this paper is the quantitative and qualitative skills methodologies.. However, further information on the reviews is available from the author of this paper.

Complete a Sector Wide Quantitative and Qualitative Skills Audit

The research is approximately half way through the audit work with the following having been completed:

Development of a quantitative method to determine what could be deemed "adequate capacity" for a municipality, based on the extent and nature of their water services infrastructural responsibilities.

Testing of the quantitative method by analysing the infrastructure and organogram of **1** municipality (Tshwane Metro) to determine its

capacity gap. Development of a qualitative method to determine the level and lack of skills in individuals per job title and then the municipality's water department as a whole.

Testing of the qualitative method by analysing the skills requirements against actual staff skills at **1** municipality (Moses Kotane LM) to determine the skills gap.

Determine the Scarce, Critical and Priority Skills Gap for the Water Sector

Work on this objective has not commenced but will be drawn from the findings of the skills audit.

Develop an Integrated Water Sector Skills Intervention Map

Work on this objective has not commenced. However, the map will be developed through a consultation process where:
• the findings of the research will be presented to various audiences over 6 months.
• discussions will be facilitated to raise awareness of stakeholders' roles in creating the skills gap over the past 10 years.
• discussions will be facilitated to allocate responsibilities to stakeholders to bridge the skills gap.
• a monitoring process will be established.

MUNICIPALITIES IN THE RESEARCH SAMPLE
Limited by funds, only one or two municipalities could be chosen per province for the quantitative or capacity audit. The 12 municipalities chosen for the capacity audit are outlined in Table 2.

For the same reason, only 2 municipalities in the country could be chosen for the qualitative or skills audit. Table 2 also provides a list of these municipalities.

Count	Province	Location	WSA	Type	Name
		Quantitative/Capacity Audit Sample			
1	LP	Thabazimbi	Yes	LM	Thabazimbi LM
2		Polokwane	Yes	DM	Capricorn DM
3	NW	Mafikeng	No	LM	Ditsobotla LM
4		Lichtenburg	Yes	DM	Ngaka Modiri Molema DM
5	KZN	Newcastle	Yes	LM	Newcastle LM
6		KwaDukuza (60 km north of Durban)	Yes	DM	ilembe DM
7	GP	Pretoria	Yes	Metro	Tshwane
8	MP	Nelspruit	No	DM	Ehlanzeni DM
9	FS	Phuthaditjhaba/Harrismith	Yes	LM	Maluti-a-Phofung LM
10	NC	Kimberley	Yes	LM	Sol Plaatje LM
11	WC	Bredasdorp	Yes	LM	Cape Agulhas LM
12	EC	Somerset East	Yes	LM	Blue Crane LM
		Qualitative/Skills Audit Sample			
1	NW	Mogwase (near Sun City)	Yes	LM	Moses Kotane LM
2	EC	Queenstown	Yes	LM	Chris Hani DM

