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LESSON SERIES
June 2015

WATER SECTOR SKILLS GAP ANALYSIS

A Skills Intervention Map for South Africa

WATER RESEARCH COMMISSION

ABOUT THIS LESSON

This lessons document presents the key findings of a Water Research Commission (WRC) study (Project Number: K5/2113), commissioned in 2011 on behalf of the Department of Water and Sanitation (DWS), whose objective was to develop **An Integrated Water Sector Skills Intervention Map**, through undertaking a **Sector Skills Gap Analysis**.

The project proposed two methods namely the capacity gap method and the skills gap methods that can be applied by Water Sector Institutions (WSIs), in organisational design and HR planning and skills development processes respectively.

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1 INTRODUCTION

The Department of Water and Sanitation (DWS) appointed the Water Research Commission (WRC) in June 2011 to develop and manage a research project entitled **An Integrated Water Sector Skills Intervention Map,** based on a **Sector Skills Gap Analysis**.

The project was initiated in response to repeated declarations that the water sector in South Africa was lacking (and losing) skills necessary to plan for and maintain supply of services to the public. The lack of readily accessible objective data to confirm or refute the declarations further exacerbated the need for such research to be undertaken.

The project aimed to provide a technologically up-to-date method of arriving at the evidence required to take management decisions on the situation described.

This document looks at **five innovative products** emanating from this research, namely:

1. A **Capacity Gap Method** which determines the required capacity and supply of capacity at an institutional level
2. A **Skills Gap Method** which determines the required skills and the supply of skills at job level
3. **Water Sector Competency Framework** with over 2 500 technical skills
4. A **Skills Matrix** providing required skills per job title
5. An **online questionnaire** to conduct a skills audit at www.waterskills.co.za

Capacity Vs 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 project refers to "skills" in two very 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 sewer 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.

For this project, an organisation will be said to lack **capacity** and an individual to lack **skills**.

2 PROJECT DESCRIPTION

The project aimed to determine, using a sample of 37 institutions, the number of posts per job title in the entire public water sector and the percentages of these posts that are filled and vacant. The project further aimed, in a sample of four institutions, to determine the gaps between the skills required for technical posts as per job profiles and the inherent skills of incumbents in the posts.

With regard to the capacity aspect, the project provided a review of the institution's legal mandate linked to the size of responsibility of the institution, in order to estimate capacity requirements with regards to staff numbers per job title. With regard to the skills aspect, the project developed and initiated an online staff skills survey system that provides a "live" and repeatable process for measuring individual and institutional competence.

__Capacity__ is used in the context of the number of staff per job title within an __institution__ whereas __skill__ is used to refer to the ability of an individual.

Capacity and skills assessments were carried out with four public water sector organisations, namely: DWS, the Breede-Overberg Catchment Management Agency (BOCMA), Umgeni Water and Moses Kotane Local Municipality (MKLM). HR qualitative and qualitative surveys were also undertaken in a further 33 Water Sector Institutions (WSI). At a national level, information from the Department of Higher Education and Training on the supply of graduates to the South African water sector was analysed.

2.1 Project Activities

The project involved the following key activities:

i. **Review of past and existing initiatives**
ii. **Skills Audit**, which included:

__Organisational design__ provides the job titles and number of staff per job title.

__Job profiles__ describe the minimum qualification and years of experience required for the job.

a. Skills Gap Analysis

- Determine skills requirements (for each position in the institution).
- Audit actual skills (of existing staff members).
- Ratify the respondent's selection of his/her skills and proficiency using the "panel approach" and establish a final set of skills and ratings decided on between the respondent and his/her senior.
- Determine the gap between skills and proficiency levels required by the institution and the actual skills of the staff/respondents.

b. Capacity Gap Analysis

The quantitative side of the skills audit involved 17 institutions, as shown below:

On the capcity side, information on the institution's mandate and how it has been mapped into its structure was obtained to ensure that all legislated functions were mapped. Thereafter, information on the extent or size of the legislated functional responsibility was inferred from Water Services Master Plans, Water Services Development Plans (WSDPs) and Asset Summaries for water services in water boards or municipalities. The extent or size of water resources responsibilities was obtained from DWS, Catchment Management Agencies (CMAs) and Water User Associations (WUAs). With the aforementioned sets of information, relationships between the mandated responsibility for infrastructure and water resources and the human resources infrastructure was drawn.

