

# **Water services education and training needs of councillors in the Local Government Development Agenda (LGDA)**

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Promoter: Professor CJ Groenewald

## **Dedication**

Dedicated to my wife Lindokuhle, my daughter Nontsikelelo Grace and  
my son Luvuyo Thabo Tsibani

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## Declaration

I, Fumene George Tsibani, declare that the entire body of work contained in this research assignment is my own, original work; that I am the sole author thereof (save to the extent explicitly otherwise stated), that reproduction and publication thereof by Stellenbosch University will not infringe any third party rights and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

FG Tsibani

April 2014

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## Poem: Water Shortage

I have seen the future  
Water famine and revolutions  
Wars over water,  
No not the kind of balloons  
Of water people throw at  
Each other, nor  
A wet t- shirt competition,  
But real war with blood that  
Runs into dry gutters  
Rustlers who kill animals for  
Their blood and leave carcasses  
To rot in the field.  
Chilled blood with a chaser of water  
Only the rich can afford.  
The unwashed masses, with  
Plastic Jerry cans, overturning  
Water tankers, shower units  
Have been dismantled.  
Yes, I have seen the future and it stinks.

Source: Oskar Hansen (March , 2013); In: <http://www.poemhunter.com/poem/water-shortage/>. accessed. 18 October 2013.

## **Abstract**

This study describes and analyses the water governance and developmental water services education and training needs of councillors in water services authorities (WSAs) in the Northern Cape Province in order to enable them to fulfil their responsibilities as required by the legislative framework in the new dispensation in South Africa. The new South African Constitution ushered in a new legislative framework, which recognises that developmental water supply, sanitation facilities as basic services are local government matters, and that they are in the functional area of concurrent national and provincial legislative competence. The Water Services Act No. 108 of 1997 and a number of Acts of Parliament thereafter, which are a spine for a local government developmental agenda (LGDA) in South Africa, give effect to this determination. Collectively, these Acts and policies have set the LGDA or modernisation of local government for change and marked a departure from the selection, recruitment and deployment of councillors without minimum engineering and technical skills in water and infrastructure planning and development portfolios.

This invariably imposes new leadership responsibilities upon a range of hydropolitical councillors in WSAs, and creates the need for a redefined model of representation on the part of councillors from “resemblance to public capability, accountability, responsibility and responsiveness” (Sartori 1968: 465). With the current calibre and breed of councillors in water portfolios and infrastructure planning and development, it appears that the country is facing a leadership crisis that can strike at the very roots of the democratic values of the LGDA system. Without effective, innovative, creative and committed leadership, all anti-poverty strategies may just plug in superficial solutions rather than tackle the root of the problem, namely governance crises in WSAs. Accordingly, ‘good enough governance’ or radical restructuring of the recruitment, selection and deployment policy in the current water crisis in the Northern Cape should act as a “decontaminator or antiseptic in a germ-infested area” (Cloete 2006:6-19).

To extend the analogy further in terms of good enough water governance, the selection, recruitment and deployment of appropriately qualified representatives in bulk water infrastructure planning and development may lead to long-term hydropolitical adaptive capacity to respond proactively to water scarcity in the Northern Cape whereby a discernible set of water governance values and principles will benefit all citizens. Using mixed methods, the researcher found that comparative literature evidence clearly underscores the importance of effective leadership by competent and skilled councillors in water portfolios. It is also significant that academic and independent studies have ignored the oversight role of councillors in water governance. The debates only focus on officials who do not have executive powers under the new LGDA and its administration system. Yet, the current water crisis, extreme weather conditions, climate changes, and protests against poor service delivery provide an opportunity to rethink water governance. The dissertation argues that councillors in water portfolios should have minimum engineering and technical qualifications and that they need to be

empowered to be adaptive and apply modern technology solutions. Any reform effort is doomed if this aspect is not addressed sufficiently well in the water sector, as it has been established in this dissertation that there is a clear link between effective leadership and excellent water governance and management.

The study is not intended to be prescriptive nor can it claim to be exhaustive, as the researcher continually discovered. In many instances, it may introduce water governance complexities under a LGDA administration and political management system that are unwarranted – and misplaced idealism is always a problem. Thus, for water services to remain a viable ‘instrument of humanity’ especially at a municipal level, it is concluded that more effective competency-based water councillor education and training (CBWCE&T) programmes are required to equip current and future councillors with the water governance skills and intellectual competencies to address the complex challenges they face. The essence of the CBWCE&T is that developmental water services need to engage in a broader governance agenda integrated with other basic services and mutually reinforcing areas of social adaptive capacity to water scarcity under the LGDA.

Researchers in the water sector have neglected the hydropolitical role of councillors in determining water governance and the use of water for socioeconomic and developmental outcomes now subsumed under various poverty eradication policies. The unique contribution of this dissertation is that it focuses on this critical role of councillors and the skills they need to execute water governance institutional oversight role. The researcher makes recommendations for enriching the hydropolitical sociology of local government studies, to match the skills requirements, given the complexity of the LGDA and the numerous challenges for councillors in WSAs in the Northern Cape.

## Opsomming

Hierdie studie beskryf en ontleed die waterregerings- en ontwikkelingswaterdienste onderwys- en opleidingsbehoefte van raadslede betrokke by waterdienste owerhede (WSAs) in die Noord-Kaap provinsie wat hulle in staat sal stel om hulle verantwoordelikhede na te kom soos vereis deur die wetlike raamwerk van die nuwe bedeling in Suid-Afrika. Die nuwe Suid-Afrikaanse Grondwet het 'n wetlike raamwerk ingelei wat ontwikkelingswatervoorsiening en sanitasie geriewe, synde basiese dienste, erken as plaaslike owerheidsaangeleentheid; dit funksioneer ook terselfdertyd ingevolge 'n soortgelyke wetlike bevoegdheid op nasionale en provinsiale vlak. Die Wet op Waterdiensteverskaffing, Nr 108 van 1997, asook verskeie daaropvolgende wette deur die Parlement vorm die ruggraat van die plaaslike owerheidsontwikkelingsagenda (LGDA), of te wel, die modernisasie van plaaslike owerheid, in Suid-Afrika. Hierdie wette en beleide het gesamentlik die LGDA bepaal en die afskeid toenemend gekenmerk van 'n seleksie, rekrutering, en aanwending van raadslede wat sonder minimum ingenieurs- en tegniese vaardighede in water- en infrastruktuurbeplanning en -ontwikkeling hul portefeuljes beoefen.

Hierdie verwikkelings plaas sonder uitsondering nuwe leierskapsverantwoordelikhede op 'n spektrum van hidropolitiese raadslede in WSAs. Dit skep ook die behoefte aan 'n hergedefinieerde model vir verteenwoordiging deur raadslede wat volgens Sartori (1968: 465) verander van "ooreenkoms na openbare vermoë, aanspreeklikheid en reagerend". Die huidige stoffasie en soort raadslede wat water portefeuljes beklee en die infrastruktuurbeplanning en ontwikkeling laat die gedagte ontstaan dat die land 'n leierskapskrisis tegemoet gaan wat die demokratiese waardes onderliggend tot die LGDA stelsel kan ondergrawe. Sonder doeltreffende, vernuwende, skeppende en toegewyde leierskap mag die teen-armoede strategieë kunsmatige oplossings bied eerder as om die wortel van die probleem aan te durf, naamlik die regeringskrisis in WSAs. Gevolglik moet 'goeie regering' wat neerkom op radikale herstrukturering van die beleid van rekrutering, seleksie, en aanwending in die huidige waterkrisis in die Noord-Kaap geaktiveer word om te dien as 'n "ontsmetter of antiseptiese middel in 'n kiem-besmette gebied" (Cloete 2006: 6-19).

Om die analogie van 'goeie waterregering' verder te neem, kan gesê word dat die seleksie, rekrutering en aanwending van toepaslik gekwalifiseerde verteenwoordigers in massa waterinfrastruktuur- beplanning en -ontwikkeling mag lei tot 'n langtermyn hidropolitiese aanpassingsvermoë om proaktief te reageer op waterskaarsheid in die Noord-Kaap waardeur 'n onderskeidende stel waterregering waardes en beginsels alle burgers sal bevoordeel. Met die gebruik van gemengde metodes het die navorser bevind dat getuienis afkomstig van vergelykende literatuuroorsigte duidelik die belangrikheid van doeltreffende leierskap deur bevoegde en vaardige raadslede in water portefeuljes onderstreep. Dit is ook betekenisvol dat akademiese en onafhanklike studies die oorsigrol van raadslede in waterregering geïgnoreer het. Die debat konsentreer slegs op amptenare wat nie uitvoerende magte binne die LGDA en die administrasie het nie. Tog is dit



duidelik dat die huidige waterkrisis, uiterste weerstoestande, klimaatsverandering, en proteste teen swak dienslewering geleentheid bied tot 'n herbedink van waterregering. Die proefskrif voer aan dat raadslede oor minimum ingenieurs- en tegniese kwalifikasies moet beskik en dat hulle bemaatig word om aanpassend te wees en moderne tegnologiese oplossings kan toepas. Enige hervorming sal tot mislukking gedoem wees indien hierdie aspekte nie voldoende in die water sektor aangespreek word nie. Dit is vasgestel in die proefskrif dat daar 'n duidelike skakel is tussen doeltreffende leierskap en uitmuntende waterregering en –bestuur.

Soos voortdurend ontdek is in die verloop van die navorsing, is die studie nie voorskriftelik, en ook nie uitputtend nie. In vele opsigte bied die studie kompleksiteite aan in waterregering binne 'n LGDA administrasie en politieke bestuurstelsel wat verregaande is; en misplaaste idealisme is altyd 'n probleem. Daarom, vir waterdienste om 'n lewensvatbare 'instrument van menslikheid' te bly veral op die munisipale vlak, is die gevolgtrekking dat meer doeltreffende, bevoegdheidsgebaseerde waterraadslid onderwys en opleiding programme (CBWCE&T) vereis word. Hierdie programme het die oogmerk om huidige en toekomstige raadslede toe te rus met waterregeringsvaardighede en intellektuele bevoegdheide om die komplekse uitdagings wat hulle in die gesig staar, die hoof te bied. Die essensie van die CBWCE&T program behels dat, volgens die LGDA, ontwikkelingswaterdienste sal koppel met die breër regeringsagenda wat ander basiese dienste integreer met die uitdaging van waterskaarsheid deur sosiale aanpassingsvermoëns wat onderlinge ondersteuning vir die verskillende dienste aanbied.

Navorsers in water sektor het die hidropolitieke rol van raadslede verwaarloos deur nóg aandag te gee aan hoe raadslede inhoud aan waterregering gee, nóg die gebruik van water vir sosio-ekonomiese en ontwikkelingsdoeleindes soos dit tans ingesluit in verskeie armoede-uitwissingsbeleide, te beklemtoon. Die besondere bydrae van die proefskrif is die beklemtoning van hierdie kritieke rol van raadslede en van die vaardighede wat hulle benodig om 'n institusionele oorsigrol in waterregering te vervul. Die navorser maak aanbevelings vir die verryking van die hidropolitieke sosiologie van plaaslike regeringstudie, om die vaardigheidsvereistes te ontmoet in die lig van die LGDA kompleksiteite en die talle uitdagings in WSAs in die Noord-Kaap.

## Key words

Accreditation

Adaptive behaviour

Best value regime or local government developmental agenda (LGDA)

Capability, Accountability and Responsiveness Framework

Competencies

Competency-based water councillor education and training model

Constitutional powers and functions of local government

Councillors

Curriculum

Decentralisation

Developmental water services

Good Governance

Good Enough Governance

Leadership

Learning

Local government

Municipalities

Need assessment

Northern Cape Province

Outcomes-based education (OBE)

Performance

Performance indicators

Planning

Regime

Roles and responsibilities

Skills

Social adaptive capacity

Socioeconomic and political dynamics in transition

Spheres of government

Value

Water adaptive capacity

Water crisis

Water deficit

Water governance

Water poverty

Water scarcity

Water sector

Water services

Water services education and training (E&T) needs of councillors

## Acronyms

3Hs	Head Heart Hands
3Cs	Complex Capacity Constraints
3Es	Economy, Efficiency and Effectiveness
ABET	Adult Basic Education and Training
ACES	Analytical Conceptual Emotional and Spiritual Framework for councillors
AET	Adult Education and Training
ANC	African National Congress
ANC COPE	African National Congress : Congress of the People, 1955
BPs	Business Plans
BRICS	Brazil Russia India China South Africa Economic Bloc
BSA	British Social Attitudes Survey
BVPIs	Best Value Performance Indicators
BVPIsWS	Best Value Performance Indicators in Water Services
CAR	Capability Accountability and Responsiveness Framework
CBWCE&T	Competence-Based Water Councillor Education and Training Model
CC	Close Corporation
CMA	Catchment Management Agency
CoGTA	Cooperative Governance and Traditional Affairs
DANIDA	Danish International Agency for Development
DBSA	Development Bank of Southern Africa
DBU	Development Information Business Unit
DEAT	Department of Environmental Affairs and Tourism
DFID	British Agency for International Development
DHET	Department of Higher Education and Training
DHLG	Department of Housing and Local Government at Provincial Level
DoE	Department of Education
DoH	Department of Housing
DoL	Department of Labour
DORA	Division of Revenue Act
DP	Democratic Party
DEA	Department of Environmental Affairs
DWA	Department of Water Affairs
DWA NWRS	Department of Water Affairs National Water Resource Strategy
ETD	Education, Training and Development
ETQA	Education and Training Quality Assurance Authority

EU	European Union
FBW	Free Basic Water
FET	Further Education and Training
GEAR	Growth Employment And Redistribution Strategy
GGP	Gross Geographical Product
H3	Head Heart and Hands
HRDS	Human Resource Development Strategy
HIV & AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
ICE	Insight Creativity Ethic Habits for Ideal Councillors in Table 8.2.
IDP	Integrated Development Plan
IDPs	Integrated Development Plans
IEC	Independent Electoral Commission
IPAP	Industrial Policy Action Plan
IMF	International Monetary Fund
IWRM	Integrated Water Resources Management
KFAs	Key Focus Areas
LA	Local Authority
Las	Local Authorities
LGC	Local Government Commission ( British Government)
LGDA	Local Government Developmental Agenda
LGWSETA	Local Government Water Sector and Related Services Education and Training Authority and related Services
MAAP	Multi Annual Action Plans
MDC	Mass Democratic Movement
MDM	Mass Democratic Movement
M&E	Monitoring and Evaluation
ME&R	Monitoring, Evaluation and Reporting
MEC	Member of Executive Committee
MISA	Municipal Infrastructure Support Agency
NDP	National Development Plan
NDF	National Development Forum
NDHS	National Department of Human Settlement
NPC	National Planning Commission
NPM	New Public Management system of local government
NEC	National Executive Committee
NECs	National Executive Councils for Political Parties
NEPAD	New Partnership for Africa's Development

NGOs	Non-Governmental Organisations
NGP	New Growth Path Framework by Economic Cluster of the RSA Cabinet
NGT	Nominal Group Technique
NQF	National Qualifications Framework
NSDS III	National Skills Development Strategy Three (3)
NWRS2	National Water Resource Strategy II by Department of Water Affairs
O&M	Operation and Maintenance
OBE	Outcomes-Based Education
OD	Organisational Development
ODA	British Overseas Development Administration
PGDP	Provincial Growth and Development Strategy
PMU	Programme Management Unit
PMUs	Programme Management Units
PPPs	Private Public Partnerships
QCTO	Quality Council for Trades and Occupations
RDP	Reconstruction and Development Programme
RPL	Recognition of Prior Learning
RSA	Republic of South Africa
SADC	Southern Africa Development Communities
SAIRR	South African Institute of Race Relations
SALDRU	South African Labour and Development Research Unit
SALGA	South African Local Government Association
SAQA	South African Qualifications Authority
SETAs	Sector Education and Training Authorities
SGB	Standard Generating Bodies
SIP	Strategic Infrastructure Projects
SLA	Sustainable Livelihoods Approach
SONA	State of the Nation Address
SSP	Sector Skills Plan
TA	Technical Assistance
TEAM	Together Each Achieving More
TNA	Training Needs Assessment
TQM	Total Quality Management
UAW	Unaccounted –for –Water
UDF	United Democratic Front
UK	United Kingdom of Great Britain
USA	United States of America

USAID	United States of America Agency for International Development
WAC	Water Adaptive Capacity Framework developed by Turton et al in 1999 and further applied in the Water Resources Management by the Water Sector and recently conceptualised by Ashton and Haasbroek (2002)
WBE	Workplace-based Experience
WHO	World Health Organisation
WRM	Water Resource Management
WS	Water Services (Water Supply and Sanitation facilities)
WSAs	Water Services Authorities
WSABPs	Water Services Authority Business Plans
WSBPs	Water Services Business Plans
WSDP	Water Services Development Plan
WSDPs	Water Services Development Plans
WSPs	Water Services Providers
WSUAs	Water Services Users Associations
WSSD	World Summit on Sustainable Development

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# CHAPTER 1

## INTRODUCTION AND BACKGROUND TO THE STUDY

### 1.1 INTRODUCTION

*“Good governance of South Africa’s natural, human [as in councillors], and institutional resources cannot take root unless the old-style public administration is transformed into a developmental, user-friendly, and results-orientated management culture [at local government level].”*

FitzGerald, McLennan & Munslow (1999: 623)

By 2030, almost half of the world’s population (majority of the population will be coming from developing countries) will be living in areas of high water-stress due to climate change and unsustainable water use. In addition, it is argued that every year nearly six million children die before their fifth birthday due to hunger or lack of nutrition. Of the six million children who died from malnutrition, 75% are in sub-Saharan Africa and Asia, where conditions are expected to deteriorate further as temperature rise (Hutchins, 2009:114-122).