Table 2: List of Municipalities in the Capacity and Skills Audit Samples

Figure 1 shows the geographical distribution of municipalities chosen for the quantitative and qualitative audits or assessments.
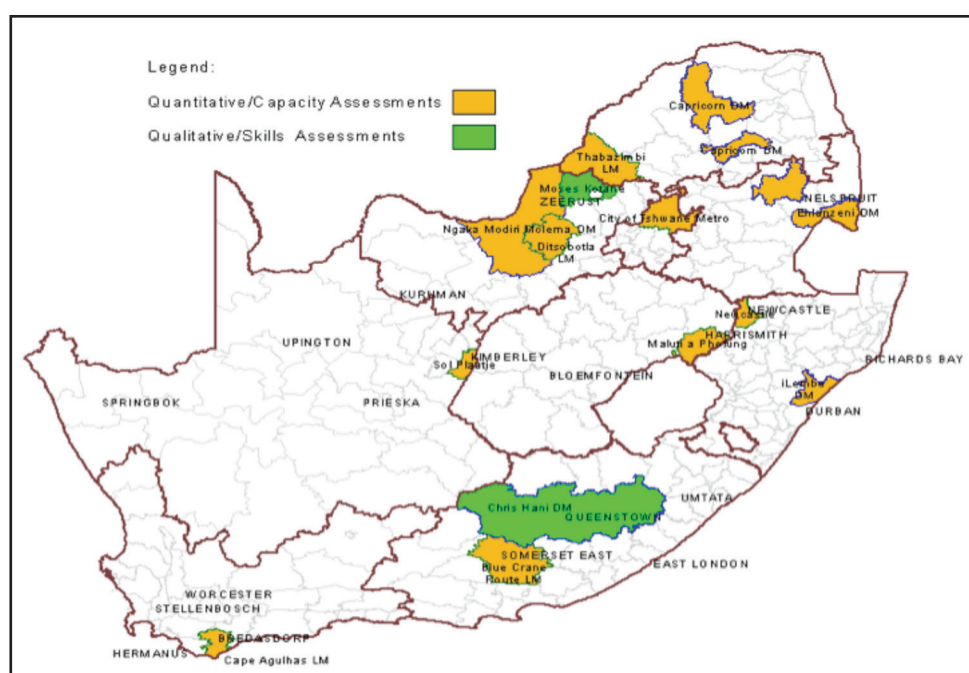

Figure 1: Distribution of Municipalities in the Audit Sample

THE QUANTITATIVE AUDIT METHODOLOGY (CAPACITY AUDIT)

Finding a Relationship between Required Capacity and Extent of Responsibility

The following method was devised to allow a relationship to be found between the capacity required (i.e. number of staff per job title) and the extent of responsibility of a municipality.

- Research organisation's mandates from legislation
- Place mandates in organisation's organogram
- Obtain technical data on the extent or size of an organisation's technical responsibility
- Obtain regional or depot boundaries
- Assume the kilometres of pipelines a plumbing team can operate and maintain per annum at the service levels documented in the municipality's policy, technical or regulatory documents.
- Assume O&M staff/team relationships e.g.
  - Number of general workers per plumbing team
  - Number of artisan assistants per plumbing team
  - Number of plumbers per plumbing team
  - Number of plumbers a foreman can manage
  - Number of foreman and technician can manage
  - Number of technicians a technologist or engineer can manage
- Allocate one engineer, technologist or technician per region for the following sub departments:
 - Water Master Planning/Planning

- Sewer Master Planning/Planning
- Water Bulk Infrastructure Provision/Development
- Sewer Bulk Infrastructure Provision/Development
- Township Establishment/Development
- Customer Liaison and Water Demand Management/Water Loss

For water treatment works (WTW) and wastewater treatment works (WWTW) use the staff requirements as per the relevant regulations.

For operations and maintenance use the calculator as demonstrated in Table 3 (using an example of a plumbing team being able to maintain 160km of pipeline per annum in a municipality that has 10 442km of water pipelines):

Table 3: Calculator to Determine the Required Number of Water O&M Staff per Job Title

The relationship of staff to the extent of sewer pipelines still needs to be researched, assumed and tested.

Obtaining Information on the Supply of Capacity

Once information has been gathered on the capacity required in a municipality using the method described in section 7.1, an export of the payroll information, the municipality's organogram and the highest qualification of each staff member is obtained. Much time is spent correlating the payroll information with the organogram and a final organogram is sketched using software called SMARTDRAW. This is signed off by the HR Manager or the Water Services Manager.

However, only staff that meet the minimum qualification requirements for the job as per the job profile are counted as available capacity or deemed to be part of the supply of capacity.

Determining the Capacity Gap

The available capacity or supply of capacity is totalled per job title and subtracted from the required capacity per job title, to provide the capacity gap per job title.

This gap can be determined per municipality then summated to provide the capacity gap for South Africa per job title.