Demand for capacity is related to mandate and the extent of responsibility.

The above was to assess the skill and capacity gap intra-institutionally. With only a limited sample size, a method was proposed to extrapolate the findings to obtain a probable skill and capacity requirement and gap for all public WSIs.

The quantitative side of the skills audit involved 14 institutions, as shown below:

The 14 Quantitative Skills Audit Institutions

WUAs	Groenland WUS (WC)
	Oranje-Riet WUS (FS)
Water Boards	Amatola Water (EC)
	Botshelo Water (NW)
Metro Municipalities	City of Tshwane (GP)
District Municipalities	Capricorn DM (LP)
	Ngaka Modiri Molema (NW)
	Ehlanzeni DM (MP) [Not a WSA]
Local Municipalities	Cape Agulhas LM (WC)
	Sol Plaatje LM (NC)
	Blue Crane LM (EC)
	Ditsobotla LM (NW) [Not a WSA]
	Maluti a Phofung LM (FS)
	Thabazimbi LM (LP)

c. Supply Side

The supply of skills into the sector at a national level was analysed, such as the supply of skills and capacity from academic institutions, other sectors or from individuals seeking work.

A skill and capacity gap could then be determined for the sector as a whole by comparing demand against supply.

The supply of capacity in an institution is all staff who meet the minimum qualification and years' appropriate experience for the job as stipulated in the job profile. In determining the supply of capacity a table was drawn up with the job title, minimum qualification required, years' experience required along with the incumbents actual qualification. In this way it was determined whether the incumbent met the minimum requirements and if so, could be counted as "supply" of capacity.

iii. Development of an Intervention Map

Based on the capacity and skills gap analysis, and stakeholder inputs, the project developed an Intervention Map. While the Intervention Map does not make proposals on how to address the capacity and skills gap in South Africa as a whole it proposes the adoption and roll-out of the "Capacity Gap Method" and "Skills Gap Method" to be applied to all WSIs in South Africa.

3 PROJECT FINDINGS

The research has generated new knowledge related to capacity and skill gaps and provides the sector with a best practice method to determine capacity and skills gaps at WSIs.

Innovative products produced under the research were:

i. A Capacity Gap Method (which determines the required capacity and supply of capacity)

A method to determine the capacity gap in any WSI was proposed and successfully tested at three WSIs, namely: - BOCMA, Umgeni Water and Moses Kotane LM. The Capacity Gap Method as finally concluded is follows:

The process of determining the capacity gap in WSIs begins by analysing their mandate as defined in relevant legislation. In this case the National Water Act (Act number 36 of 1998), and/or the Water Services Act (Act number 108 of 1997). These mandates are mapped onto the institutions' organograms, and then to individual job titles. Once the mandates from the Act are mapped into the institutions' organogram, the time it would take to deliver on the mandate is calculated.

The detail as to how often tasks related to a mandate would occur in a year along with the time in days to perform that task once, is drawn from experience, as well as the extent of the physical dimensions of the tasks assigned. Discussion with the technical staff concerned is a valuable added dimension. The time to deliver on the mandate would be the product of the number of tasks multiplied by the time to perform the task.

This can be expressed in the following formula:

Total Time to meet mandate (days)	=	Number of tasks	X	Time to perform task

By way of example, if the mandate is to "set the ecological reserve", it can be assumed that this would happen once (1) for all rivers in a catchment and that this would take 40 days of one person's time. The total time to achieve this mandate would thus be: 1 task X 40 days = 40 days.

In addition to looking at demand for capacity from a workforce planning point of view, the project also looked at demand for capacity from a qualification and years' experience point of view. The minimum qualification and years' experience requirements for full competence are obtained from job profiles.

Both steps above provide the **demand for capacity.**

To complete the capacity gap analysis, the institutions' existing organogram along with a table stating the departments, job titles, whether a position is vacant or filled, incumbents' names, gender, race and highest qualification, is required. This provides the **supply of capacity** in staff number and qualifications held.