The Republic of South Africa is geographically and climatologically a highly diversified country with the average annual precipitation of 450 mm and very high evaporation rates (up to 2000 mm/annum) in most part of the province especially in the Northern Cape (Turton, 2002). Accordingly, South Africa’s mean annual run-off is evaluated at 49 km<sup>3</sup> and usable groundwater potential is estimated at 10 km<sup>3</sup> per annum (25% less during drought conditions) (Van Dijk, Van Vuuren, and Bhagwan, 2013: 1-4). Predictions for South Africa are that the region will get drier and experience more extreme weather conditions in years to come. Projections show that by 2025, South Africa will be classified as a “water scarce” country, with only an estimated 683m<sup>3</sup> of water available per capita of the population. Changing weather conditions with a complex environmental challenge with both biophysical and socio-economic negative consequences, will see a 30% drop in rainfall in the Northern and Western Cape (Schulze, 2012; Figure 5.7).

Undoubtedly, water stress is becoming a permanent feature of the life of Northern Cape municipalities. In this study, water stress refers to a condition where water availability is estimated between 1, 000<sup>3</sup> and 1, 700m<sup>3</sup> of water availability per person in a country, catchment management area (CMA) or region, one hand. On other hand, water scarcity refers to the more deteriorated state of fresh water availability of less than 1, 000m<sup>3</sup> per person. Water scarcity involves water stress, water shortage or deficits, and water crisis. In South Africa, most scholars agree that water shortages may be caused by climate change, such as altered weather patterns including droughts or floods, increased pollution, and increased human demand and overuse of water (Schulze, 2012). A water crisis is a situation where the available potable, unpolluted water within South Africa or Northern Cape region or province is less than that region's demand as

aforementioned. In this study, it is argued that water scarcity is being driven by two converging phenomena: growing freshwater use for socioeconomic and developmental agenda of all South Africans and depletion of usable freshwater resources as results of water governance crisis as well as negative consequences of climate changes. Additionally, South Africa does not have best hydropower conditions as compared with other Africa states (The White Paper on Renewable Energy, 2003), i.e., South Africa has a moderate hydroelectric potential. Consequently, the country has experienced rolling power cuts in early 2008, as electrical demands for users were not met as characterised by grossly outstripping supply. While energy crisis is outside the scope of this study, it is useful to contextualise water crisis with other basic services, which are related to water governance or lack thereof.

Notwithstanding the above, as the pressure on water is increasing, so is the risk that the required amounts of water will not be available by 2025 in many arid areas such as the Northern Cape. Yet, at present, there is limited capability within the water services authorities (WSAs). Their local councillors lack the necessary competencies and innovative skills to drive and lead hydro-political development and developmental water services plans, as well as the necessary skills to develop the Northern Cape's water adaptive capacity (WAC) as depicted in Figure 5.10 (Miller, 1982: 32-46; Cloete, 1998: 254; Conner, 1992: 139; Tsibani, 2004: 20-21; Turton, 2009: 4). One of the identified major constraints for local councillors in addressing water security or scarcity is the absence of a water governance strategy, including a relevant competency-based water councillor education and training programme (CBWCE&T) to narrow the identified skills gap in the water sector in the Northern Cape. With the latter as a main focus, this study describes the water governance and developmental water services education and training needs of councillors in local authorities in the Northern Cape in order for them to be able to execute their water legislative responsibilities within the new local government development agenda (LGDA) or framework in South Africa (FitzGerald, McLennan & Munslow, 1999: 623, Mbeki, 2002:3, Tsibani, 2004:5-14).

It is the point of departure of this study that the transformation of local government that was witnessed in the 1990s established a framework for service delivery that is driven by the notion of a "developmental state system" (Mbeki, 2002). The framework is underpinned by a key value of councillors working together with ward committee members and citizens to find solutions to meeting water demands. The acceptance of the idea of government as a development agent created the possibility of a "radically new system of local government" (Mbeki, 2002) for South Africa, one that is now subsumed under the concept of a local government developmental agenda (LGDA). LGDA refers to the idea of a "best value regime" as defined in the White Paper on Local Government, 1998, and more recently incorporated into the government's economic and poverty eradication plans such as the Industrial Policy Action Plan (IPAP), the National Water Resources

Strategy Two (NWRS2) of the Department of Water Affairs, the New Growth Path (NGP), National Skills Development Strategy Three (NSDS III) of the Department of Higher Education and Training (DHET) and the National Development Plan (NDP).

The LGDA has become a conceptual framework for viewing the delivery of developmental water services that are in the interest of people, efficient and cost-effective – all core principles for this new role (Tsibani, 2004). With respect to water governance under LGDA, which is the topic of this study, an evaluation of factors impacting on this area confirmed this observation (Tsibani, 2004). Furthermore, by endorsing the LGDA, the government of South Africa has indicated a commitment to enhancing the role of councillors as local leaders to accelerate the delivery of developmental water services. Local authorities, such as those in the Northern Cape who are the focus of this study, are therefore legally required to perform the water functions prescribed to them by various Acts of Parliament and Article 5 of the Southern African Development Community's (SADC) Protocol on Shared Watercourses. These legislative requirements essentially include the need for local government to develop its capacity for effective performance and enhance its accountability to "local people for such performance" (Sanderson, 1998: 1; Cameron, 2001: 98; Municipal Systems Act, Chapter 2 (b) (ii); Sections 152 and 153 of the Constitution of the Republic of South Africa (RSA)). An understanding of the interaction between these aspects (political leadership, developmental water governance, and hydropolitical administrative modernisation) is of fundamental importance for the effectiveness of policy interventions directed at the introduction of democratic innovations and public administration modernisation initiatives under the LGDA model in South Africa (Casanova, 1983: 929-973; Sanderson, 1998: 3; Cameron, 2001: 14; Stewart & Wash, 1994: 45-49).

It is a premise of this dissertation that an appropriate competency-based water councillor education and training (CBWCE&T) programme may empower councillors to implement abstract social sciences theories on LGDA models as depicted in Figure 3.4. in Northern Cape realities in Chapter 5 of this study (Atkinson, 2002: 18, Rau, 1990: 70, Malan, 1998: 66; Casanova, 1983:929-973), thereby providing individual councillors with a notion of 'equilibrium', or a new state of psychological stability and mental comprehension in making accountable and innovative decisions that are embedded in the working environment of local authorities or Water Services Authorities (Nortier, 1995: 44; Brey & Benwell, 1999: 498; Figure 5.10).

## **1.2 BACKGROUND AND STATEMENT OF THE PROBLEM**

### **1.2.1 Capability, accountability and responsiveness to water crisis**

There is an increased demand for 'flexibility', 'responsiveness', 'decisiveness' and 'speed' on the part of leaders, with councillors under increased public scrutiny and pressure to demonstrate the "value" they are delivering in developmental water services in terms of the LGDA model. The water

scarcity in the Northern Cape also threatens the sustainability of the natural resources promised under the LGDA framework and its administration systems, or the Capability, Accountability and Responsiveness (CAR) model. Administration under the LGDA refers to specific functions to be performed by WSAs as part of authorisation by the Minister of Cooperative Governance and Traditional Affairs (CoGTA) in 2003, which include water services, sanitation, municipal health services and electricity, to mention but a few (Cloete, 1995: 23-24).

This authorisation of the five district municipalities and 28 local authorities in the Northern Cape means that developmental water services have been decentralised to the 33 water services authorities (WSAs) to ensure more capability accountability responsiveness (CAR) tools (Ansell & Gash, 2008: 543-571). As a result of the decentralisation of water governance, the executive councils are expected to arrange their socioeconomic, developmental and political municipal organograms and administrative units so as to develop and manage water resources, and the delivery of water services. In other words, the WSAs are expected to direct and steer the Northern Cape human settlements to reduce poverty and implement water flux initiatives to address the challenges of water scarcity and over-allocated water resources. However, this is far from unproblematic, as is the requirement that councillors must demonstrate a strong capability to be accountable, effective and efficient in the daily water services business of local authorities. The notion was advanced by Denton and Vloeberghs (2003: 92-93), and supported by Stewart and Wash (1994: 45-49), that the capacity, capability, accountability, responsiveness and responsibility of councillors in local authorities are 'multidimensional' and inherently contested, with different water sector role-players subscribing to different value systems and emphasising different aspects of performance. Therefore, the concept of autonomous local authorities has not only attracted scholars who adopted the CAR model for water adaptive capacity, but also ones who have mostly been informed by education and training theories that individual councillors can be developed by means of a "planned and purposive" integrated water governance and leadership programme, which is referred to as CBWCE&T (Breu & Benwell, 1999: 496; Greenwood & Wilson, 1990:40-52).

The need to create favourable conditions in which councillors can apply the learning they acquire from appropriate and integrated CBWCE&T programmes is relatively unknown in literature, as the focus tends to fall on "officials and senior managers" (Tsibani, 2004; Fleishman, 1953: 205-22 ). Furthermore, South Africa (and a province such as the Northern Cape even more so) suffers from "low levels of productivity, a lack of international business experience, a poor product and service quality record and a lack of research and development" (Denton & Vloeberghs, 2003: 86). This observation could apply equally to WSAs.

Councillors tend to lack the conceptual and operational mind-sets with regard to developmental water services delivery mechanisms and attributes that are expected from them by the LGDA and relevant legislation (Rhodes, 1996:652-667; van Gils, 2005:583-589; Rao, 1998: 20-21; Mandell,

2009: 163-178; Cloete, 1991: 74; Tsibani, 2004: 34-50; Wesolowski, 2000: 369-77; Du Toit, 1985: 23-25; De Jager, 1985: 36). Consequently, the concept of a local government developmental agenda (LGDA) is being compromised and acquires a negative connotation in the eyes of both the 'unserved' communities and the citizens without safe drinking water and adequate sanitation facilities. Malan (1998: 57), in the same vein, adds that the LGDA "has created more expectations than anyone can hope to fulfil ... and has in many cases bedevilled rather than improved people's quality of life".

McFarlin and Coster (1999: 63-69) concluded that:

[clearly], this will not be easy ... given the need to change and the limitations of Western management development models, [and] South Africa's need to develop its own unique [water governance] approaches [and also address water portfolio councillors' skills gaps in the 33 WSAs in the Northern Cape Province]

### **1.2.2 Water shortage and lack of technical know-how**

Several factors drive the progression towards water scarcity and over-allocation of water in the Northern Cape Province. From the researcher's observation since the early 1990s and his participation in the Northern Cape Capacity Building and Support Forums arranged by the Department of Water Affairs (DWA) and the South African Local Government Association (SALGA) between 1997 and 2013, the water scarcity problems in the Northern Cape can generally be grouped into three major kinds: water quality, water quantity and ecosystem problems (Allen, 1998:545–546). Furthermore, councillors are expected under the LGDA framework to ensure the integration of multiple-use developmental water services for two reasons:

- Firstly, they are expected as executive leaders to make a comprehensive impact on the multiple dimensions of poverty among the 1 162 900 inhabitants of the Northern Cape, 30% of whom, according to Statistics South Africa, are younger than 15 years (Stats SA, 2013: 11). These include health, food security, income and reduction of unemployment – wherein water is used as a resource for economic growth and development.
- Secondly, councillors are expected to contribute to improved sustainability and performance systems at the local level. Where water users use the same water for multiple purposes, the councillors should provide integrated water resource management and developmental water services in accordance with various strategies for socioeconomic growth and development in the Northern Cape (Tsibani, 1993: 22; Halvorsen, 2005: 28; Luhman, 2000: 94-107).

### **1.2.3 Water as a shared responsibility**

It is significant that the Northern Cape WSAs share watercourses with two neighbouring countries, namely Namibia and Botswana, as well as with the Eastern Cape, Western Cape, North West, Free State and Gauteng Provinces. In the case of Namibia and Botswana, the councillors should

have a sound technical knowledge and understanding of Article 5 of the Southern African Development Communities (SADC) Treaty. In terms of the SADC Treaty, WSAs must strive to “achieve sustainable utilization of natural resources and effective protection of the environment” (SADC, 1996: 151). There is therefore a strong basis for interstate governance and cooperation to solve complex water-related problems. In sharp contrast to the SADC Treaty and LGDA requirements, however, most of the WSAs are weak, and thus unable to comprehend watercourse complexities on their own and to execute their legislative mandate (Rau, 1990: 70; Malan, 1998: 66; Rhodes, 1996: 652-653). Consequently, they fail to implement trans-border agreements (Greenwood & Jacobs, 1994: 3-12; Bernstein, 1998: 298; Cameron, 2001: 97-177; Kroukamp, 1996: 4; Tsibani, 2004: 2-5). The lack of innovative councillors with the necessary competencies and skills in water policy and trans-border agreements can be considered part of what Ohlsson (1998: 8), supported by Turton (1999: 10), refers to as a “social resource scarcity” or a lack of “social adaptive capacity” to water scarcity. This refers to the lack of capacity of both WSAs and their councillors in terms of the technical knowledge, skills and experience to deal with complex water problems as depicted in Figures 3.6 and 5.7.

#### **1.2.4 Hydropolitical conflicts of interest are man-made**

Many of the debates about the struggles over water and how the resource has been appropriated as a political and social control instrument have tended to focus on international and interstate conflicts outside Africa (Turton, 1999: 1-15). Yet, such struggles have also occurred at times on municipal levels in the Northern Cape. While one can concede that environmental factors such as low rainfall, high temperatures and poor run-off certainly play a critical role in water scarcity in the Northern Cape, it is also contended that sufficient rainfall cannot be the sole guarantor of water security for the Northern Cape water sectors. Water scarcity can be compared to famine in that it has more to do with the command over the distribution of scarce resources than with the environment. Like famine, water scarcity is not merely the result of natural disasters; it is largely man-made. In this case, it is the result of hydropolitical dimensions among the parties involved in the Northern Cape. As the Northern Cape has two major rivers, namely the Orange and the Vaal, the abstractions and allocations of water from these rivers reflect “the power and hydropolitics” (Turton, 1999: 2; Stoker, 1998:17-28, Steward & Wash, 1992:499-518) of the region. Theoretically, the demarcation of 28 local municipalities under five district municipalities in the Northern Cape is not a technical or neutral exercise. As with water abstraction and allocation in both the Vaal and the Orange Rivers, political factors are more important than technical criteria when it comes to the demarcation of boundaries (Cameron, 1999: 4; Rhodes, 1996:658).

As the Northern Cape WSAs have been established through the Demarcation Board Act, they have authority features such as autonomy, territory and water governance regulation of internal diversity and socio-economic and political complexity. Turton (1999: 2-4) and Rhodes (1996: 660)

argued that the Northern Cape WSAs are autonomous political units, encompassing many communities within their territories. The WSAs are territorially extensive, administratively complex systems in which the executive council of each municipality must make decisions about the equitable allocation of water resources in the Northern Cape in order to address poverty and guarantee socioeconomic development and growth for investment. The WSAs are water services institutions with executive powers and functions to provide developmental water services to water sector stakeholders and interest groups within their boundaries. As has been mentioned before, the water authorisation of the 33 WSAs in the Northern Cape is part of a broad context of an LGDA and re-organisation within the political powers of South Africa whereby the DWA, a custodian of water resources management, can use CAR tools for water governance (Stoker, 1998:17).

In view of the above, Chabal and Daloz (1999: xviii) refer to “political instrumentalisation” as a process by which political actors (which would include councillors) prioritise their administration and resources to deliver equitable water services. The WSAs have historically been treated with respect and full rights to intervene as regulators of water in their territories. In other words, WSAs are supposed to be in a state of ‘equilibrium, i.e. to have enough financial and human resources to deal with both short-term and long-term financing and management to advance LGDA values and the consolidation of democratic principles and values (Nortier, 1995: 44). With reference to an observation noted by the Local Government Commission for England (LGC) in a report on the renewal of local government in the English shires, this structural re-organisation of WSAs in the Northern Cape cannot sensibly be reviewed separately from finance and function [of water governance and developmental water services]. All the elements that determine any organisation’s effectiveness must be considered together with [water governance] strategy, [water governance IT] systems, skills, management style, [appropriate] staffing, and the shared [water] values that knit the organisation together (LGC, 1993: 15; Ansell & Gash, 2008:543; Wright, 1994:102-134).