THE QUALITATIVE AUDIT METHODOLOGY (SKILLS AUDIT)

The Skills Audit Process in Summary

The "supply of skills" would not be valid data if the audit process only used the skills selected by individuals during a self-assessment process. The audit process thus includes a step where the line manager has an opportunity to ratify the individual's self-assessment rating. The full audit process is as outline in Figure 5.

Figure 2: The Qualitative Skills Audit Process

The Water Sector Competency Framework
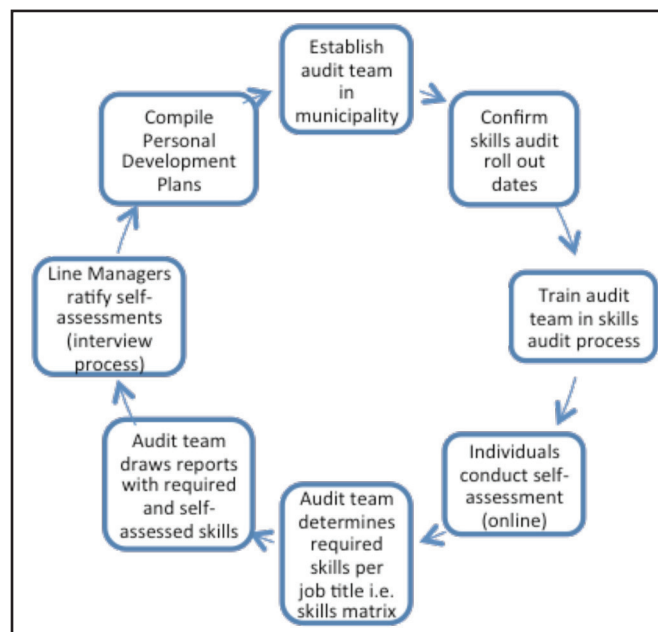
Some organisations use the same term for different skills and other organisations use different terms for the same skill. This inconsistency would lead to inaccurate results when working across organisations or municipalities. In measuring the gap between "required skills" and the "supply of skills" across the country, analytical difficulties were eliminated by creating a standard list of skills to be used throughout the qualitative skills audit. The standard skills list needed to contain any and all skills any person working in the water sector would require. The water value chain or water cycle and the project cycle we used to create the backbone of the Water Sector Competency framework. The framework has 4 levels namely function, competency cluster, competency and skills. The first three levels of the framework are presented in Table 4.

The Water Sector Competency Framework is being tested and continually expanded and improved as more and more line managers or subject matters expert are interviewed.

Table 4: The Water Sector Competency Framework

TECHNICALS SKILLS FRAMEWORK: FULL LIST OF COMPETENCIES

WATER RESOURCES			
			Strategic Thinking
			Surface Water Hydrology
			Groundwater Geohydrology
			Water Demand Calculations
		ti	
			WR Data Management and Reporting
			WR Spatial Data Management
			WR Policy Development
			Catchment Management Strategy Development
			WR Reconciliation Study Management
			WR Feasibility Study Management
			WR Strategy Development
			Design of Dams and Weirs
			Design of Hydropower Generation Systems
			Design of Pipelines
			Design of Canals and Tunnels
			Design of Pump Stations
			Tender Management, Bid Adjudication and Placing of Contracts
			Contract Administration
			Health, Safety, Environmental and Quality Management (SHEQ)
			Surveying
			Construction Management (Boreholes only)
			Construction management (Hydropower Generation Systems, Mass Concrete Dams, Earth & Rockfill Dams, Pipelines, Canals, Tunnels, Pump Stations)
			Building/Bricklaying
			Carpentry
			Welding
			Plumbing
			Electrical
			Mechanical
			Operating Construction Equipment
			WR Policy Development
			WR Guideline Development
			WR Charges Determination
			WR Authorisation and Licensing
			Natural Environment and Recreational WC&WDM
			Domestic, Municipal and Water Services WC&WDM
			Industrial, Mining and Power Generation WC&WDM
			Agricultural WC&WDM
			WR Compliance Monitoring
			WR Enforcement and Legal Action