By comparing the required capacity (from mandate, time to complete tasks, and required qualifications) with the supply of capacity (from number of qualified staff), the Capacity Gap is obtained. The results can be presented graphically for all job titles, as shown in the example below:

FUNCTION	JOB TITLE	REQUIRED QUALIFICATION	REQUIRED YEARS OF EXPERIENCE	DEMAND FOR CAPACITY	SUPPLY OF CAPACITY (COUNT)	CAPACITY GAP
O&M	Technician: Instrumentation	N6 Certificate or equivalent (Instrumentation)	5 years	4	1	**3**
Design	Technician: Design	S4 Diploma (Civil Eng.)	5 years	20	0	**20**
Construction	Project Manager	BSc Eng. (Civil)	5 years	15	1	**14**
Construction	Project Manager	BSc Eng. (Civil)	10 years	10	1	**9**
Water Quality	Laboratory Technician: Microbiology	National Diploma (Microbiology)	3 years	7	0	**7**

Table indicating format in which the capacity gap in an institution is presented

Applying the Capacity Gap method in three WSIs returned the following results:

	No. of technical staff required	No. of technical staff available (all)	Capacity Gap	No. of technical staff with minimum qualifications	Revised Capacity Gap
BOCMA	16	9 (56%)	7 (44%)	9 (56%)	7 (44%)
Umgeni Water	205	413 (201%)	*-208 (-101%)	298 (145%)	*-93 (-45%)
Moses Kotane LM	82	34 (42%)	48 (58%)	6 (7%)	76 (92%)

**Negative value indicates possible inappropriate staffing norms when determining required number of staff.*

ii. A Skills Gap Method (which determines the required skills and the supply of skills

The process of determining the skills gaps of individuals and a WSI as a whole follows from the development of a Water Sector Competency Framework and a Skills Matrix which are both described hereafter.

The skills gap is the difference between the skills requirements of the organisation (as per the Skills Matrix) and the actual skills held by staff (from the online skills audit). In other words, the skills gap would be the difference between the demand and supply of skills.

Information on the skills gap enables the WSI to compile a comprehensive and meaningful training intervention plan per individual and the WSI as a whole. The skills gap information may also be used for:

- development of the workplace skills plan (WSP);
- internal employee selection to ensure that the correct person is deployed to each position;
- performance management; and
- succession planning.

The use of the skills bank and the online audit at various institutions with differing roles and responsibilities in the water sector allows evaluation against a common framework, and individual, institutional and overall sector gaps can be determined.

Applying the Skills Gap method in four WSIs returned the following results for the skills gaps:

Institution	Demand for skills (total value)	Supply of skills (total value)	Skills Gap (total value)	Supply of skills (percentage)	Skills Gap (percentage)
DWA	Not determined	51 646	Not determined	*72%	Not determined
BOCMA	3 020	1 939	1 081	64%	36%
Umgeni Water	25 790	10 237	15 553	40%	60%
Moses Kotane LM	5 125	2 299	2 826	45%	55%

** The 71% rating for DWA reflects staff members own rating of their own skills, and not against the required skills.*

iii. Water Sector Competency Framework with over 2 500 technical skills

To provide a complete list of skills required in the water sector a structure or **framework** was designed so as to logically order the skills. The structure or framework has three levels before the skills are actually presented and these levels are Function, Competency Cluster and Competency.

The Water Sector Competency Framework's first three levels were developed through a process of iteration by South African researchers from their knowledge of and experience in the water sector. The skills themselves were formulated after extensive research of local and international documentation and training briefs.

***The Water Sector Competency Framework** was pivotal in providing a generic understanding of competencies and skills and to analyse all individuals and institutions using a common structure or framework.*

The Water Sector Competency Framework is pivotal in the Skills Gap analysis in that it provides a generic understanding of the competencies necessary to successfully fulfil a technical and scientific role within any WSI.