### **1.2.5 Research problem**

Resolving the above-mentioned problems requires strong commitment and strategic leadership on the part of councillors in order to ensure that water resources are protected, used, developed, conserved, managed and controlled in a sustainable manner in accordance with the LGDA goal (Goldratt, 2004; Drucker, 1967). However, owing to the wrong recruitment system of councillors and the current traditional training approach, it is doubtful whether the Northern Cape has sufficiently innovative and strategy-minded councillors that would be able to ensure a state of “equilibrium” or a new stage of psychological stability in their WSAs (Nortier, 1995: 44). In this study, the recruitment, selection and appointment of municipal councillors in water portfolios under Infrastructure Planning and Development Directorates without the required skills and competencies is arguably one of the biggest obstacles to overcome across the municipal water governance in South Africa. This research problem is supported by the view expressed by Goodlad

(1983: 187, cited in Tsibani, 2004: 3), speaking about Western Europe, when he noted that in many of the systems of local government represented at a symposium,

there seemed to be an inbuilt assumption that local representatives [councillors] were somehow magically endowed at the moment of election with the capacity to cope with the complete range of responsibilities and confusing variety of views of the elected representative's role.

From this and the constraints on various municipalities identified by Tsibani (2004: 3-5), it can be inferred that such weaknesses in local authorities in the Northern Cape could be even worse than those in European local authorities. Winfred and Winston (2003: 234-245) argued that there is no doubt that education and training is essential in raising awareness and equipping various councillors with the necessary skills and competencies to implement water governance and developmental water services. However, the existing training programmes and tools are methodologically inappropriate for the multidimensional and complex LGDA requirements. As such, it could be argued that the current training initiatives contribute indirectly to the declining status of the socioeconomic profile of the Northern Cape. It is also contended that these training models are insufficiently focused on process-based, results-oriented and results-based thinking embedded in CAR tools to support the LGDA paradigm. To strike at the heart of the matter, it is argued that the existing traditional training discourse has been dominated by a conceptual methodology that is, perhaps, best described as "over-academicised, fragmented and activity-based thinking" (Stewart, 1971: 17-24; Siddle & Koelble, 2012:208-213).

In advancing an earlier study on developmental water services education and training needs of councillors (Tsibani, 2004, 2005), the researcher intended to contribute to instilling what Nortier (1995) called "the fundamentals of the next phase of equilibrium" in the minds of councillors. In this sense, the idea of an LGDA or "best value regime" can only be effective if the nature of and the relationships between the fundamentals are understood. On the basis of the strengths of this new LGDA approach, using the Northern Cape Province and its councillors as a case study, in contrast with the traditional education and training system embedded under the apartheid philosophy of local government systems, this study is genuinely interdisciplinary as it has allowed interpretation of various elements of the LGDA by means of a variety of research methods and techniques as a main focus. It was assumed that this strong conceptualisation of LGDA values, complemented by methodological triangulation, would allow the researcher to use both inductive and deductive modes of reasoning in order to answer the following research question:

What are the developmental water services education and training needs of councillors in the Northern Cape local authorities if they are to be trained to play a meaningful role in the water governance and oversight role in integrated water resource management (IWRM).



This research question required a comprehensive and well-integrated research approach (Mouton, 2001: 179-180; Babbie & Mouton, 2001: 29-33; Miles & Huberman, 1984: 23; Leedy, 1993: 14). It was assumed that this would, in turn, provide a good understanding, interpretation and analysis of the issues and debates in both the local government domain and in councillor leadership, which are conceptualised in terms of probabilities (Schedler, 1998: 3-4). The adopted research design allowed the researcher to be able to analyse councillors' needs imposed by LGDA values by bringing conceptual coherence to the local government domain and the water sector, and simplifying LGDA in the Northern Cape Province (Mouton, 2001: 177, Leedy, 1993: 14).

### 1.3 RATIONALE FOR THE STUDY

From the analysis of the socioeconomic and political status quo in the Northern Cape described by Tsibani (2004), it seems that the hydropolitical history of the Northern Cape WSAs and the allocation of the Vaal River and Orange River water resources can help to contextualise the current water scarcity in the province, as well as possible interventions. The hydropolitical history of international rivers (Turton *et al.*, 2004: 15-16) provides a useful background in this regard. Although a number of studies have been conducted on the history of the Vaal and Orange Rivers from archaeological and historical perspectives, these studies tend to focus on international relations between the actors involved in the river basins over time. Therefore, there is a need for these international studies to be contextualised in view of the Northern Cape's acute water scarcity, and water as a potential constraining factor for the socioeconomic growth and development of the province as envisaged by the DWA National Water Resources Strategy II (NWRS2), the IPAP, the NGP and the NDP 2030 vision.

As the Northern Cape shares boundaries not only with four other provinces, but also with Namibia and Botswana, this study on the hydropolitical developments in the Northern Cape will help in strategically positioning the province's water security negotiations in implementing SADC requirements and the protocol on shared river systems. In this way, the Northern Cape Province may benefit from the study by using its findings to control water resource management and water allocation to suit the internal water needs of municipalities. According to Turton *et al.* (2004: 15) as well as Mogale (2007: 20) and Tapscott (2000: 127), South African water policy has always played a positive role in shaping the country demographically, socially, economically and politically. Thus, water availability is a critical factor in shaping and turning the current state of water stress in the Northern Cape into a desirable one for political stability. The extreme weather conditions, the water deficit since 2004 and climate change suggest that a greater emphasis on governance and hydropolitical constraints is crucial. The water crisis needs to be addressed with appropriately skilled, assertive, creative and innovative councillors as local political operators.

Meehan (1998: 88, cited in Turton *et al.*, 2004: 15) adds that the importance of being able to control events in the environment comes down to the survival of the human race. This applies

especially to a water-stressed region like the Northern Cape. Such water governance knowledge and experience with regard to water infrastructure, project management and the use of appropriate technology are seriously lacking in the Northern Cape (Kroukamp, 1996: 4). Of particular interest is that – from literature and documentary reviews in respect of the history and evolution of the local government system in South Africa from the 1800s to date – it appears that there is inadequate reflection on the competence of councillors in their water governance and oversight roles in integrated water resource management (IWRM). The scholarly literature on councillor competence in bulk water infrastructure planning and development portfolios is also limited or comparatively sparse. The push for individuals to have engineering and technical competencies along the lines of executive board members of international water utilities is limited to public sector senior executives or officials, and does not extend to water portfolio councillors (Ansell & Gash, 2008: 357).

Whereas the performance management regime that flowed from the new public management (NPM) or LGDA reforms primarily in the United States (USA) and the United Kingdom (UK) was the natural precursor to the use of competency in public sector institutions. This particular aspect has only recently been highlighted in literature, documentary reviews and studies commissioned by international and national think tanks. There is a noticeable absence of prescribed recruitment, selection and deployment criteria and requirements when it comes to councillors; these only seem to apply to the job functions of senior executives or officials. Yet, research conducted by the World Bank (2008) suggests that the limited government spending on water-scarcity solutions is driven largely by a lack of political motivation, stemming from a lack of political pressure for sanitation investment in poor and marginalised settlements, and to a lesser extent by technical or economic considerations in the context of competing demands for resources. This finding was seen as particularly applicable to this study (Stewart & Wash, 1999:45-49; Siddle & Koelbe, 2012:151).

Furthermore, research findings show that most of the social protests associated with water services delivery tend to occur in working-class urban and peri-urban localities characterised by high levels of poverty, unemployment, inequality, relative deprivation, marginalisation, and disjunctures (including communication breakdown) between water services development planning at municipal and national levels and water use at local household and community levels, irrespective of the political party affiliation of local government. Added to this is infrastructure theft, the breakdown and obsolescence of infrastructure, and a lack of financial budgets for repair of existing infrastructure and development of new infrastructure to accommodate burgeoning demands created by rapid urbanisation (Water Research Commission Seminar, 13 September 2013, Stone Cradle Conference Centre, Pretoria). This study proposes that an understanding of these dynamics, using CBWCE&T complemented by CAR and the Northern Cape WAC, would allow the councillors to improve leadership of the self (ethos); personal integrity and character (spiritual intelligence); leadership among others (pathos); and organisational leadership (logos): the

competence-based approach to leadership. Key elements of the proposed CBWCE&T programme include knowledge (and wisdom), skills and an attitude that is conducive to good governance, good public leadership and good service delivery. Although based on the value of the intelligence quotient (IQ) in competence, the programme stresses a holistic approach to water governance that would enable councillors to deal proactively with new water demands as well as structural water governance challenges and constraints as depicted in Tables 2.6, Figures 3.1 to 3.4. within the context of decentralisation of developmental water services in Figure 3.1, Table 3.1, and Figure 3.3. These Tables and Figures are guided by LGDA theories presupposition under paragraph 3.3.1.3 read with Figure 3.4. Consequently, the researcher is able to draw LGDA values and requirements of LGDA to councillors as depicted in Figures 3.1., 3.5. and 3.6. in Chapter 3.

It is significant that terms like 'competency gap' inherently lead to the emphasis falling on WSA challenges, constraints, weaknesses and gaps rather than on the required aspirations and values of NPM or LGDA in the case of the Northern Cape WSAs. Metaphorically, this 'boiling frog syndrome' has managed to ensure that water portfolio councillors are excluded from capacity building and training interventions in the water sector. This, in turn, retards required accelerated water infrastructure planning and development programmes and projects that would enable councillors to respond proactively to the need for water-scarcity solutions in the Northern Cape. Consequently, councillors are unable to resolve the current paralysing lack of professional capacity when it comes to tenders and job specifications (Rowe, 1999:12-17; Norris, 1991:331-341).

In spite of the water crises and local government assessment reports by development finance institutions (DFIs) and national statutory organisations as well as their provincial counterparts, the question of the LGDA framework and its requirements for councillors is not sufficiently on the national agenda. The DFIs referred to above include the Development Bank of Southern Africa, the African Development Bank and the World Bank. Reports by statutory organisations include those of government departments such as DWA and CoGTA (especially the Local Government Assessment Report of 2009), the Auditor-General's Municipal Report (2012), and SALGA's Trip 3Cs (Complex Capacity Constraints) Analysis of Municipalities' Problems in South Africa (2012). The concept of the LGDA has also received little attention in academic research on the Northern Cape, which is partly due to the fact that besides being one of the poorest provinces with the longest distances between towns, it has no university. The province's first university was opened in early January 2014 for academic studies with a firm focus on innovation and excellence. Once more, instead of focusing on science, mineral resources and engineering disciplines, it is envisaged that the Sol Plaatjie University will specialise in heritage studies, including interconnected academic fields such as museum management, archaeology, indigenous languages, and restoration architecture. Whilst these fields are critical for the rich historical presupposition of Northern Cape as defined in Chapter 5, the climate changes and water scarcity

in Northern Cape require the University to be a leading centre of excellence on scientific solutions on water scarcity, and energy solutions for socioeconomic growth and development of Northern Cape tourism industries and alternative economic models in a 'desert type of a province'.

There are no available documents and manuals on water governance education and training of councillors in water resource management and developmental water services, as required by the LGDA framework. Although the DWA in collaboration with SALGA has developed a water services training programme for councillors, it is more of an information-sharing programme than an accredited education, training and development programme. At the time of writing, most of the programmes were in their infancy and being reviewed to take into account new water demands after the 2011 local government elections in South Africa. Thus, this study is a small step towards filling the gap. It also highlights the tension or mismatch between the requirements of the LGDA and the actual competencies and skills of councillors in WSAs, on the one hand. On the other hand, by means of the compiled water portfolio competency profile, the study provides the water sector with a reconsideration, as well as greater critical consideration, of the ways in which knowledge of water governance is formulated, communicated and translated with councillors as local hydropolitical operators. Recognition of the value of theorisation in explaining the LGDA values-associated assessment tools used in this study will help the water sector in the development of more coherent strategies and integrated initiatives in WSAs in implementing a Northern Cape water adaptive capacity strategy (WAC).

As was signalled during the 2011 local government elections, the South African government remains committed to the LGDA, which confronts the challenges of modern local government and the improvement of delivery of basic services such as water supply and sanitation facilities to its constituencies. The elements of the LGDA are intended to work together rather than in isolation. Consequently, an overall assessment of the water governance education and training needs of councillors, as elected representatives who are required to perform legally prescribed duties, is important and is likely to attract considerable interest from a wide range of policy-makers and practitioners in both local and central government, and beyond. The 2002 World Summit on Sustainable Development (WSSD), as well as the recent SALGA conference in 2011, the 2011 local government elections, and the state of the nation addresses (SONAs) since the dawn of democracy in 1994 up to 2013, and available literature evidence on the subject have confirmed the proposition that an assessment of councillors' needs as decision-makers would offer significant benefits for the implementation of water governance and developmental water services, and meeting world targets on developmental water services.

Despite the challenges experienced in collecting primary data from the councillors, it is the researcher's opinion that the needs assessment methodology continued to provide a useful way of analysing and comparing arrangements for water governance that may steer the new WAC for the

Northern Cape. It is sincerely hoped that the findings will not only be seen as providing baseline information on councillors' needs, but will motivate others in the field to continue with the research that was initiated by this enquiry. What is exciting, and provides many opportunities, is that so much remains unanswered by this study. So many challenges of councillors and councillors' needs in performing their water governance executive duties remain to be met within the ever-changing environment in which they operate in South Africa in general, and the Northern Cape in particular. It is hoped that the study will enrich the field of social sciences conceptually and operationally and lay a sound foundation for further studies in political sociology, hydropolitical and social anthropology theories on this subject.

#### **1.4 ASSUMPTIONS OF THE STUDY**

The following lists of assumptions were used in this study.

- It was assumed that individual councillors' perceptions and interpretation of "representativeness" and their needs under the conditions in which they operate exert an influence on the level of their knowledge, and their attitudes, practices and behaviour in municipal councils. It is also assumed that change brought by the revolution in LGDA is external to the individual councillor as opposed to constituting inward transition, which is a change in internal consciousness. It is assumed that external change and individual transition through a purposive education and training programme are thus inevitably linked.
- It was assumed that the requirements of the new LGDA can be analysed and interpreted into skills profiles of councillors and an education and training programme that is appropriate to the councillors' experience and knowledge and relevant to their work environment and that will facilitate reflexivity on their part as local hydropolitical leaders. The process of reflection in action is central to the political art with which councillors have to deal with situations of uncertainty, instability, disaster and value conflict within the LGDA environment.

#### **1.5 AIMS AND OBJECTIVES OF THE STUDY**

##### **1.5.1 Aims**

The aim of the study was to have a better understanding of the new LGDA and its associated requirements for councillors in the water sector, and as a practical consequence to develop a guiding framework that will inform the design of a competency-based water governance councillor education, training and development programme, using the Northern Cape as a case study. To achieve this aim, the following tasks were performed:

- A review of the LGDA system and its requirements for water sector councillors in 33 WSAs in the Northern Cape;
- An education and training needs assessment of councillors in the Northern Cape local authorities;

- A gap analysis using mixed methods with reference to the points above; and
- The development of a comprehensive competency and skills framework to guide future education and training programmes for councillors in water portfolios.

### **1.5.2 Research objectives**

The research objectives and associated tasks included:

- A comprehensive and well-integrated literature study of the requirements and values of the LGDA as well as the roles of councillors in the water sector;
- A description and interpretation of the councillors' world of work in the Northern Cape as a water-stressed province, and determined water security realities in the Northern Cape in accordance with the LGDA framework;
- A review of water sector education and training programmes that have taken place; and
- An assessment of councillors' training needs and perceptions in this regard.

### **1.5.3 Intended outcomes of the research**

In performing the above-mentioned tasks, the following outcomes were envisaged:

- To use chapters of the study to illustrate the usefulness of social science research methods to identify multiple social causes of councillors' challenges and constraints to implement the LGDA in WSAs;
- To summarise and organise literature evidence into a comprehensive list of competencies and skills required by councillors, or a councillor competency profile under the new LGDA system within the water sector;
- To use primary data obtained from 77 respondents to complement literature evidence in Chapters 3, 4 and 5 on councillor skills profiles and requirements;
- To conduct a focus group and expert workshop to identify key competencies; and
- To make recommendations in the form of guidelines for water education and training programme for councillors.