WATER RESOURCES CONT. (INCLUDING SCIENTIFIC SERVICES)			
			Flow Monitoring
			River Flow Projecti ons and Modelling
			O&M of Dams and Weirs
			Flood Management
		ti	
			Operati on of Bulk Water Systems
			O&M of Hydropower Generati on Systems
			Maintenance of Pipelines
			O&M of Canals and Tunnels
			O&M of Pump Stati ons
			Safety, Health, Environmental and Quality Management (SHEQ)
			WR Flood and Drought Response
			WR Infecti ous Disease Outbreak Response
			WR Polluti on Response
	ti fi		
			Pollutant Source and Pathway Identi fi cati on
			Water, Wastewater and Industrial Water Analysis
			Risk Assessment and Miti gati on
			Botanical Science
			Ecological Units and Functi oning
			Zoological Science
			Wetland Delineati on and Protecti on
			Riparian Zone Delineati on and Protecti on
			South African Scoring System (SASS)
			Chemical Weed Control
			Environmental Impact Assessments
			Environmental Site Assessments
			Sample Collecti on and Preservati on
			Sample Analysis and Interpretati on
			Equipment/Instrumentati on Care
			Laboratory Management

WATER SERVICES			Surface Water Assessments
			Groundwater/Geohydrological Assessments
			Water Demand Calculations
			Hydraulic Modelling
			WS Data Management and Reporting
			WS Spatial Data Management
			WS Policy Development
			WS Master Planning
			WS Service Level Management
			WS Appropriate Technology Assessment
			WS Development Planning (WSDP)
			WS Strategy Development
			Design of Bulk Infrastructure
			Design of WTWs
			Design of Reservoirs
			Design of Water Distribution Networks and Pumps Stations
			Tender Management, Bid Adjudication and Placing of Contracts
			Contract Administration
			Health, Safety, Environmental and Quality Management (SHEQ)
			Surveying
			Construction Management (Boreholes only)
			Construction Management (WTWs, Reservoirs, Pump Stations, Pipelines)
			Building/Bricklaying
			Carpentry
			Welding
			Plumbing
			Electrical
			Mechanical
			Operating Construction Equipment
			WS Policy Development
			WS Guideline Development
			WS Tariff Determination
			WS Bylaw Development
			WS Compliance Monitoring
			WS Enforcement and Legal Action
			O&M of Bulk Infrastructure
			O&M of WTWs
			Scientific Services
			O&M of Networks including Pumps
			Safety, Health, Environmental and Quality Management (SHEQ)
			Water Loss Management
			WS Flood and Drought Response
			WS Infectious Disease Outbreak Response
			WS Pollution Response

SANITATION SERVICES			
			Wastewater Outf low Calculati ons
			Wastewater Modelling
			S/ WW Data Management and Reporti ng
			S/ WW Spati al Data Management
			S/ WW Policy Development
			S/ WW Master Planning
			S/ WW Service Level Management
			S/ WW Appropriate Technology Assessment
			S/ WW Development Planning (WSDP)
			S/ WW Strategy Development
			Design of Dry Sanitati on
			Design of Wastewater Networks
			Design of Wastewater Pump Stati ons
			Design of WWTWs
			Design of Sludge Faciliti es
			Tender Management, Bid Adjudicati on and Placing of Contracts
			Contract Administrati on
			Health, Safety, Environmental and Quality Management (SHEQ)
			Surveying
			Constructi on Management (Wastewater Pipelines, Wastewater Pump Stati ons, Rising Mains, WWTWs)
			Building/ Bricklaying
			Carpentry
			Welding
			Plumbing
			Electrical
			Mechanical
			Operati ng Constructi on Equipment
			S/ WW Policy Development
			S/ WW Guideline Development
			S/ WW Tariff Determinati on
			S/ WW Bylaw Development
			S/ WW Compliance Monitoring
			S/ WW Enforcement and Legal Acti on
			O&M of Dry Sanitati on
			O&M of Wastewater Networks
			O&M of Wastewater Pump Stati ons and Rising Mains
			Safety, Health, Environmental and Quality Management (SHEQ)
			O&M of Bulk Infrastructure
			O&M of WWTWs
			Scienti fi c Services
			S/ WW Flood and Drought Response
			S/ WW Infecti ous Disease Outbreak Response
			S/ WW Polluti on Response