The 14: Capacity Gap Institutions

FUNCTION	COMPETENCY CLUSTER	COMPETENCY
Functional Management		
	Business Management	
		Strategic Thinking
Water Resources Planning		
	Hydrology	
		Surface Water Hydrology
		Groundwater Geohydrology
		Water Demand Calculations
	Water Resources including Scientific Information Management	
		WR Data Management and Reporting
		WR Spatial Data Management
	WR Strategies, Studies and Plans	
		WR Policy Development
		Catchment Management Strategy Development
		WR Reconciliation Study Management
		WR Feasibility Study Management
		WR Strategy Development

FUNCTION	COMPETENCY CLUSTER	COMPETENCY
Water Resources Infrastructure		
	WR Design	
		Design of Dams and Weirs
		Design of Hydropower Generation Systems
		Design of Pipelines
		Design of Canals and Tunnels
		Design of Pump Stations
	WR Construction	
		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
Water Resources Regulation		
	WR Policy and Guidelines	
		WR Policy Development
		WR Guideline Development
	WR Authorisation	
		WR Charges Determination
		WR Authorisation and Licensing
	Water Conservation and Water Demand Management (WC&WDM)	
		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 and Enforcement	
		WR Compliance Monitoring
		WR Enforcement and Legal Action

FUNCTION	COMPETENCY CLUSTER	COMPETENCY
Water Resources O&M/ Use Management		
	WR Inter-basin Transfers	
		River Flow Projections and Modelling
		O&M of Dams and Weirs
		Flood Management
	Irrigation, Industrial, Mining and Power Generation Water O&M	
		Operation of Bulk Water Systems
		O&M of Hydropower Generation Systems
		Maintenance of Pipelines
		O&M of Canals and Tunnels
		O&M of Pump Stations
		Safety, Health, Environmental and Quality Management (SHEQ)
	WR Incident Management	
		WR Flood and Drought Response
		WR Infectious Disease Outbreak Response
		WR Pollution Response
Water Resources Environmental / Scientific Services		
	Water Quality Management	
		Pollutant Source and Pathway Identification
		Water, Wastewater and Industrial Water Analysis
		Risk Assessment and Mitigation
	Aquatic Ecology	
		Botanical Science
		Ecological Units and Functioning
		Zoological Science
		Wetland Delineation and Protection
		Riparian Zone Delineation and Protection
		South African Scoring System (SASS)
		Chemical Weed Control
	Environmental Science	
		Environmental Impact Assessments
		Environmental Site Assessments
	Laboratory Work	
		Sample Collection and Preservation
		Sample Analysis and Interpretation
		Equipment/Instrumentation Care
		Laboratory Management

FUNCTION	COMPETENCY CLUSTER	COMPETENCY
Water Services Planning		
	WS Hydraulics	
		Surface Water Assessments
		Groundwater/Geohydrological Assessments
		Water Demand Calculations
		Hydraulic Modelling
	WS Information Management	
		WS Data Management and Reporting
		WS Spatial Data Management
	WS Strategies, Studies and Plans	
		WS Policy Development
		WS Master Planning
		WS Service Level Management
		WS Appropriate Technology Assessment
		WS Development Planning (WSDP)
		WS Strategy Development
Water Services Infrastructure		
	WS Design	
		Design of Bulk Infrastructure
		Design of WTWs
		Design of Reservoirs
		Design of Water Distribution Networks and Pump Stations
	WS Construction	
		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, Pumps Stations, Pipelines)
		Building/Bricklaying
		Carpentry
		Welding
		Plumbing
		Electrical
		Mechanical
		Operating Construction Equipment
Water Services Regulation		
	WS Policy and Guidelines	
		WS Guideline Development
	WS Regulation or Bylaws	
		WS Tariff Determination
		WS Bylaw Development
	WS Compliance Monitoring and Enforcement	
		WS Compliance Monitoring
		WS Enforcement and Legal Action