## **1.6 TRIANGULATION AND MIXED METHODS**

As will be discussed in Chapter 2, a combination of qualitative and quantitative methods was used to minimise both internal and external validity threats and maximise reliability (Denzin, 1978; Campbell & Fiske, 1959). Despite Lincoln's (1990: 81) and other claims of incompatibility of these models (theories), there is a long history of calls for integration across paradigms and moving beyond the qualitative-quantitative dichotomy (Caracelli & Greene, 1997; Smith, 1997). The researcher adopted these models (theories) on the basis of the purpose of this study to transcend significantly the current intensity of the dichotomy based on the needs in situ according to the

objectives of this study. There are four goals for using the triangulation approach (Bless & Higson-Smith, 1995:63-87). They include the following:

- It helps to link water supply, sanitation facilities, health and education together within the local government environment and the lives of both leaders and officials;
- It involves both leaders and officials who are actively engaged in improving developmental water services and socioeconomic growth and development of the Northern Cape community;
- It encourages councillors and officials to undertake actions both individually and as a group task so that they can benefit both themselves and others, without giving themselves extra burdens; and
- It clusters methods for application in various settings.

Through this triangulation approach, the findings of the study are in line with the aims and objectives of the study. Thus, the research approach, which is inclusive in form and content, can empower the readers and decision-makers to address some of the problems and challenges in water governance and leadership innovation in WSAs.

## **1.7 LIMITATION OF THE RESEARCH**

This study is limited to water education and training needs of councillors in water portfolios from the perspective of the disciplines of sociology and social anthropology. Therefore, other disciplines are excluded in this study except on cross-critical fields (CCF) such as public administration, public leadership and innovation, corporate governance strategies and modern business strategies, project management, planning, organisational development, institutional development and coordination, communication, economics, development, public financial management, and engineering, technical and science subjects. It is further accepted that the conclusions drawn from this study cannot be applied to all local authorities in the Northern Cape, as the provision of sustainable yet affordable water services is a dynamic process and does not take place in one specific determined environment. In other words, the meaning of the LGDA and its requirements for councillors is not permanently fixed or unchanging for the water sector stakeholders, role-players and communities. This is a major but inevitable weakness of this study because councillors operate in an ever-changing working environment (Leedy, 1993: 14; Leedy, 1974: 6-7; DeSario, Faerman, & Slack, 1994: 66-67; Gray & Jenkins, 1995:77-99).

The researcher's discussion of most of the LGDA elements has brought to the fore the limitation of this study's design. The LGDA elements remain textbook materials and are not yet implemented nor understood by councillors. For this reason, it was difficult to measure the success of WSAs (Mouton, 1999: 80-81). The Protection of State Information Bill (2011) was used by officials and councillors not to respond to this study or provide crucial information for the research on the ground that it was privileged information. Councillors as local hydropoliticians were also suspicious

of the timing of the research that coincided with the Auditor-General's investigation of a number of corruption cases in Northern Cape municipalities and the rejection of the Protection of State Information Bill mostly by political parties that are in opposition to the African National Congress (ANC) as a ruling party. In other words, whilst the survey was one of the research technique to review education and training needs of councillors, the responses of 77 (20.8%) out of 370 councillors boils down to an error level of 9.9% (assuming a confidence level of 95%) which has far negative implications to the generalisation of the findings. The over-concentration of representatives in the three district municipalities and certain local municipalities not represented at all under district municipalities as depicted in Table 2.8, all point to the skew sample as aforementioned. However, similar studies by Auditor General, CoGTA, DWA, SALGA, DBSA, LGSETA and EWSETA including the HSRC State of the Nation Reports since 2000 to date point to similar findings where large samples were used. For instance, the LGSETA study of more than 4037 councillors in 2011 has similar findings with study. Unless a councillor study is sufficiently funded, field technicalities will yield similar 'sampling errors' as unintentionally experienced in this study. It is also unfortunate that claim by Mouton and Babbie (2001) of 15% sample representation as recently supported by Bless, Higson-Smith and Sithole (2013:174) are disputed by most scholars. In other words, there is no rule of thumb when it comes to a representative sample as can be seen in this study. Yet, predictions of 20-30 million populations are often made within a range of 2% accuracy based on sample sizes as small as 25 000 or less. A scientifically representative sample size is always determined by the size of the population, the chosen confidence level and the desired confidence interval, and the never on a mere arbitrary 5% by Bless, Higson-Smith and Sithole (2013:174) and/or 15% proportion of the population by Mouton and Babbie (2001). Where the researcher makes such claims of representativity and generalisation of the study, the researcher refers to the statistical tests used in Chapter 6 as well secondary data trends and analysis on similar studies conducted by credible research institutions such as WRC, CSIR, SAICE, HSRC, LGSETA, EWSETA, DWA, CoGTA and SALGA.

## **1.8 DEFINITIONS OF TERMS USED IN THIS STUDY**

A number of concepts are used in this study. Given the complexity of Local Government Developmental Agenda (LGDA), the key concepts or terms and their definitions are briefly explained. This should be useful for the reader as the concept of LGDA is often confused in comparative literature. For clarity's sake, this section is devoted to describing how some of these concepts are used in this study. The definitions of these concepts were derived from theory, the literature and empirical research conducted for this study as reflected in the text and they are not regarded as the definitive or only possible definitions in the field of education, training and development of councillors in accordance with the South African Qualifications Authority (SAQA).



**Assessment** refers to the initial evaluation of projects or programmes, and local authorities through a literature study to ascertain what the nature, present conditions, need, gaps, challenges, opportunities and likely indicated courses are. According to Wolmarans and Eksteen (1987: 3), the term 'needs assessment' may be defined as a formal process for the identification of gaps between present and desired results, the placing of those gaps in order of priority, and selecting those gaps with the highest priority for closure. Knirk and Gustafson (1986: 3) add that 'needs assessment' is a process of determining the difference between what is and what is desired. Assessment therefore entails an investigative evaluation. It usually entails an ongoing process that includes monitoring, evaluation and reporting (ME&R) of outcomes of projects or programmes, as the case may be. This study will use this term in accordance with these definitions.

**Capacity** refers to the potential for municipalities or local authorities to change if external and internal factors are being controlled. Institutional capacity building refers to the attempt by institutions to help local authorities to improve finances, strategic planning, management, infrastructure and operations, so that the local authorities can provide water services consistently, reliably and cost-effectively. Capacity-building projects and programmes (such as training, organisational development, improvement of information systems and extension of roles and responsibilities on the part of municipalities) are considered the most crucial element of capacity building and training and include institutional development (ID) support, in this case, of local authorities.

In this study capacity, building in a broad sense entails involving all the stakeholders in the water sector (that is, both public and private sectors and non-governmental organisations (NGOs) and parastatals) in the process of delivering sustainable water services. The term therefore encompasses the technical, managerial and financial capability of local authorities to plan for, achieve and maintain compliance with the Water Services Act, given available resources and characteristics of their stakeholders in their areas of jurisdiction. The etymology of capacity includes the Latin word *capere* (hold) and *capacitas* (able to hold much). Its dictionary definition is 'the power of containing, receiving, experiencing, or producing' (Concise Oxford Dictionary). This has implications, when related to demanding roles such as those of councillors in leadership positions in an ever-changing metaphysical world and local government environment under the local government developmental frameworks. The implications include being able to deal with complexity, ambiguity and paradox in order to give constitutional and legislative effect pursuant to developmental state objectives and other declarations of the globalised local government domain. Thus, to work in this over-politicised local sphere of government, with its political dimensions under the Local Government Developmental Agenda (LGDA) framework (a borrowed system from the Third Way theories), requires capacity to reflect on the challenges, difficulties, and irresolvable relationships, and the ability to read intuitively the constant changing political dynamic among a

council membership. It suggests that a councillor must have the capability, as opposed to a competency, to learn from experience and to reflect critically on his or her practice.

By sharp contrast, the idea that working in local government under the LGDA framework is a 'competency' suggests that a fixed body of professional knowledge is needed to carry out the work effectively. This does not accord with the councillors' reality as reflected in the "Competency Framework and various Acts of Parliament which are a single spine for developmental local government", cited in this study. Consequently, the present study resolves this problem by making use of the difference between 'competency' and 'capacity' as a semantic issue, which is not necessarily ordinarily true. Given this, conceptual differentiation between 'competency' and 'capacity', the researcher has concluded that the following capacity needs are required in councillors, pursuant to the multidimensional, complex and value-driven LGDA framework:

- The capacity to work with the political dimension;
- The capacity to lead, change and develop the organization into 3Es (economy, efficiency and effectiveness);
- The capacity for keeping abreast of ever-changing metaphysical society and globalised [water] services and self-knowledge;
- The capacity to develop effective internal and external relationships; and
- The capacity for maintaining [developmental local government] focus on strategic and long-term [water business] issues (Chapman & O'Neil, 1999).

Each capacity is accompanied by detailed thinking that lies behind each category (refer to Tables 4 to 19 and Figure 19 listing competencies of councillors). As indicated in development theories, the competency movement emphasised:

- Teaching of analytical techniques. These may be necessary, but councillors have to deal with moral and political issues, clashes of ideologies, paradigms and cultures. Surely, technical rationality may not be required in solving the aforesaid problems; and
- Value-free competencies. These do not sit easily with the roles and responsibilities of councillors. This linear and individualistic view of learning does not assist councillors in dealing with a highly value-driven LGDA.

This external competency approach or body of professional competencies indeed compromises continuous learning from day-to-day exercises, and elicits expressed impatience with a reliance on orthodox, expert-led activities. Instead, councillors within the humanistic paradigm embedded in outcomes-based, results-oriented and inward consciousness approaches recognised their training needs to participate with other councillors in terms of peer review and collaborate on their unique settings and situation, thereby enabling them to reflect critically on their current leadership roles and responsibilities (Miller, 1982:32-46; Miller, 1994:325-358).

'Technical capacity' refers to the assets and physical infrastructure, including, but not limited to, the adequacy of the sources of water, infrastructure and ability of councillors and officials of local authorities to implement the technical knowledge in a sustainable manner. A closely related term is 'management capacity', which refers to the management of structure and resources of the municipality, including, but not limited to, ownership, accountability, recruiting staff, organisation and effective linkages of Water Services Development Plans (WSDPs) and Integrated Development Plans (IDPs) of each local authority in line with the district, provincial and national integrated development plans. Finally, 'financial capacity' relates to the financial resources of water services, including, but not limited to, revenue sufficiency, creditworthiness and fiscal controls.

It is clear that technical, managerial and financial capacities are discrete terms, yet closely interrelated areas of capacity of local authorities. A project or programme cannot sustain its overall capacity without maintaining adequate capability in all three above-mentioned areas. For the purpose of this study, the terms are used to refer to the ability of councillors and groups within local authorities to determine their own future, including such socioeconomic and developmental factors as productive facilities or resources. Capacity also includes a concern that councillors and groups (within local authorities) should invest in their own self-esteem and shape their own future and performance management indicators (as set out in the Municipal Systems Act, No. 32 of 2000 and Government Gazette: Regulation Gazette (24 August 2001), Vol. 434, No. 22605, as may be amended from time to time). Thus, capacity building and training within the context of LGDA has three components. They are:

**Individual capacity**, which refers to the potential capability and competency found within a councillor. This is reflected as specific technical, managerial, financial and generic skills, knowledge, attitudes and behaviours within the water sector as accumulated through various training interventions. A related term, competency, is also used quite literally in the literature of SAQA and refers to "specific behaviour and characteristics of a person [or councillor in the water portfolio] that result in effective or superior performance [in water governance and hydropolitical development in the Northern Cape in accordance with LGDA values]" (Mansfield, 1992: 25). It is further articulated by Mansfield (1992: 43) that competence or competency, which are used interchangeably, include engineering and technical expectations, transformative and innovative management styles, change management attributes, managing different water users and hydropolitical forums within the context of SADC Water Protocol, and providing water governance policy, procedure, process, strategy and implementation directives for public good and advancing water governance. It is clear that competencies tend to have the individual councillor as a unit of analysis (Athey & Orth, 1999: 218);

**Institutional capacity**, which refers to the potential, capability and competency found in 33 WSAs composed of five district municipalities and 28 local authorities in the Northern Cape Province.

Institutional capacity may include, inter alia, capital and human resources, assets, leadership types, organisational strategic and implementation plans, support systems, intergovernmental and stakeholder relationships, infrastructure and financial abilities and liabilities. From a social anthropology perspective, WSA institutional or organisational capacity or competence is necessary so that individual water portfolio councillors and groups of water portfolio councillors have appropriate engineering and technical competencies to exercise their legislative mandate. Therefore, the work or portfolio of councillors through their specified competencies is modulated to adhere to the WSA's strategic vision that ultimately enables fulfilment of the WSA mission. This is a key component that explains why all sets of competencies for water portfolio councillors tend to emphasise the notion of strategic vision beyond 2030; and.

***Environmental capacity***, which refers to an enabling metaphysical environment that is found outside the 33 WSAs. This may include socioeconomic factors, demographic composition and settlement types, physical nature and natural resources as supported or complemented by policies and strategies in the water sector.

**Competence** refers to the ability to meet or surpass prevailing standards of adequacy for a particular activity (Butler, 1978: 7). This definition can be expanded to include an individual councillor's values, critical thinking patterns, judgment and processes of attitude formulation. The integration of theory from the humanities and social sciences into the activities of various municipalities (local authorities) in the role of delivering basic conditions of water services could enhance competence. With this in mind, it becomes evident that a well-rounded, need-based water governance-training programme for councillors is one that prepares its participants to apply integrated knowledge in a particular and job-related manner. Along similar lines, Hayenga (1980: 7-9) concluded that:

in competency-based education and training programmes, the functions of public officials and councillors are much broader than merely imparting knowledge. The task facing those who wish to revamp training programmes in order to emphasise competencies is to provide a basis for understanding the challenges and constraints with which public officials [and councillors] in municipalities [as local authorities] must cope in performing [their water services functions and] jobs.

Accordingly, competency ranges from basic to high-level skills, which form central components of the individual councillor's capacity. The skills are categorised into:

***Foundational skills***, which refer to general skills commonly required in all workplaces and which must be in place before specific water-related skills can be acquired, for example, to read and write;

***Generic skills***, which refer to more specific skills such as computer literacy and numeracy; and

**Task-specific skills** refer to developmental water services councillor portfolios and job descriptions, which include skills pertaining to planning (WSDPs and IDPs), financial, managerial, and technical management of waterworks; and directing and leading officials to deliver on waterworks, and so forth.

It appears that capability goes beyond competence of enabling individual councillors to adapt to change, generate new skills, knowledge, attitudes, and behaviours, thereby improving their developmental water services performance within the context of LGDA. Thus, competency is generally regarded as a combination of the four dimensions: skills, knowledge, values and attitudes. The acquisition of developmental water services task-specific skills does not, of itself, guarantee competency of councillors. Likewise, individual councillor competency is necessary, but not a sufficient condition, to ensure LGDA performance, as WSAs also requires institutional capacity and an enabling environment (Kalleberg, 1977:124-143; Senge, 2005: 253-575; Sharp, 1995:47).

In short, the term competency refers to an observable, measurable set of skills, knowledge, abilities, behaviours, and other characteristics that an individual councillor needs to perform work roles and water portfolio responsibilities successfully. In the Bulk Water Infrastructure Planning and Development Portfolio, councillors require minimum engineering and technical qualifications to match required engineering and technical jargon on policy directives and the oversight role. Accordingly, engineering is the application of scientific, economic, social and practical knowledge in order to design, build and maintain structures, machines, devices, systems, materials and processes. It may encompass using insights to conceive, model and scale an appropriate solution to a problem or objective. The discipline of engineering is extremely broad, and encompasses a range of more specialised fields of engineering, each with a more specific emphasis on particular areas of technology and types of application. The American Engineers' Council for Professional Development (ECPD) has defined engineering as

The creative application of scientific principles to design or develop structures, machines, apparatus, or manufacturing processes, or works utilizing them singly or in combination; or to construct or operate the same with full cognizance of their design; or to forecast their behaviour under specific operating conditions; all as respects an intended function, economics of operation or safety to life and property (<http://en.wikipedia.org/wiki/Engineering>.accessed (20June 2013))

Water Portfolio councillors are expected to use their knowledge of science, mathematics, logic, economics and appropriate experience or tacit knowledge to find suitable solutions to water scarcity, water crisis and water governance crisis in the Northern Cape. Accordingly, these councillors must be able to create an appropriate mathematical model of a problem which allows them to analyse it (sometimes definitively), and to test potential solutions with the engineering and

infrastructure units. This approach has been adopted in the eight metropolitan cities in South Africa and has relatively work to ensure 3Es and revenue enhancement strategies, which are seriously lacking in the 33 WSAs in the Northern Cape.

**Development** means an integrated, multi-sectoral or intersectoral collaboration, whereby the prevailing conditions of an institution and/or community are improved upon according to the will of stakeholders, role-players, communities, civil organs and households a holistic process. This process may include, though not be limited to, projects and programmes for institutional capacity building, training and information sharing in order to understand challenges and opportunities for further development.