Obtaining the Required Skills per Job Title (The Skills Matrix)

To obtain the gap in skills, the required skills for each job title is required. Using the Water Sector Competency Framework, a Skills Matrix was developed of required skills for various job titles. The matrix has the skills down the left hand side of a table and the job titles across the top of the

Obtaining the Supply of Skills (Online Self-Assessment)

An online questionnaire was developed to obtain the actual skills of incumbents (supply of skills). The Water Sector Competency Framework with its skills bank is presented on the website. Incumbents register themselves on the website and choose the skills they have and rate

Table 5: Skills Matrix

FUNCTION	COMPETENCY CLUSTER	COMPETENCY	SKILL	Project Manager (Water Infrastructure)	Laboratory Technician (Hydrobiology)
Water Services Infrastructure	WS Construction	Tender Management, Bid Adjudication and Placing of Contracts	Define project scope, project schedule and deliverables.	√	
			Prepare tender documents.	√	
			Edit draft tender documents from consultants to ensure completeness.	√	
			Compile contract/ service level agreement.		
			Adhere to government supply chain management.	√	
			Evaluate bids and negotiate where allowed.	√	
			Appoint contractors with all required legal documentation.		

table. A marker (√) (value = 5) is placed in the intersecting cells if a particular skill is required for the job title in question. The cell is left blank if that skill is not required for the job title in question. A skills matrix with only two Job Titles is demonstrated in Figure 5.

To date 50 job titles have been identified.

themselves for each chosen skill. A snap shot of the site can be found in Figures 3 and 4.

The online questionnaire requires an experienced person to export data into excel, join the excel tables or to join the data using spatial software, analyse data and produce graphs. The site does not do this by itself

Figure 3: Online Skills Questionnaire: Login Page

www.waterskills.co.za

Figure 4: Online Skills Questionnaire: Technical Skills Self-Rating Page

Determining the Skills Gap

The rating for actual skills chosen by an incumbent are subtracted from the ratings for the required skills and thus the skills gap is determined for that individual for his/her job title. Examples of the results of a skills gap are shown in Figures 5 and 6 below. A skills gap can be determined for an organisation as a whole (Figure 5) and for an individual (Figure 6).

Furthermore, a Personal Development Plan or training plan can be obtained per individual. See Table 6 for an example.