FUNCTION	COMPETENCY CLUSTER	COMPETENCY
Water Services O&M		
	WS Bulk O&M	
		O&M of Bulk Infrastructure
		O&M of WTWs
		Scientific Services
	WS Networks O&M	
		O&M of Networks including Pumps
		Safety, Health, Environmental and Quality Management (SHEQ)
		Water Loss Management
	WS Incident Management	
		WS Flood and Drought Response
		WS Infectious Disease Outbreak Response
		WS Pollution Response
Sanitation/ Wastewater Planning		
	WW Hydraulics	
		Wastewater Outflow Calculations
		Wastewater Modelling
	S/WW Information Management	
		S/WW Data Management and Reporting
		S/WW Spatial Data Management
	S/WW Strategies, Studies and Plans	
		S/WW Policy Development
		S/WW Master Planning
		S/WW Service Level Management
		S/WW Appropriate Technology Evaluation
		S/WW Development Planning (WSDP)
		S/WW Strategy Development
Sanitation/ Wastewater Infrastructure		
	S/WW Design	
		Design of Dry Sanitation
		Design of Wastewater Networks
		Design of Wastewater Pump Stations
		Design of WWTWs
		Design of Sludge Facilities
	S/WW Construction	
		Tender Management, Bid Adjudication and Placing of Contracts
		Contract Administration
		Health, Safety, Environmental and Quality Management (SHEQ)
		Surveying
		Construction Management (Latrines, Wastewater Pipelines, Wastewater Pump Stations, Rising Mains, WWTWs)
		Building/Bricklaying
		Carpentry
		Welding
		Plumbing
		Electrical
		Mechanical
		Operating Construction Equipment

FUNCTION	COMPETENCY CLUSTER	COMPETENCY
Sanitation/ Wastewater Regulation		
	S/WW Policy and Guidelines	
		S/WW Policy Development
		S/WW Guideline Development
	S/WW Regulation or Bylaws	
		S/WW Tariff Determination
		S/WW Bylaw Development
	S/WW Compliance Monitoring and Enforcement	
		S/WW Compliance Monitoring
		S/WW Enforcement and Legal Action
Sanitation/ Wastewater O&M		
	Dry Sanitation O&M	
		O&M of Dry Sanitation
	Wastewater Networks O&M	
		O&M of Wastewater Networks
		O&M of Wastewater Pump Stations and Rising Mains
		Safety, Health, Environmental and Quality Management (SHEQ)
	Wastewater Bulk O&M	
		O&M of Bulk Infrastructure
		O&M of WWTWs
		Scientific Services
	S/WW Incident Management	
		S/WW Flood and Drought Response
		S/WW Infectious Disease Outbreak Response
		S/WW Pollution Response
Social Sciences/ Development Planning		
	Social Research	
		Community Profiling
		Knowledge, Attitude and Practice Assessment
		Social Impact Assessment
		Stakeholder Analysis
		Project Evaluation
	Public Participation	
		Communication
		Community Liaison
		Awareness Creation
		Participatory Capacity Building
		Establishing Project Governance Structures
		Advocacy
	Institutional Development	
		Water Sector Institutional Design
		Water-Related Institutional Establishment

iv. Skills matrix providing required skills per job title

Skills Matrices can be developed for each institution by drawing out skills required from job profiles or from interviewing line managers as to required skills. Furthermore, the list of skills required for the entire institution (and placed on the online system) would then be a summation of the skills demand in all job profiles. The Skills Matrix is deemed the demand for skills.

Four concepts are introduced in order to determine the demand for technical skills:-

- ***understanding of different types of skills***

  Skills are made up of technical skills, non-technical skills, knowledge areas and behavioural competencies and attributes.

- ***understanding of a competency framework to ensure exact wording of skills across the audit***

  In order to aggregate skills from an individual level to a WSI level and then to a national level, it is imperative that the wording and spelling for a skill be identical throughout the collection of data. To ensure that all skills were identically worded, a World-first **Water Sector Competency Framework** with a Skills Bank was developed (presented above).

- ***understanding of a skills matrix***

  Each job title requires a unique set of skills which will be a subset of skills from the Water Sector Competency Framework. With the skills in the Competency Framework down one axis (the vertical axis) of a spreadsheet and all the job titles across another axis (the horizontal axis), a skills matrix for all job titles in a WSI is established. In other words, the skills matrix is deemed to be the predefined subsets of skills required per job title, or the demand for skills.

- ***the use of a rating scale***

  In order to work with numbers when determining the skills gap a rating scale is employed. If a skill is required for a job then the level of competence required from the rating scale is full evidence of competence.

v. An online questionnaire to conduct a skills audit at www.waterskills.co.za

As described above, the online questionnaire was converted from the Water Sector Competency Framework's list of skills. The individual staff members of the institutions access and rate their skill levels against the level required. When complete, the self-assessments are forwarded to line managers for their assessment of the individuals concerned. If the two assessments were different a meeting between the individual, the line manager and an HR representative is convened to discuss the difference and agree a final result.