In this study, development means life sustenance, that is, the ability to provide for the basic needs of the community and society alike; self-esteem, that is, the drive to have valued-driven institutions, stakeholders and councillors within a community and/or society; and freedom from servitude, that is, the ability and opportunity to choose freely (Burger, 1994: 23). Linked to a community's and society's institutions and councillors, development should ultimately serve to secure the continued quality of human and capital resources within a community and society's institutional reality and mind-set in harmony with the internal and external environmental factors.

Like development in general, LGDA therefore does not exclude the socioeconomic or technical development of a particular community and society's institutional arrangements, properties, assets, human and capital resources, but rather sees these as mechanisms or tools whereby the community and society as an institutional system can effect desirable change. Thus, LGDA refers to the New Public Administration and Development System, which works to combine extensive social redistribution with high economic growth, thereby effectively tackling poverty, overcoming historic racial divides, and generally rendering the Northern Cape economy more dynamic, innovative, just and equitable (read with the required developmental water services performance imposed by the World Summit on Sustainable Development, 2002). From the literature review and documentary analysis from 1990s to date complemented by field visits and interviews by the researcher from 2002 to 2009, the vision and mission of the LGDA framework remain textbook concepts as the framework is not yet implemented in the Northern Cape WSAs. While most politicians in South Africa argue that the LGDA framework is a Public Administration System to mobilise resources to address social ills of the apartheid regime, it seems that this LGDA theoretical framework help to understand implementation processes or steps to address the unmet socioeconomic and developmental needs (*Business Day*, 21 February.2006).

**Decentralisation** evolved over time and has by now acquired several shades of meaning (Rondinelli & Nellis, 1986: 3-23). The first widespread use of this term in the development literature began in the 1950s, when a fairly consistent set of institutional changes were being introduced by the colonial powers (especially Great Britain) in preparation for granting independence to many

African countries. Under NPM or LGDA, decentralisation of developmental [water] services is organised in five principles in the Northern Cape (Mawhood & Davey, 1980). They include:

- be institutionally separate from central government (DWA as a custodian of water resources) and assume responsibility for a significant range of basic services such as water, sanitation, electricity and municipal health services including local economic development (LED) to address poverty and facilitate effective, efficient and economic viable services;
- have their own funds and budgets and should raise a substantial part of their revenue through local direct taxation under the theoretical model of NPM or LGDA values;
- recruit, select and deploy assertive, innovative, creative, technically sound councillors and officials to advance hydropolitical development and socioeconomic growth, now subsumed under IPAP, NGP and NDP vision beyond national performance targets in line with sustainable community models; and
- be governed internally by councils, predominantly composed of popularly and democratically elected representatives from the ward committees or communities, to advance growth and development. In this context, evolving and complex water governance problems demand difficult choices by those empowered to make them. Developments in the water sector in recent years, such as decentralisation, the increasing involvement of the private sector and greater environmental and community awareness, have led to many hydropolitical stakeholders influencing policy development. Councillors as local political operators, thus require a modern understanding of water governance, as well as the skills and tools to develop ideas for changes to reflect the new needs within and beyond the water sector

International literature further distinguishes four different forms of decentralisation, namely deconcentration, delegation, devolution, and privatisation/partnership (Rondinelli & Nellis, 1986: 20-23; Samoff, 1990: 513-530; Vengroff & Johnston, 1987: 273-288; Uphoff, 1993: 607-622; Maro, 1990: 673-693).

**Deconcentration** refers to institutional changes that shift the authority to make certain types of decisions from national civil service personnel in the capital to national civil service personnel posted at dispersed locations. In this arrangement, staff and resources are transferred from headquarters to lower units of administration, under chief officers who can take operational decisions without reference to the headquarters (Ostrom, Lam, & Lee, 1994: 197-207).

**Devolution** refers to reorganisation efforts that approximate 'classic' decentralisation most closely, in that significant amounts of independent legislative and fiscal authority are transferred to subnational governments (Uphoff, 1993: 609; Slater, 1989:502). Responsibilities and resources are transferred to these local governments with a large degree of autonomy to decide how to use the resources. From the LGDA or NPM perspective, the municipalities or WSAs are re-organised in line with private sector business models, and international benchmarks and performance areas are

aligned to International Monetary Fund (IMF), World Bank, Africa Bank and Development Bank of Southern Africa (DBSA). This often refers to borrowing capacity and credit worthiness. 'Borrowing capacity' is the amount of money that a WSA can borrow, based on its current and projected financial health. In the case of South Africa, DBSA conducts assessment of the borrowing capacity of WSAs according to market conditions. Using DBSA assessment of a WSA, 'borrowing capacity' is a function of internal factors within an organisation, while 'borrowing potential' is a function of internal factors as well as market conditions on one hand. On the other hand, 'credit worthiness' is an assessment of the likelihood that a borrower will default on his or her current and/or future debt obligations (Ostrom, *et al.*, 1994: 200; Khan, 1987: 80; Klooster, 2000: 20).

**Delegation** refers to transfers of authority to public corporations or special authorities outside the regular bureaucratic structure (Jain, 1994: 1363-1377). Agents not belonging to public administration are delegated by the central government to perform specific functions. The central government sets the objectives of the delegated agents and transfers resources to them on the basis of approved plans and budgets, but the agents have a fair degree of autonomy in performing their functions and may even have autonomous sources of revenue, including borrowing from the capital market. In the South African water industry, water boards were established under the Water Services Act of 1997 to provide bulk water to other water services institutions and to serve as water services providers when contracted by municipalities. A number of recent initiatives have been aimed at expanding the operations of water boards. Expanding the areas of activity of water boards will have an impact on their financial viability, most notably on capital expenditure requirements. The Department of Water Affairs (DWA) initiated a process of Institutional Reform and Realignment (IRR) as early as in 2007 to ensure that the water sector effectively contributes to government's national development and transformation priorities through the development of effective, accountable and sustainable institutions. A new phase of the IRR process was initiated in 2011. Included in this phase was a review of the role of water boards to take over water governance and provisions if they have capacity where WSAs do not have capacity.

**Performance** refers to the functions of local authorities in accordance with various local government requirements and measurements. Performance is inextricably linked to capacity. In this study, while capability defines the potential of local authorities for development, performance represents the degree to which that potential is realised in actual achievement. This means that capacity is a necessary, but not sufficient, condition for performance. In the case of local authorities, capacity is the soil from which performance can grow. With councillors in local authorities, capacity takes the form of education, training, experience, knowledge, networks and values to increase performance. Capacity therefore raises local authorities and councillors above external and internal threats. The motivation of councillors plays a critical role for the sustainability of their performance, as well as the institutional arrangements. Israel (1987) relates capacity to



organisational development (OD), describing it as “a planned, systematic process in which applied behaviours and practices for performance are institutionalised within an organisation for public good and services by focusing its goals for improvement”. Thus, LGDA performance is largely dependent on ideational, political, implementation and technical capacity of the councillors.

**Water services** refers to both water supply and sanitation services, in terms of the Water Services Act, Act No. 108 of 1997. Local authorities are defined as purposeful components of local government, whose elements are involved in problem-solving activities and plans in delivering reliable and affordable water services to consumers in their areas of jurisdiction. The provision of basic water services – including inputs and resources in support of district municipalities, provinces and national governments in accordance with the spirit of cooperative governance – is the responsibility of councillors.

**Modernity** refers to not only the technology and the emergence of an administered human settlement under the Northern Cape municipalities, and industrialised society, but powerful systems of ideas that were inherited by councillors since 1994.

**Vision** refers to a declaration of statement that answers the question of what we want to create or achieve in a learning organisation or WSA. A vision explains where an organisation wants to go and how it intends to get there. According to Lewis (1997: 9) supported by Senge (2006: 192) and Lennon & Wollin (2001: 410), an effective vision, as extracted from Microsoft and Ernest & Young, must be realistic in terms of time span, simple and doable, be challenging, be reflective of what the organisation aspires to achieve, and be endorsed and frequently communicated to the operational level by top management. Thus, a shared vision unites the organisation and makes sure that all energies are directed towards achieving the stated goals, as was recently witnessed in South Africa in terms of the RSA Constitution, Act 108 of 1996; and National Development Plan (NDP, August 2012) by the National Planning Commission headed by Minister Trevor Manuel.

**Innovation** refers to the process whereby new perceived or real benefit or value to a customer, employee or shareholder. The benefits range from functional, psychological and emotional to financial. Robbins (2001: 557), supported by Kuczmarski, *et al* (2001: xv11), sees innovation as a “new idea applied to initiating or improving a product, process or service”. Professor E. Schwella (2012) stressed in his lecture “innovation is no longer a strategic decision or choice by organisations, but a business necessity for the companies and organisations to be competitive in the context of increased global competitiveness and supply and demand”. Accordingly, “innovation is the art of making new connections, and continuously challenging the status quo” (Von Stamm, 2013: 7; Hodgkinson, 2002:89-95).

**Capability** refers to organisational collective skills, abilities and expertise vested in both the councillors and WSA officials as ideapreneurs beyond the 21st century. Capability is maintained

and developed through various human resource practices including job design, training, rewards, and recognition, and career path development.

**Change management** refers to the process of managing change and reforms. In other words, change refers to a shift in thinking or action by organisations in order to embark on the change management process as a journey towards 'ideapreneurship' for learning organisations. In this study, associated terms with change management including 'restructuring' and 'reengineering' are used. In the case of reengineering, the term is used to mean radical redesign of organisations processes, institutions and culture to enhance required global performance, simultaneous improvements in profit making and customer services (Schwella, 2012). The word 'restructuring' in the internet survey is often confused and used interchangeably with reengineering, but the researcher believes that there is a clear difference, as restructuring refers merely to a change in structure or organisational design (Robbins, 2011: 453). Change can mean an alteration or reform of activities within organisations in terms of structures, tasks, the introduction of new products, and new processes or attitudes and cultures (Lewis, 1998: 381). Therefore, the terms reengineering, change and reform are used interchangeably throughout the paper.

**Leadership** is limited to the ability to lead effectively under conditions of rapid internet information explosion and natural changes, and high complexity of organisations. For the leaders to be effective in learning organisations, they must be in possession of high abilities to respond effectively to change and complexity in the business environment as experts, achievers, catalysts, coordinators, co-creators, and synergists in accordance with what Quatro, Waldman and Gavin (2007) called "ACES" domain of leadership. ACES is the acronym for analytical, conceptual, emotional and spiritual for effective leadership in modern organisations (see also Jaques, 1989: 95; Adair, 2005: 20; [http://www.sel.eesc.usp.br/.../developing\\_holistic\\_leaders\\_four\\_domains\\_f](http://www.sel.eesc.usp.br/.../developing_holistic_leaders_four_domains_f).accessed 20 June 2013)

**Learning organisations** are able to tap their inherent capacity to self-organise to ever-higher orders of complexity and coherence as required by the business environment from time to time (Lennon & Wollin, 2001: 410; Senge, 2005: 2). In other words, learning organisations are able to thrive in conditions of turbulence and rapid change, as they tend to have self-organisation, self-reference, and self-transcendence. In this study, organisational learning is defined as "a system of actions, actors, symbols and processes that enables an organisation to transform information into valued knowledge which in turn increases its long-run adaptive capacity" (Schwandt & Marquardt 2000: 43).

**Strategy** refers to a complex web of thoughts, ideas, insights, experiences, goals, memories, perceptions and expectations that provides guidance for ideapreneurs (Schwella, 2012 ) whereby strategy implementation difficulties are addressed ([http://www www www.hpocenter.com/.../...](http://www.www.hpocenter.com/.../...);

[www.inflexion-point.com/.../McKinsey-5-winning-strategie](http://www.inflexion-point.com/.../McKinsey-5-winning-strategie);

<http://www.worldatwork.org/wow/adimLink?id=28330>. accessed 29 June 2013).

**Construct validity** refers to identifying correct operational measures for the concepts being studied. In the outcomes based paradigm, validity is a measure for determining whether something is measuring what it says; it is measuring (Eckert, 2000:185-193; Golafshani, 2003:597-607)

**Internal validity** refers to seeking to establish a causal relationship, whereby certain conditions are believed to lead to other conditions (Bless, Higson-Smith and Sithole, 2013:221-237). Accordingly, **external validity** refers to defining the domain to which a study's findings can be generalised (Bless, Higson-Smith and Sithole, 2013:229-237).

**Reliability** involves demonstrating that the operations of a study – such as the data collection procedures – can be repeated, to obtain the same results. In other words, reliability is achieved when an assessment consistently produces the same results at different times and in different circumstances (Bless, Higson-Smith and Sithole, 2013:221-226).

**Formative assessment** takes place during the learning period and during the process of learning and development. The purpose is to prepare the learner for the final assessment and to identify any gaps in learning.

**Summative assessment** is used to measure the level of ability that learners possess. The learner's knowledge and skills are assessed at the end of the learning period in order to assess mastery of the learning outcomes using relevant and appropriate assessment criteria and tools.

**Integrated assessment** is the ability to combine key foundational, practical and reflexive competencies with critical cross-field outcomes and then apply these in a practical water context of the Northern Cape WSA, i.e. a defined purpose. It requires using integrated tasks and activities, and a variety of methods, tools, and techniques. These can be used for application in a particular context for assessing a learner's performance or competence is a unit standard, skills programme or qualification.

**Macro level needs** are needs found at national and international levels (Meyers, 2011:13).

**Meso level needs** are the needs of a province which can be viewed as a system consisting, in this case, of a 1 116 900 strong population, five district municipalities and 28 local municipalities (Meyers, 2011:12).

**Micro level needs** refer to needs at the level of an individual municipality, irrespective of category type. These needs are determined by comparing the present performance of the individual municipality and individual human resource with the standard or expected performance requirements from the entity or individual human resource by LGDA or NPM system (Meyers, 2011:12).

**Water stress** refers to a condition where water availability is estimated between 1, 000<sup>3</sup> and 1, 700m<sup>3</sup> of water availability per person in a country, catchment management area (CMA) or region, one hand. On other hand, **water scarcity** refers to the more deteriorated state of fresh water availability of less than 1, 000m<sup>3</sup> per person. Water scarcity involves water stress, water shortage or deficits, and water crisis. Water scarcity also refers to lack of water in relation to water requirements for Northern Cape alternative investment and economic models, i.e., physically and structurally as defined in Chapter 5. Physical scarcity refers to deficits in the natural availability of water in most parts of Northern Cape especially in the Kalahari desert. The physical water deficits can be attributed to climate change, hydrology, geomorphology, soil, vegetation, and leadership decisions in terms of water allocation in Northern Cape in both Vaal and Orange Rivers. This leads to structural water scarcity, which refers to hydropolitical and public administration decisions taken on water governance and allocation in both the Vaal and Orange rivers. Consequently, water scarcity in Northern Cape refers to lack of secure water for socioeconomic growth and development promised under LGDA, IPAP, NGP, DWA WRS 2, and NDP; and long term availability of adequate amounts of fresh water, of required quality in terms of DWA Drinking Water Regulations and required quantity on a regular basis for attracting investors for an alternative Northern Cape economy than the current declining mining-based economy.

Notwithstanding the above, most scholars agree that water shortages may be caused by climate change, such as altered weather patterns including droughts or floods, increased pollution, and increased human demand and overuse of water (Schulze, 2012). A water crisis is a situation where the available potable, unpolluted water within South Africa or Northern Cape region or province is less than that region's demand as aforementioned. In this study, it is argued that water scarcity is being driven by two converging phenomena: growing freshwater use for socioeconomic and developmental agenda of all South Africans and depletion of usable freshwater resources as results of water governance crisis as well as negative consequences of climate changes. According to Turton (2012), if South Africans regard water as a stock, then we are in serious trouble because by 2004 DWA, as a custodian of integrated water resources, has already allocated 98% of the national resource at a high assurance of supply level. However, if South Africans regard water as a flux then officials and hydropolitical leaders can continue to grow or national economy in a sustainable way. Under LGDA values, this will need a fundamental paradigm shift by all significant hydropolitical stakeholders especially councillors as local hydropolitical operators to provide ideapreneurship water governance technical solutions in line with adaptive models as depicted in Figures 3.4.-3.6. in Chapter 3. This means that councillors must be empowered to have the ability and more impotently the will to combine infrastructure developmental initiatives and ingenuity to create assurance of water supply. In this study, it is argued that the current water governance crisis in Northern Cape requires adoption of Northern Cape socio-economic and

developmental adaptive capacity as water plays an integral part of people's multi-faceted livelihoods.

**Methods versus Methodology in social research.** It has been observed by the researcher that the terms "method" and "methodology" are used as synonyms. However, in this study, there are convincing theoretical reasons for distinguishing the two. "Method" connotes a way of doing something — a procedure. "Methodology" connotes a discourse about methods—i.e., a discourse about the adequacy and appropriateness of particular combination of research principles and procedures (<http://en.wikipedia.org/wiki/Multimethodology>.accessed 28 August 2013).