Figure 5: Example of Organisational Skills Gap Analysis
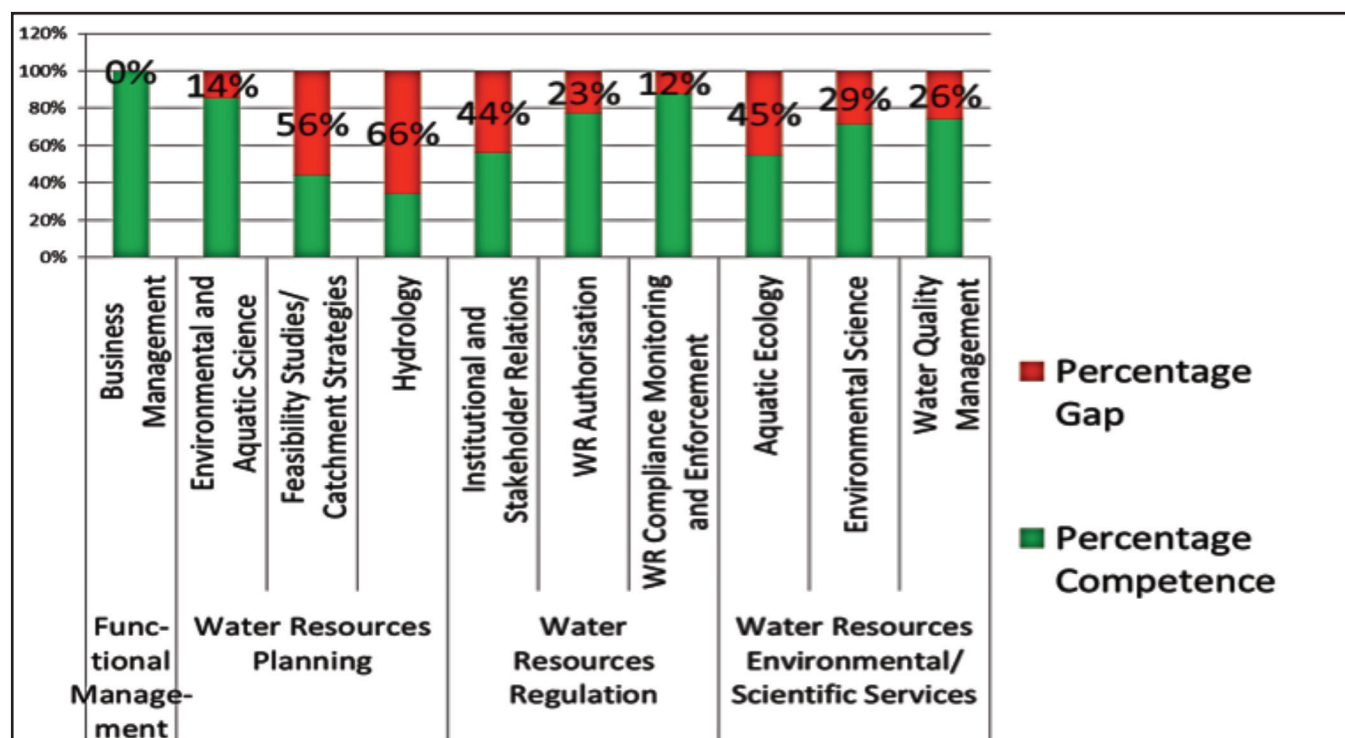
Figure 6: Example of an Individuals Skills Gap Analysis

Table 6: A Water Sector Competency Framework

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INVESTIGATING CAPACITY SELF-ASSESSMENT AS A CATALYST FOR IMPROVED MUNICIPAL SERVICE DELIVERY

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ABSTRACT

In recent years, the South African government has experienced significant changes in policies regarding service delivery. These changes gave prominence to the entire transformation of local government in South Africa as the new Constitution of South Africa holds a separate chapter for local government. With the enactment the Constitution, local government became an essential mechanism for the eradication of significant service delivery backlogs and thereforeit is central to the transformation process of what is generally termed the new South Africa.

Municipal service delivery includes the planning, engineering, financing, implementation, maintenance and operation of municipal infrastructure. According to Lawless (2007), the municipal engineering function plays a primary role especially during the delivery of six basic municipal services, including water, sanitation, electricity, refuse removal, municipal roads and stormwater management. Longstanding service delivery backlogs serve as evidence of the underperformance of the engineering function at South African municipalities. A range of causes has been cited as contributing to this underperformance, with management skills, leadership and engineering capacity identified as crucial. PDG (2012) indicates that a disproportionate relationship is manifested between the performance of a municipal and its leadership, while organisational capacity has a more direct and constant effect on municipal performance.