4 CONCLUSIONS AND RECOMMENDATIONS

The research has generated new knowledge related to capacity and skill gaps in that it provides the sector, with all its WSIs, with a best practice method to determine capacity and skills gap at WSIs. The following are the conclusions and recommendations of the project:

Conclusions:

i. The HR-related research returned interesting information regarding HR management at WSIs in the sample. For example, many WSIs reported to have completed skills audits in the past five years but in most cases WSIs were merely referring to completing a Workplace Skills Plan (which is not a skills audit). Most WSIs have up to date organograms, however, fewer carried out resource planning on a regular basis. Most WSIs used a combination of two HRMIS systems to house payroll and staff data. WSIs have job profiles but the standard of the profiles varied greatly from WSI to WSI. Vacancies in technical departments average at 24%.

ii. Race equity has almost been achieved in technical posts in the water sector with the 81%, 6%, 0% and 13% of staff being Black, Coloured, Indian and White respectively. In technical posts, gender equity has not been achieved: 85% of staff are male.

iii. Retention strategies for technical staff were uncreative. In half of institutions (50%), they cited only medical aid, bursaries and learnerships as their primary strategies.

iv. **Supply of Graduates to South Africa**

The data from the Department of Higher Education's management information system (HETMIS) was received in 76 spreadsheets for the entire higher education sector. The data showed that the increase in Civil Engineering graduates has doubled over the past five years from approximately 1000 to 2000 graduates per year. All other graduate numbers with qualifications that apply to the water sector have also increased dramatically in the past 5 years, with there no longer being a shortage of science graduates.

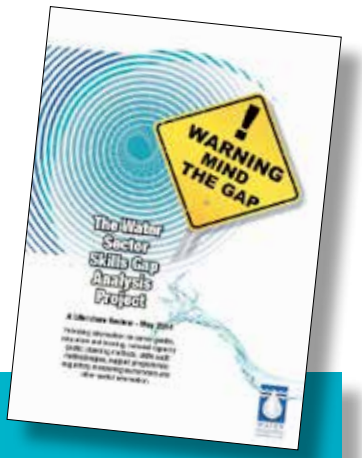
Recommendations:

i. **A Best Practice Capacity and Skills Gap Method for the Water Sector**
It is recommended that DWS take the lead, under the guidance of the Water Services Leadership Group, to roll-out the capacity gap and skills gap methods to all WSIs in South Africa.

ii. With the slow internet connections at most WSIs, the online system was slow and would need to be re-coded to improve its speed or the system would need to be made to work using excel spreadsheets. Other features that could be coded into the online system is an ability of the programme to analyse data and produce gap reports for HR staff, and to export data to Workplace Skills Plans.

iii. HR staff is central to the capacity gap and skills gap methods being applied at WSIs As such, these methods **should never be implemented without concurrently assessing and addressing the skills of HR staff to write job profiles, do HR planning, manage skills audits, analyse results and match training to staff needs.**

iv. The stakeholder consultation workshop, with over 91 representatives from various institutions, obtained support from the sector to roll-out the Capacity and Skills Gap methods to all WSIs.



For more information:

A booklet written by **Water Concepts** entitled ***The Water Sector Skills Gap Analysis Project – A Literature Review*** is available from the WRC. The information in the booklet was intended to be beneficial to water sector strategists dealing with capacity and skills. It contains information on existing methodologies to determine the demand for capacity and skills, skills-audit methodologies to determine the supply of capacity and skills, career guides, education and training programmes, support programmes and regulatory/ measuring instruments.

Notes

The WIN-SA lesson series aims to capture the innovative work of people tackling real service delivery challenges. It also aims to stimulate learning and sharing around these challenges to support creative solutions. To achieve this, the lessons series is supported by ancillary learning opportunities facilitated by WIN-SA to strengthen people-to-people learning.

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This document hopes to encourage ongoing discussion, debate and lesson sharing. To comment, make additions or give further input, please visit www.win-sa.org.za or send an email to info@win-sa.org.za.

Our mission is to ensure the body of knowledge in the sector is well managed, readily accessible and applied, leading to improved decision-making and performance, especially of local government.

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