## 1.9 DISSERTATION STRUCTURE

The dissertation is divided into eight chapters as follows:

- Chapter 1:** Background, rationale and problem statement, assumptions, aims and objectives including a plan of dissertation
- Chapter 2:** Methodology, research design and research instruments
- Chapter 3:** Review of selected relevant literature on the LGDA and local government in terms of its implications for the training of councillors
- Chapter 4:** Literature review of education and training implications for councillors in the water sector
- Chapter 5:** Context, setting and natural environment of the Northern Cape
- Chapter 6:** Findings and discussions
- Chapter 7:** Councillor education and training guideline
- Chapter 8:** Conclusion and recommendations

## CHAPTER 2

# RESEARCH DESIGN, METHODOLOGY AND INSTRUMENTS USED IN THE RESEARCH

*The social and physical world/the symbolic worlds (worlds of signs and symbols) which are inhabited by different entities, individual human beings, collectives, social practices, organizations and institutions. Different kinds of actions and practices take place; individuals play different roles.*

*All of this takes place in different temporal and spatial frameworks. Kinds of lay knowledge: common sense, practical skills, experience, moral insight and wisdom, religious convictions and business acumen*

Adopted from Mouton (1996: 19)

### 2.1 INTRODUCTION

In the preceding chapter, the problem statement, aims and objectives, and rationale for the study were described. A comprehensive literature review and documentary analysis of the theoretical framework of the LGDA and its requirements for councillors in bulk water infrastructure planning and development are described in Chapters 3 and 4, with Chapter 5 providing an in-depth analysis of the setting, in terms of sociology and social anthropology. These theoretical assumptions, premises, arguments and statements have been further unpacked in this chapter by means of mixed methods or the triangulation method.

Mouton (2001: 56), supported by Polit, Beck & Hungler (2001: 167), argues that the research location refers to a research design or blueprint for managing the study in order to avoid human error. The research design adopted explained how the research methods were used as depicted in Figure 2.1 in line with driving performance factors of councillors as depicted in Figures 2.2. The research design included the methodology, sample selection, data collection process, instruments, and data analysis processes and procedures used in this study. This allowed the researcher to use mixed methods to develop accurate and interpretable councillor profiles within the Northern Cape as a case study (Burns & Grove, 2007: 42; Mouton, 2001: 158). Research design refers to the overall plan for empirical research, i.e. the specific design used to research a dissertation. In the case of this study, a triangulation design was chosen. According to Bless and Higson-Smith (1995: 63-64), the choice of research design depends on the following:

- The focus of the research;
- The unit of analysis; and
- The time dimension.

In this way, the research design is tailored to address a specific research question, thereby justifying a scientific selection of mixed methods. The aim of this chapter is to describe the

research methodology that was used to determine the water governance education, training and development needs of councillors in 33 WSAs in the Northern Cape, in line with the aims and objectives of this dissertation. The intention is to provide a justification for the selection of the mixed research methods and techniques that were applied in the field of public administration under LGDA, programme management, political science, social anthropology and sociology.

## **2.2 RATIONALE FOR THE RESEARCH DESIGN**

There is compelling evidence among scholars that WSAs are “learning organisations” that have complex characteristics and values (Waldrop, 1992: 11; Senge, 2006: 6; Van Eijnatten & Putnik, 2004: 420). WSAs as learning organisations have a high degree of connectivity between the councillors, officials, hydro-political stakeholders, catchment management agencies and water users. They emphasise self-control and connectivity to deal with LGDA values, variables and requirements within the context of acceleration of water governance management and waterworks (Schoemaker & Jonker, 2005: 506-509; Hoogerwerf & Poorthuis, 2002: 385). The Northern Cape’s 33 WSAs as complex systems of new public management (NPM) or a local government developmental agenda (LGDA) require different social science methods to define, explore, describe, analyse, interpret and operationalise various LGDA variables in order to determine the water governance education and training needs of councillors thereafter (Greybe, 2004: 82; Skyttner, 1996: 17; Schulze, Hewitson, Barichievy, Tadross, Mkunz, Horan, and Lumsden, 2011: 75-100). Through using mixed methods in determining education and training needs of councillors as required by LGDA as a system, the researcher has satisfied the following research assumptions:

- The behaviour of each element or component of the LGDA theoretical framework has an effect on the behaviour of the LGDA system as a whole.
- The behaviour of the elements or components of the LGDA framework and their effects overall of the LGDA system are interdependent.
- However, if subgroups [or councillors in the bulk water infrastructure planning and development portfolios] of the elements or components are formed, all have an effect on the behaviour of the whole LGDA system, but none has an independent effect on it.

There is interrelationship, interconnectivity and interdependence of the objects and their attributes in the LGDA (Skyttner, 1996: 20). Accordingly, complex systems are a result of a number of different fields of thinking and/or paradigms, which points to the need to use more than one method to analyse them. Unsurprisingly,

The complex sciences are a set of interdisciplinary sciences that study the behaviour of complex systems [such as LGDA values], and their implications [for water governance and

required leadership skills], which includes mathematics, physics, biology, chemistry, chaos theory, cybernetics, synergetic, and non-linear dynamics (Greybe, 2004: 84).

The premise of Greybe's (2004) argument is in line with the objectives of this study in that he argues that the LGDA is a complex system. On the one hand, it requires engineering and technical skills and competent councillors to deal with it. On the other hand, using a systems approach for looking at the LGDA required the researcher to understand that WSAs are socially constructed entities that are far from the state of "equilibrium", but instead on the edge of chaos if decisions and water governance issues are guided by novice, unqualified and inexperienced councillors. Paradoxically, the LGDA values for good water governance are replaced by poor water governance leading to public service delivery protests – as councillors are overwhelmed by the complexity of the LGDA as a modern system of good enough governance (McElroy, 2003: 2). Consequently, under such circumstances, councillors are unable "to build a shared vision" of water governance under the complex LGDA system (Senge, 2006: 192) and to "increase intellectual capital" for addressing water programmes and projects for communities and water users (Lennon & Wollin, 2001: 410). Undoubtedly, the current and future needs of water portfolio councillors required the researcher to use both qualitative and quantitative methods to arrive at reliable and valid findings.

## **2.3 MIXED METHODS**

### **2.3.1 Introduction**

There is increased interest today in making the LGDA system work "for a better life for all" in pursuance of the Millennium Development Goals (MDGs), the IPAP, the DWA NWRS 2, the NGP, NSDS III by DHET, and the NDP 2030 vision. However, limited use has been made of mixed methods to unpack and define the LGDA system (CoGTA, 2009; SALGA, 2006; LGSETA, 2012; EWSETA, 2012; Statistics South Africa) and its requirements for local councillors within water-stressed, yet big provinces like the Northern Cape. Most institutions, like SALGA, CoGTA, DWA, LGSETA and EWSETA, tend to use surveys to diagnose LGDA risks and failures. Where mixed methods are used, they are limited to a conceptual phase. It appears that there is now a growing interest and need to explore mixed methods in unpacking and diagnosing the multidimensional and complex LGDA system. It was assumed that the use of mixed methods in this study would ensure that the required competencies for councillors in the water business in WSAs are unpacked (Chapters 3-6), and a guideline for education, training and development of councillors is developed (Chapter 7). This is partly due to the observation that there has been limited use of mixed methods despite their potential to provide guidance to researchers and policy-makers in public management and administration within the water sector. The essential goal of mixed methods research is to tackle the selection and appointment of WSA councillors in water portfolios without the required skills and competencies from various disciplines, perspectives and relevant angles. In this way,



mixed methods research offers the researcher the best of both worlds: the in-depth, contextualised, and natural but more time-consuming insights of qualitative research coupled with the more efficient but less rich or compelling predictive power of quantitative research with 77 respondents out of 370 potential respondents in Northern Cape. These mixed methods allowed for more comprehensive analysis and interpretation of LGDA values and their requirements to councillors thereby allowing for the crossing of disciplinary boundaries like never before. It has been argued that the use of mixed methods to enhance construct validity is now routinely recommended by most researchers in interdisciplinary study of this nature. In short, mixing or integrating research strategies (qualitative and/or quantitative) can only improve the constructive validity of the study's findings beyond the boundaries of the Northern Cape.

### **2.3.2 Challenges of using mixed methods**

The use of more mixed methods is not new. Mixed methods are used increasingly to assist in the development of LGDA interventions in water sector problems. They can be used to analyse councillors' needs and required competencies for the LGDA system, thereby alerting governments to the need to intervene and build alliances between water consumers or stakeholders. Despite the apparent usefulness of both "paradigms and mega-theories" for social development (Mouton, 1989), mixed methods have not been popular in data analysis and diagnosing of organisations for several reasons:

- Firstly, the variables of greatest interest to councillors are not readily measured from mixed methods. Many councillors, as decision-makers in the local government domain, find water and wastewater treatment works, dams, boreholes, springs, rivers, ground and surface water, water assets and infrastructure less interesting than the abstract variables that explain their appearance and the socio-political transformation processes in post-Apartheid South Africa. Changing political parties, political debates, and the WSA organogram, as well as hiring and firing municipal officials and the like, are regarded as manifestations of more important variables.
- Secondly, councillors who participate in studies that use mixed methods tend to be confused by jargon and language used in comprehending the LGDA as a social phenomenon. In the case of a survey method using a structured questionnaire, councillors are able to tick from the options given in a structured question. As was experienced in this study, if one uses a semi-structured questionnaire the councillors tend to mark only "yes or no"-type questions and leave questions where they are asked to give their own comments or suggestions.
- Thirdly, there is a huge difference between qualitative and quantitative methods. Using both methods, researchers are required not only to eliminate errors of bias, reliability and validity, but also to fuse collected data. Thus, the use of mixed methods undoubtedly enhances the

required interdisciplinary and multidisciplinary approach in unpacking the LGDA variables, thereby ensuring social utilisation of the research findings. This ensures that the LGDA system is conceptualised, familiarised, contextualised and operationalised using both theory and best practices. It further encourages multi-level analysis on issues such as sustainable water services, pollution prevention, global and local climate and environmental changes, and water-business-related issues of human-environment interactions. Unfortunately, most funders and research institutions tend to approach their research either qualitatively or quantitatively, as mixed methods require more time for analysis of information and data obtained through both methods. Various researchers raise this as the biggest problem (Johnson & Onwuegbuzie, 2004: 4; Bless, Higson-Smith and Sithole, 2013:240-243) .

### **2.3.3 Benefits of using mixed methods**

Although the use of mixed methods is often difficult to handle, it has been and continues to be relevant, as evidenced by the case studies presented in this dissertation (Mertens, 2003: 164; Nau, 1995: 1). Jayaratne (1993: 117) supported by Brannen (2005:173-184) adds that the use of mixed methods can benefit the water sector in several ways. Such an approach enables one to:

- measure the historical presuppositions and context of the LGDA system;
- unpack the LGDA values and their requirements for water portfolio councillors;
- provide additional measures for the local government domain by using WSAs as a unit of analysis and councillors' perceptions and characteristics as a unit of observations;
- make connections across levels of analysis, i.e. individual, organisational and environmental factors to profile councillors' skills and competencies;
- provide interdisciplinary and multidisciplinary data analysis;
- validate and interpret scientific research that is evidence-based or 'ground truth';
- make data available for private and public use in the water sector to enhance poverty eradication plans and strategies by predicting the water demand and supply needs, and interpreting the human consequences of climate change;
- link councillors to the 33 WSAs and the LGDA system;
- assist with water governance institutional reforms, where applicable; and
- draw on neutral, objective and statistical language included in surveys by DWA, CoGTA, SALGA, LGSETA and EWSETA, using both open-ended and structured questionnaires on the local government system and leadership crisis, especially the water crisis, which is closely

correlated with the governance crisis (Waghid, 2000: 26; Kelchtermans, 1998: 230; Berge, 1994: 249; Hutchins, 2009:114, Thompson, 2004: 237-259; Schulze & Maharaj, 2007: 122).

It can be deduced that the democratic consolidation of local government in the Northern Cape and the adoption of the LGDA system under the leadership of councillors as decision-makers have enlarged the councillor competency requirements in the water sector, increasingly necessitating the integration of mixed research methods instead of using one method (Creswell & Miller, 2000: 124-130; Bless, Higson-Smith and Sithole, 2013:240-243). Glesne and Peshkin (1992: 9) and Keeves (1997: 386) contend that both qualitative and quantitative methods seek to contribute to the “body of knowledge” that allows the use of generalisation to benefit education and social science practices. The data collected from 77 respondents in this study were used to enrich the text descriptions in Chapters 1, 3, 4, 5 and 7 with details and demonstrated statistical inferences, as described in the findings from the primary data in Chapter 6. Accordingly, mixed methods provided more strengths and confidence using various perspectives, trends, consensus and agreement in both primary and secondary data (Mertens, 2003: 135-164; Mowlana, 1992: 114). This supplemented sampling errors of this study thereby ensuring improvement of constructive validity of the findings (Campbell & Fiske, 1959: 81-105; Bless et al: 2013:240-243).

Notwithstanding above, authors such as Brannen (2005: 172), Chambers (1997: 55), Lind (1991: 157), Ashcroft and Masilela (1994: 268); Cohen (1996: 230) and Agunga (1998: 32) contended that a need exists to combine theory with real-life experience or the situational environment under the LGDA framework, and its necessary requirements for councillors in the 33 WSAs. This triangulation approach to developmental needs has a greater chance of being relevant and sustainable. Arnst (1996: 111) refers to a research methodology or theoretical paradigm which has a “fundamental focus on the immediate environment of those involved, their analysis of, and subsequent action in, that world”, and “complies with the view that knowledge must be derived from the concrete situations of people”. The mixed methods have assisted the researcher in this dissertation to use methodological appropriateness, pragmatism, utility and flexible choices without being subjective (Ashton & Haasbroek, 2002: 304). This methodology compelled the researcher carefully to review techniques in social sciences in order to reach an informed decision about an appropriate methodology in pursuance of the aims of the study (McKnighty, 1996:107).

#### **2.3.4 Documentary reviews**

Social scientists tend to be quick to turn to social surveys to collect data for their research projects. This stems from the mainstream social science research tradition that is dominated by the positivist and empiricist tradition that emphasises quantification. There is, however, another method of data collection: the documentary research method, which is often overlooked (Mogalakwe, 2009: 43-

58). Although this method is not very popular in social science research, it is nevertheless an acceptable and respectable research method that is also scientific and requires rigorous adherence to research ethics (Mogalakwe, 2009: 46; Balihar, 2007: 34). In the case of this study, the process of documentary research focused on conceptualising of the developmental state (of which the LGDA is a sub-set), using various state sources of information. The paucity of available sources was redeemed by study reports by think tanks such as the Council for Scientific and Industrial Research (CSIR), the Water Research Commission (WRC), the Human Sciences Research Council (HSRC) and the Agricultural Research Council (ARC) on policy, strategy, models, plans, and best practices or knowledge-sharing case studies between North and South as well as between South-South countries. Although this method consumed more than six years of data collection by the researcher within the context of changes in policies and approaches in local government, there were more advantages than disadvantages to taking this research journey. Some of the advantages include the following:

- Access to inaccessible LGDA systems and value chains from credible institutions such as the World Bank, the African Development Bank, Development Bank of Southern Africa (DBSA), the World Health Organisation (WHO), and global research think tanks.
- The 'researcher effect' was eliminated as the researcher continuously discovered new information to enrich this study.
- WRC, CSIR, HSRC, SALGA, LGSETA and EWSETA surveys between 1994 and 2013 on good governance and the state of the nation by the Human Science Research Council (HSRC) (1994-2013) with themes devoted to the Poverty, Unemployment and Inequality problems (or PUI, a term coined by Terreblanche, 2012) and its link to poverty in an arid and water-stressed province like the Northern Cape. These leading studies that resonate with a wealth of research grounded in the contemporary developments beyond South Africa provided a road map for the study. Using mixed methods, these reports analysed PUI through various lenses in social sciences to include topics such the LGDA, good governance, good enough governance, water governance, and the need for effective leadership to address the legacy of the past and current and future needs of the Northern Cape. These studies are a definitive bridge between longitudinal studies and compelling narratives on water resource management and water governance through effective leadership in line with DWA Regulations (DWA, 2002a; SADC, 2000b: 21) and the SADC Protocol on Shared Watercourses in the SADC region.
- The DWA, National Department of Human Settlements (NDHS) and SALGA Councillor Induction Programmes and reports on Councillor Induction Workshops conducted between 2000 and 2012 provided the researcher with an insider's perspective on councillors.
- Historical research on the decentralisation of water services and the evolution of local government in South Africa provided the researcher with longitudinal and historical evidence whereby water demands of the past during the Great Depression (1929 to early 1940s) were

considered and contrasted with those during the current economic recession, which are further complicated by extreme weather conditions and high evaporation of water.