Nationally, municipalities are experiencing a significant shortage of organisational capacity. In relation, numerous external governmental capacity building initiatives, of which many were specifically focused on municipal engineering capacity, have been instigated. The majority of these initiatives however have been ephemeral with little impact.

Crucial to any capacity building initiative, stands the process of capacity assessment. Existing capacity assessments, as enacted by the Municipal Demarcation Act, Municipal Systems Act and Municipal Structures Act, are described as insufficient as it assesses organisational capacity merely at the end of a performance timeframe, such as the financial year. These assessments are also performed at insufficient levels of detail. The United Nations Development Programme (UNDP) suggests that in depth pre-year and regular in-year capacity assessments are necessary to aid performance and performance management processes at municipalities.

Numerous investigations have cited many advantages with regards to the use of self-assessment tools. Recent studies suggest various opportunities embedded in frequent self-assessment of municipalities' organisational capacity. This research paper reports on organisational capacity self-assessment as a catalyst for performance improvement of the engineering functions at South African municipalities. The objective of the research is to design, build and test a municipal organisational capacity self-assessment model. The aim of this research is to provide a management tool with a focus on management, leadership and engineering capacities of municipalities.

1. INTRODUCTION

Municipal service delivery in South Africa is currently characterised by corruption, maladministration, general underperformance and major longstanding service delivery backlogs with the consequence of frequent and violent service delivery protests. Recently (2012), the number of service delivery protests has reached a new culmination which now significantly pressures underperforming municipalities (Heese, 2012). This underperformance can be attributed to the lacking organisational capacity of municipalities.

This paper refers to general municipal service delivery performance and capacity in South Africa, the role of the engineering functions during the delivery of the six basic municipal services (water provision, refuse removal, sanitation services, electricity provision, municipal roads and stormwater management) and the possibilities which exist when performing pre-year and frequent in-year municipal capacity self-assessments. The aim of this paper is to acknowledge and emphasise the role of capacity assessments as a catalyst for the necessary performance improvement of the engineering functions of municipalities, which according to Lawless (2008) remain a key municipal function for improved service delivery.

This paper follows a clear logic chain, as described above and concludes with the proposing of a solution – an Excel-based municipal capacity self-assessment model which will be implemented and tested at municipalities during September 2013 at various municipalities in the Western Cape.

2. MUNICIPAL SERVICE DELIVERY PERFORMANCE AND CAPACITY

Municipal Service Delivery Mandate

The main objective of municipalities, according to the Constitution, is to provide effective and sustainable services to their respective communities. In order to provide such services, a municipality must perform certain functions. The provision of municipal services is therefore dependent on the ability to perform these specific functions (Beklink, 2006).

The provision of water, sanitation, electricity, solid waste removal, municipal roads and stormwater management at a basic service level qualifies as these basic municipal services (CoGTA, 2011). For each of these services, different service levels exist, which are generally categorised either as basic, intermediate or full level (Lawless, 2007). Municipal Service delivery targets are therefore usually set in terms of quantifiable outputs, such as the number of household receiving the six basic municipal services at the various service levels.

The 2011 South African Census indicates that, despite a decrease in service delivery backlogs over the past five years, many South African households are yet to receive basic municipal services. This, however, occurs despite the provisions in the Constitution and a battery of policy measures relating to local government, which have been adopted with a view to provide democratic, participative, responsive, efficient and effective government at local level (Siddle, et al., 2012). Unquestionably, municipalities are struggling to fulfil their service delivery mandate. Statistics with regards to these significant backlogs are shown in the table below.

Table 1: Backlogs of Basic Municipal Services in South Africa (2012)

Type of Basic Municipal Services	Number of South African households	Households receiving below basic level of services	% Backlogs
Water Provision	14 450 133	2 167 520	15.0%
Sanitation Services	14 450 133	3 843 735	26.6%
Electricity Provision	14 450 133	3 401 838	26.1%
Refuse Removal Services	14 450 133	4 998 787	37.9%