- Parliamentary and SABC debates (29 July 2012) and cabinet submissions by sectoral ministers and clusters gave the researcher insight into how people see things or how they want to present things. Either way, these debates and submissions provided a very particular account of reality, whatever the confessor's motivation behind their account.
- Documents vary a great deal in quality, which is often related to the perceived importance of recording certain information. Some types of documents can be extremely detailed, and yield much more information than one could hope to gain from a questionnaire or an interview (Filstead, 1970: 6; Schwartz & Jacobs, 1979: 123-125; Mouton, 1985: 85).

Undoubtedly, the insight gained into the complexity and diversity of theoretical paradigms for LGDA and water governance systems through documentary research enabled the researcher to understand, interpret and analyse the Capability, Accountability and Responsiveness (CAR) framework, and the competency requirements of various LGDA values vis-à-vis social science methodologies with an insider's perspective. Consequently, the researcher was able to unpack the perceptions of councillors. The first stage of any assessment will be to define the objectives of the LGDA framework against which progress can be measured (Babbie & Mouton, 2001: 33).

### **2.3.5 International literature review**

#### **2.3.5.1 Literature review**

Background information and literature analysis rely on the records and material of the past and present (Hopkins, 1980: 291). According to Mouton (2001: 179), a review of the literature is essentially an exercise in inductive reasoning, where the researcher works from a sample of texts that he or she reads in order to come to a proper understanding of a specific domain of scholarship. In the case of this study, the researcher undertook a literature review to provide him with a sound understanding of the current debates and issues relevant to the water services education and training needs of councillors within the context of a best value regime as indicated in the chapters that follow. This review included the systematic identification, location and analysis of documents that contain information relevant to the research problem of this study.

Hartman and Hedblom (1979: 80), supported by Babbie (1992: 42-43), argue that the literature study is optimally utilised in areas where theory and measurement instruments are lacking or poorly defined. It was assumed that through exploratory study, the researcher would be able to unpack the way things are in Northern Cape WSAs (Guy, Edgley, Arafat & Allen, 1987: 103). Holt and Turner (1966: 1) suggest that exploratory research is appropriate under the following circumstances:

When a discipline is confronted with new phenomena [extreme weather conditions and climate changes], which must be described and explained, its traditional tools of analysis often prove to be inadequate for the task and need to be sharpened or even replaced by better instruments.

Based on the views of these scientists, it may be argued that the “tools of analysis” and “instruments” to which they refer are the conceptual devices used to achieve, inter alia, the following goals:

- To satisfy the researcher’s curiosity and desire for a better understanding of the water governance and water services education and training needs of councillors;
- To test the feasibility of obtaining a comprehensive picture of councillors and their needs from water sector stakeholders using focus group sessions, group of experts, and in-depth interviews with Dr A. Turton, Dr H. Abbot; Messers. E. Kubayi, and F. Moerat,
- To develop methods to be used in a more comprehensive manner; and
- To formulate a problem for a more precise investigation of the water services education and training needs of councillors by either accepting or rejecting the assumptions of the study as outlined in Chapter 1 under paragraph 1.4.

Hartman and Hedblom (1979: 80) give the following definition of an exploratory study:

The main purpose of an exploratory study is an examination of a given field in order to ascertain the most fruitful avenues of research. The study may, for example, simply attempt to ascertain the kind [variety] and number [quantity] of elements present in the field of inquiry. It may, on the other hand, seek tentative answers to general questions in order to suggest fruitful hypotheses for the research. Or it may investigate the practicability of various techniques to be employed in a given set of study circumstances. In any event, its main emphasis is on discovery of the problems of subjects [councillors], of techniques or of areas for more intensive study; and its major attributes are adaptability and flexibility, i.e., it is designed purposely to permit examination of various alternative views of the phenomena under consideration.

In this study, the exploratory research was used in order to:

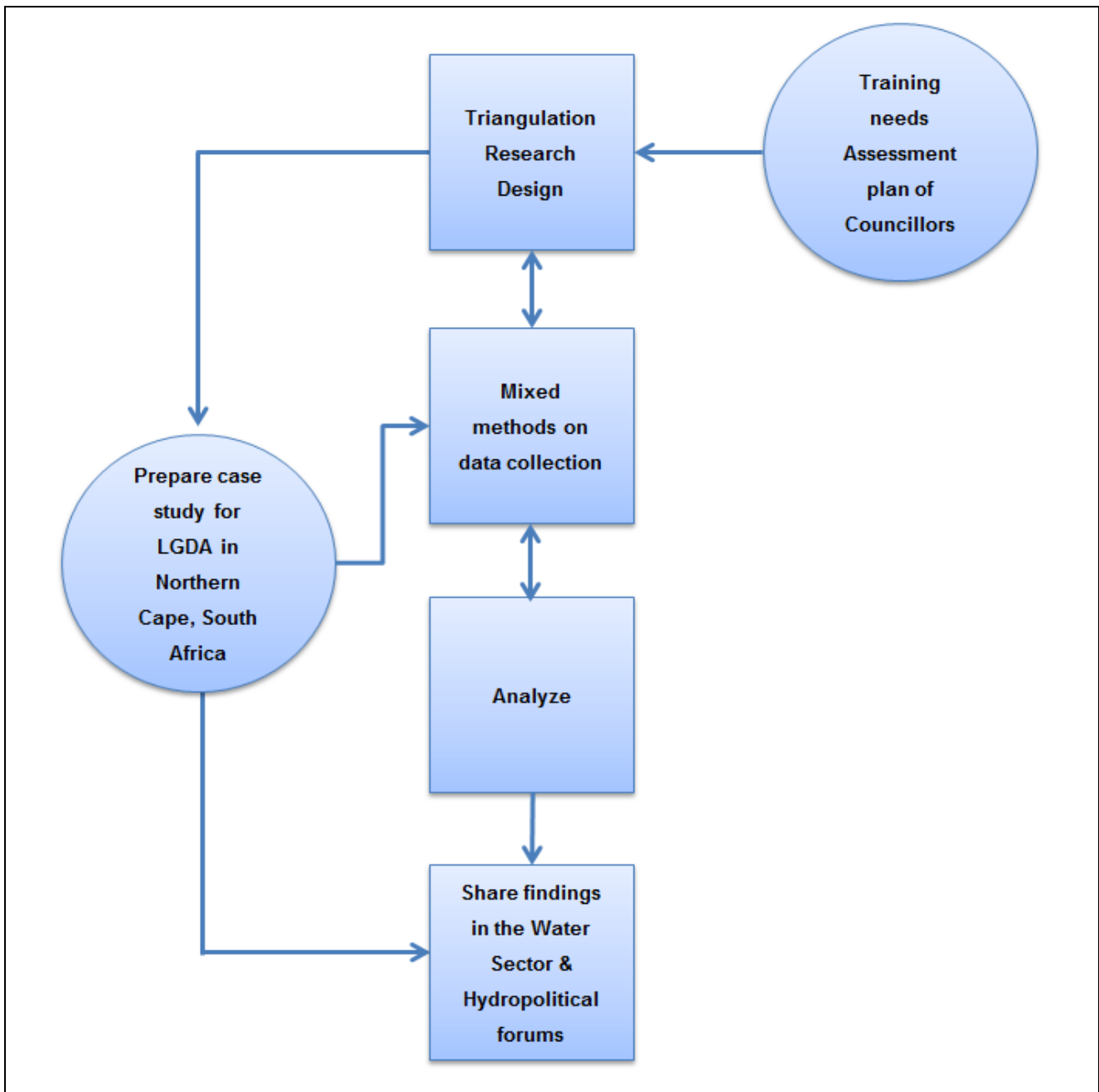
- determine what the leading scholars have to say on water governance and related services in local authorities and to examine critically the conceptual basis of councillors using the best value regime or LGDA as a framework. Such a critique not only lays before the researcher the essential elements of and conflicting views about the problem, but also draws the researcher’s attention to the methodological contributions of other approaches;
- develop a conceptual framework, which is to be employed. This framework is based on LGDA or a best value regime and is presented as one that councillors ought to strive towards. It contains the concepts in terms of which the phenomena under examination are being described and the emerging themes or assumptions will be stated;

- collect empirical data; and
- analyse data collected in order to accept or reject the assumptions of this study.

### **2.3.5.2 Case study in interdisciplinary research**

A case study is an in-depth empirical inquiry that, in the case of this study, investigates contemporary LGDA requirements for councillors within their real-life context, especially where the boundaries between Northern Cape WSAs and other WSAs in other provinces and countries, such as Lesotho and Namibia, and contexts are not clearly evident. The case study inquiry copes with the technically distinctive situation in which there will be many more variables of interest than data points. One result of this is that it relies on multiple sources of evidence, with data needing to converge in a triangulating fashion. As another result, it benefits from the prior development of theoretical propositions to guide data collection and analysis, especially in Chapters 3, 4 and 5 of this study (Wheeler, 2001: 8; Welman *et al.*, 2005: 25; Yin, 2009: 34).

Although an empirical data of 20.8% of Northern Cape councillors is difficult to generalise its findings to the entire 370 population of councillors, the findings in this study are complemented by the relevant documentary reviews mentioned above (Hancock, 1998: 7). The case study approach allowed historical, longitudinal, recent policies, strategies, guidelines and implementation plans to be incorporated in the Northern Cape case study, as schematically depicted in Figure 2.1 below.



**Figure 2.1: Use of mixed methods in case study of Northern Cape councillors**

The Northern Cape case study of councillors as shown in Figure 2.1 allowed the researcher to:

- stipulate a complex chain of events over an extended period of time tracing back to the European development of local government systems based on new public management (NPM) and modernisation theories, and the Ubuntu philosophy from a South African perspective;
- analyse repeated cause-effect' patterns and failures of WSAs under NPM;
- match empirically observed events to theoretically predicted events; and



- perform cross-case synthesis between councillors using age, education, gender<sup>1</sup> and experience vis-à-vis the roles of councillors in their council as described in Acts of Parliament, using quantitative methods to complement qualitative data from literature and documentary reviews.

It has been argued that the LGDA framework cuts across disciplines and paradigms. According to the social learning theory (Bandura & Walters, 1958: 22-75), children (and, by extension, councillors) learn appropriate responses through observation and subsequent consequences. The behavioural modification approach such as *knowledge of water governance* leads to positive *attitudes* and *best practice* (KAP) or vice versa, in combination with open discussions (constructivism), that was used by the researcher, is based on the use of that approach by Bandura and Walters (1958) to illustrate that a child who believes that engaging in certain behaviour will bring rewarding consequences is more likely to perform that behaviour. The assumption is that:

- knowledge of water governance by councillors may lead to positive attitudes towards water governance. Positive attitudes towards water governance by councillors may lead to best practices in WSAs in the Northern Cape; or
- Lack of knowledge of water governance by councillors may lead to negative attitudes towards water governance. Negative attitudes towards water governance by councillors may lead to bad practices with regard to water governance by councillors.

Bandura and Walters (1958) describe the process of behaviour modification as “changing behaviour based on systematic use of rewards and punishment” in what Vygotsky (1978: 85-6) calls the “zone of proximal development”. Sundel and Sundel (1983: 36) expand on this viewpoint, and maintain that applying the principles of the learning process brings about behaviour modification. Such principles may include the following:

- Promotion of in-depth learning;
- Content and process objectives in real-world tasks;
- Holistic performances in increasing challenging environments; and

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<sup>1</sup> Wikipedia: Sex is annotated as different from gender in the Oxford English Dictionary where it says sex “tends now to refer to biological differences, while . . . [gender] often refers to cultural or social ones.” The American Heritage Dictionary, however, lists sex as both “Either of the two divisions, designated female and male, by which most organisms are classified on the basis of their reproductive organs and functions” and “One’s identity as either female or male,” among other definitions. It also refers to a usage note associated with the gender entry.. A working definition in use by the World Health Organization (WHO) for its work is that “[s]ex’ refers to the biological and physiological characteristics that define men and women” and that “[m]ale’ and ‘female’ are sex categories” ([www.wikipedia.com/gender/sex](http://www.wikipedia.com/gender/sex) accessed 30 September 2013)

- Connection of content to councillors' background in the developmental water services curriculum.

Accordingly, by arranging the learning environment in a certain way, and by including certain stimuli in the environment, it is highly probable that councillors as learners will respond and display certain behaviours. Thus, the combination of constructivism and behaviourism for encouraging positive social and life skills on the part of councillors as learners appeared to be critical to obtain the desired results of this dissertation and the guideline for the water governance councillor development programme, using an appropriate research design as depicted in Figure 2.1 read with the conceptual study plan outlined in Figure 2.2.

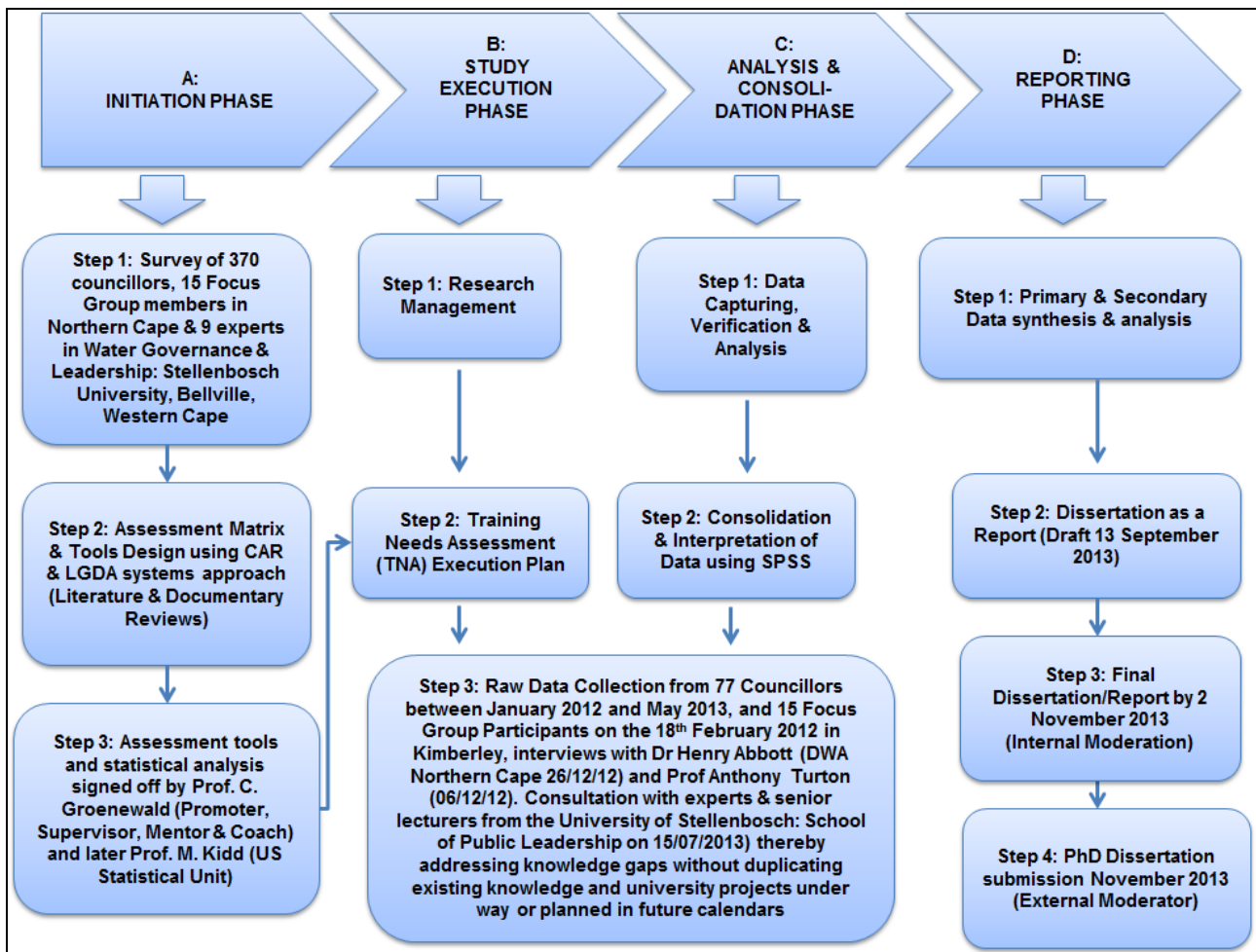


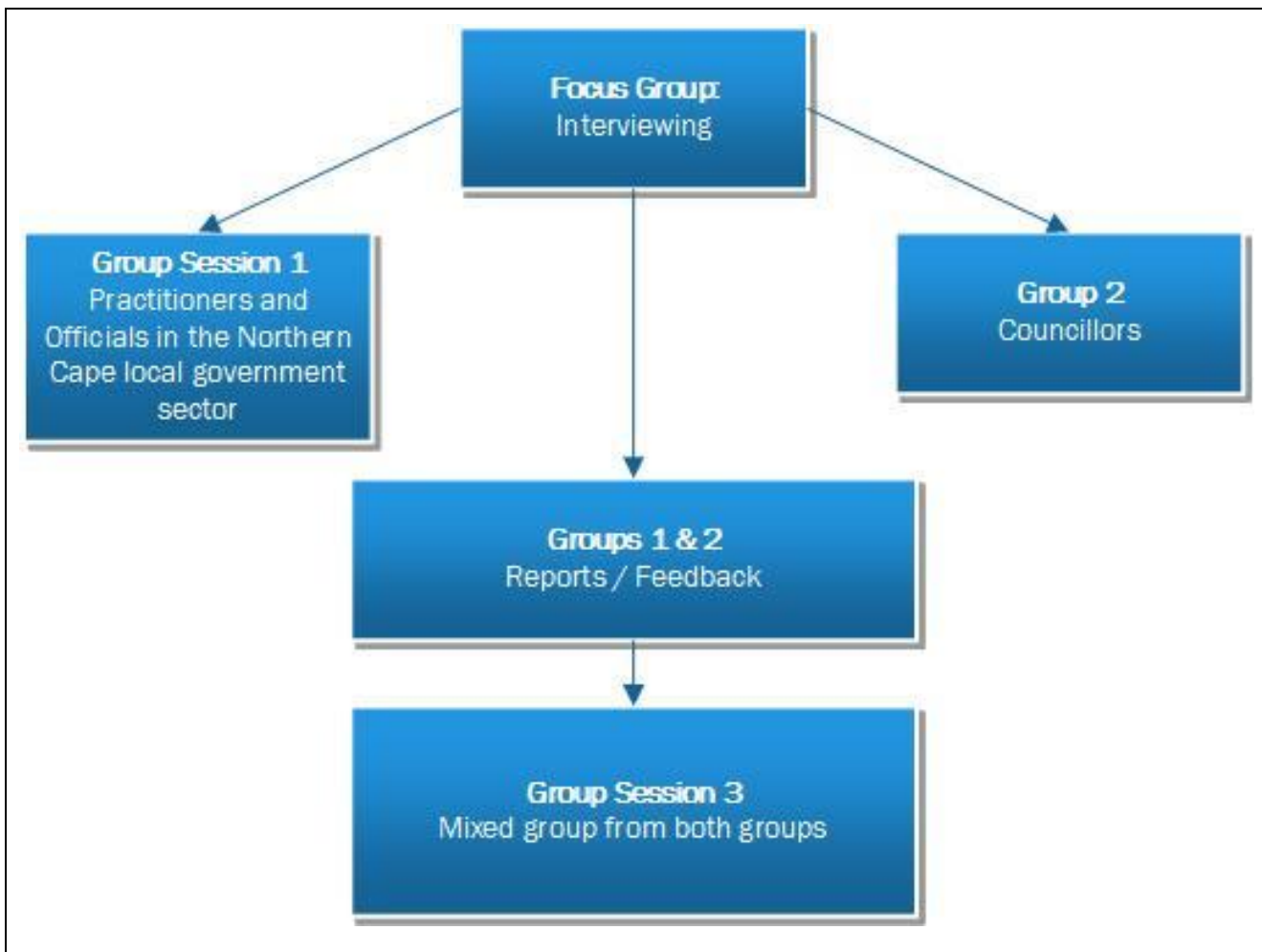
Figure 2.2: Conceptual study plan

### 2.3.5.3 Focus group study

#### 2.3.5.3 (i) Preparation for the focus group sessions

Focus group sessions were used with the main objective of gathering information from individuals in a non-threatening research environment. This was arranged through a workshop with pre-

defined questions as depicted in Figure 2.3. Figure 2.3 shows a layout of the group data collection methods used during the focus group discussion on 8 February 2012.



**Figure 2.3: Layout of the group data collection methods for phase two of the research**

The researcher has limited control over the group and therefore a skilled moderator should conduct the focus group sessions to ensure that the goals are met (Krueger, 1994: 36). Focus groups can be challenging to assemble and it is important that the environment in which the group sessions are conducted is conducive to conversation (Krueger, 1994: 37). The data analysis and interpretation of the results are difficult and bias resulting from the group interaction or the manner of the moderator could easily occur (Krueger, 1994: 36). It is often hard to record all the information presented in the focus group and the various focus group sessions can vary considerably, allowing potential bias and the possible misinterpretation of the data to occur (Krueger, 1994: 36). Focus groups, however, provide insight into and understanding of individual behaviour, and are therefore a good method for needs assessments (Queeney, 1995: 124). This process was complemented by the development of interview guides, a pre-group session agenda, and an opening questionnaire (Berg, 1995: 78). The researcher developed a pre-group session questionnaire that was given to the participants beforehand in order to obtain information from them that could not be discussed in the group, as well as to orientate them to the group sessions, the selection of a moderator, and the

proper selection of participants (Berg, 1995: 78; Frey & Fontana, 1991: 185). Failure to take care in selecting participants who are socially homogeneous and who are not strangers can create problems, which include participants feeling under pressure to conform to peers or dominant individuals.

According to Krueger (1994: 103), the moderators' responsibilities include being

concerned with directing the discussion, keeping the conversation flowing and taking a few notes. [The assistant moderator] takes comprehensive notes, operates the tape recorder, handles environmental conditions and logistics ... and responds to unexpected interruptions.

The assistant moderator (the researcher in this study) may also ask additional questions and probe respondents' answers during the discussion. The moderator team serves to increase the validity of the data obtained (Krueger, 1994: 104). From the study, a qualified moderator was appointed from SBH Development CC, and the researcher fulfilled the role of assistant moderator. The moderator had the following qualities:

- Familiarity with group processes and working with groups;
- A knowledge of group dynamics;
- Background knowledge about local government training processes and an interest in the topic;
- An ability to communicate clearly and precisely; and
- A friendly manner and a sense of humour (Krueger, 1994: 101; Steward & Shamdasani, 1990: 79).

More potential participants were recruited than required, which allowed for last-minute cancellations. The moderator and researcher together recruited the participants for the three group sessions as depicted in Table 2.1 below. The potential participants were recruited by telephone. They were requested to participate after being informed about:

- the purpose of the research;
- the value that the potential participant would contribute to the research; and
- the support for the research by the DWA Northern Cape capacity building and training task team and the Department of Water Affairs (DWA).

Potential participants who agreed to attend the group discussion were sent a letter (Appendix D) confirming their participation that included a programme for the workshop. If the potential participant could not attend, a replacement was requested and subsequently contacted. The researcher attended a meeting on 9 to 10 January 2012 in the Northern Cape to request participants to complete the informed consent form to publish their names. As only three completed informed consent forms were received, the researcher decided, for ethical reasons, not to publish the names of participants. Hence, only the participants' occupation/status is given in Table 2.1 below.

**Table 2.1: Focus group participants at the workshop in Kimberley, 8 February 2012**

Institution	Occupation/Status
DWA Head Office	Researcher and Assistant Moderator
SBH Development CC	Moderator
SBH Development CC	Data Capturing and Recording
Mvula Trust Head Office	Training Specialist and Facilitator, as well as a Facilitator of her group
Africon Management Pty Ltd	Information System Specialist
DWA Northern Cape	Assistant Director
DHLG	Planning and Information System
DHLG	Training Unit
DHLG	CB&T Advisor
SALGA	LG Support
Magareng Municipality	Councillor
Magareng Municipality	Councillor
Magareng Municipality	Councillor
Dikgatlong Municipality	Councillor
Dikgatlong Municipality	Councillor
Dikgatlong Municipality	Councillor
Dikgatlong Municipality	Councillor

Source: Researcher, 2012.

The three group sessions were composed as follows:

- Group session 1:** Seven councillors from Magareng and Dikgatlong municipalities in the Northern Cape
- Group session 2:** Role-players (developers, consultants, NGOs, academics, SALGA and provincial government representatives) interacting with councillors from local authorities in the Northern Cape
- Group session 3:** A mixture of participants from Groups 1 and 2 as well as some newly recruited water services councillors from local authorities in the Northern Cape

Three days before the group sessions were held, a reminder fax (Appendix H) was sent to all the participants who had agreed to attend the group discussions.

### **2.3.5.3 (ii) Conducting the group sessions**

The first two group sessions were followed by the extended focus group procedure (Berg, 1995: 77). Before each group session, the moderator and the researcher discussed and clarified the

topics and probes in the interview guides. The estimated amount of time required to discuss each of the topics in the interview guide was worked out and allocated to the topic to ensure that all the topics would be sufficiently covered before the end of the group session.

Each group session lasted from one and a half to two hours. Table 2.2 shows the number of participants who attended each of the group sessions.

**Table 2.2: Attendance at the group sessions**

<b>GROUP SESSION</b>	<b>DATE</b>	<b>NUMBER OF PARTICIPANTS</b>
Group 1	8 February 2012	7
Group 2	8 February 2012	8
<b>TOTAL</b>	<b>8 February 2012</b>	<b>15</b>

Source: Researcher, 2012.

Each group session was recorded on audiotape after permission was obtained from the participants. During group sessions 1 and 2, the moderator made notes on flip charts in order to assist the flow of the discussion and to avoid the same topics being discussed. Some probes were also introduced on the flip charts during the discussion. After an hour, there was a 10 to 15 minute tea break.

The participants' in-group sessions 1 and 2 requested feedback from both group discussions. This was provided the following week, together with a letter of appreciation (Appendix D). The participants were requested to respond to the feedback from the group discussions. These responses were included with the rest of the textual data for the data analysis. The moderator was also asked to respond to the feedback summary provided to the participants.

During group session 3, the participants were asked to list five education and training needs of councillors and five future training needs of municipalities by 2022, choosing from 20 functional areas derived from the literature review described in Chapter 3. This was done to limit the brainstorming to the most important needs only (Marais, 1997). The needs generated were then clarified and amalgamated by the participants and a final list of five top priority needs were obtained (Appendix H: Priority training needs).

At the end of each group session, the moderator, together with the assistant moderator, conducted a debriefing session. This was recorded on tape and covered aspects such as:

- Important themes and ideas expressed during the group discussion;
- Notable quotes;
- Unexpected findings; and
- Any other worthy comments as well as suggestions for adjustment.

The purpose was to improve the reliability of the data obtained from the literature review, documentary studies and the survey (Krueger, 1995: 149).

### **2.3.5.3 (iii) News articles**

As the study is about contemporary development and councillors' competencies, a media review was undertaken. Newspaper articles not only provide an understanding of the current debates in democratic South Africa, but also identify 'silences' in government documents. Such insight, which can be seen as a continuum of the current media agenda setting, may be useful in reducing human error.

### **2.3.5.3 (iv) Data analysis**

Articles were selected and coded for analysis. Each selected article on a relevant topic was used to develop a database for detailed analysis in accordance with the research objectives of this study. Working inductively, the researcher was able to code the topics into a number of major categories as depicted in Table 2.3 below.

**Table 2.3: Media analysis of coded topics**

<b>Rationale or response</b>	<b>Issue</b>
Informational needs	Accuracy/inaccuracy arguments; clarity; information/misinformation; educational requirements
Specific reactions	Calls for change; improvements; modernism; control; punishment; maintaining the past or status quo; reinforcement of tradition; variety; future dangers
Inequalities	Colonialism; racism; exploitation; discrimination; neglect; corruption; indigenous inequities; importance of democracy; equality; fairness; freedom; objectives; government responsibility
Attitudes	Criticism; praise; courtesy; gratitude; responsibility; Support; unity
Developmental needs	Economic development; costs; efficiency/inefficiency; general needs in terms of basic water, sanitation, electricity and municipal health services

Source: Kinloch, 1997: 824.

Through the use of Kinloch's (1997: 824) standard and analytic strategy, as depicted in Table 2.3 above, it soon became clear that some of the issues (developmental needs and major social problems, attitudes of the writers and language tone, specific reactions calling for change, inequalities, politics of media agenda setting by all forms of local and international institutions) have correlations with international literature evidence and councillors.

The textual data were analysed using a code-based approach (Lee, 1997). The data were systematically coded using open coding and then axial coding (Lee, 1997). Noteworthy segments were compared and links between codes and concepts were formed. A final process of selective coding was performed in order to organise the data in terms of the emerging themes and needs

identified, as well as to highlight the links in the data (Lee, 1997). The data collected from the focus group discussions and media analysis were treated as qualitative data.

### **2.3.5.3 (v) *Interviews with experts in the Stellenbosch University (SU) School of Public Leadership***

As the researcher was unable to conduct interviews with officials, it was necessary to have a group of experts on leadership innovation and change management from the University of Stellenbosch School of Public Leadership (SU SPL) to provide expert views. As these senior lecturers have been lecturing in public administration and leadership innovation since the early 1980s, they have received various inputs from both officials and leaders on the evolving and complex water governance problems.

At the water governance and leadership innovation workshop held on 15 July 2012, the researcher was able to make an hour-long presentation on water governance and leadership models, competencies and performance gaps of councillors. Useful comments were received, which were packaged into a University of Stellenbosch School of Public Leadership curriculum for implementation with councillors and officials working with councillors in all spheres of government as explained in Appendix C. As a result of this process, independent inputs and comments were incorporated in the findings to help ensure reliability and validity.

## **2.3.5 Training needs assessment strategy**

### **2.3.5.1 Introduction**

A training needs assessment (TNA) strategy refers to the choice a researcher makes as to which methods of assessment will be used. The rationale for using multiple methods of assessment is that no method alone can adequately treat or address all problems of everyday life. Since each method has its own restrictions, a researcher finds that by combining several methods in the same study, that the restrictions of one tool are often the strengths of another. According to Denzin (1978: 101-103), this TNA strategy provides a researcher with greater confidence in the findings. Glaser and Strauss (1967) caution researchers that different people in different positions may offer very different information about the same subject as 'the facts'. In this regard, the TNA strategy must embrace:

- multiple data to deal with multiple factors in local governance, with the researcher going to as many concrete situations in a setting as possible in order to form an observational base of councillors' needs;
- multiple methods to ensure methodological appropriateness in terms of the techniques used to unpack the training needs; and
- multiple perspectives, whereby councillors' accounts of their behaviours are compared to alternative theories on the LGDA framework.



A combination of these strategies was used in order to have a research map in analysing the complex variables of LGDA systems and the necessary skills and competencies required on the part of councillors. By adopting this TNA strategy, the researcher could analyse acts, activities, meanings, relationships and interrelationships in various spheres of government in the setting of the Northern Cape as a unit (Lofland, 1971: 13). A training needs analysis is done for a number of purposes. Van Wart, Cayer and Cook (1993: 67) provided the following reasons for a needs analysis, which the researcher saw as applicable to this specific study:

- A needs analysis identifies the discrepancy between the desired level of performance and the actual level of performance.
- Change analysis, usually a by-product of the needs analysis, is important to training because the continuous and dynamic changes occurring in local government affairs represent a major challenge for newly established WSAs and/or newly elected councillors. If the municipal system does not analyse functions by task and skill frequency, it cannot develop a highly targeted water programme in the Northern Cape. However, when councillor training is integrated into the design and data gathering of the municipal system, the system becomes more comprehensive and human resource development-oriented.
- Provision of alternative solutions to the problem or discrepancy, which may not necessarily require training but rather other strategies or interventions.

A needs analysis also forms a substantial research base for programme development and evaluation. A sound needs assessment will determine general needs, establish training content, ascertain appropriate training strategies and specific tasks to be performed by the councillors in line with the principles required to underpin qualifications for the National Qualifications Framework (NQF). This will provide benefits for the CBWCE&T model proposed in this study (National Training Board, 1994: 8-11; Bellis, 2001: 87). Authors such as McGehee and Thayer (1961), Stewart (1971: 17) and Boyne., *Goud-Williams & Walker* (2000) agree that a needs analysis must take place on three levels in an organisation: at the individual level, at the organisational level, and at the strategic level.

#### **2.3.5.2 Individual level**

In the case of this study, the individual level refers to the individual councillors.

- Determine individual current and future needs;
- Compile individual development plans based on the competencies required for effective job performance and the councillors' overall public responsibilities and duties or work plan; and
- Attend relevant on-the-job training and development courses, which meet individual training needs.

### **2.3.5.3 Organisational level**

The comprehensive approach generates extensive data through an analysis of organisational needs. The comprehensive approach is made up of the following phases (Van Wart *et al.*, 1993: 77):

- Planning;
- Exploratory studies;
- Task/skill inventory;
- Task/skill analysis;
- Programme design; and
- Implementation of the new or revised programmes.

The emphasis of the organisational approach is on problem solving rather than on system analysis. With the performance gap approach, the entire system is not analysed every time individual councillors' problems are identified. The following phases comprise this approach (Van Wart *et al.*, 1993: 84):

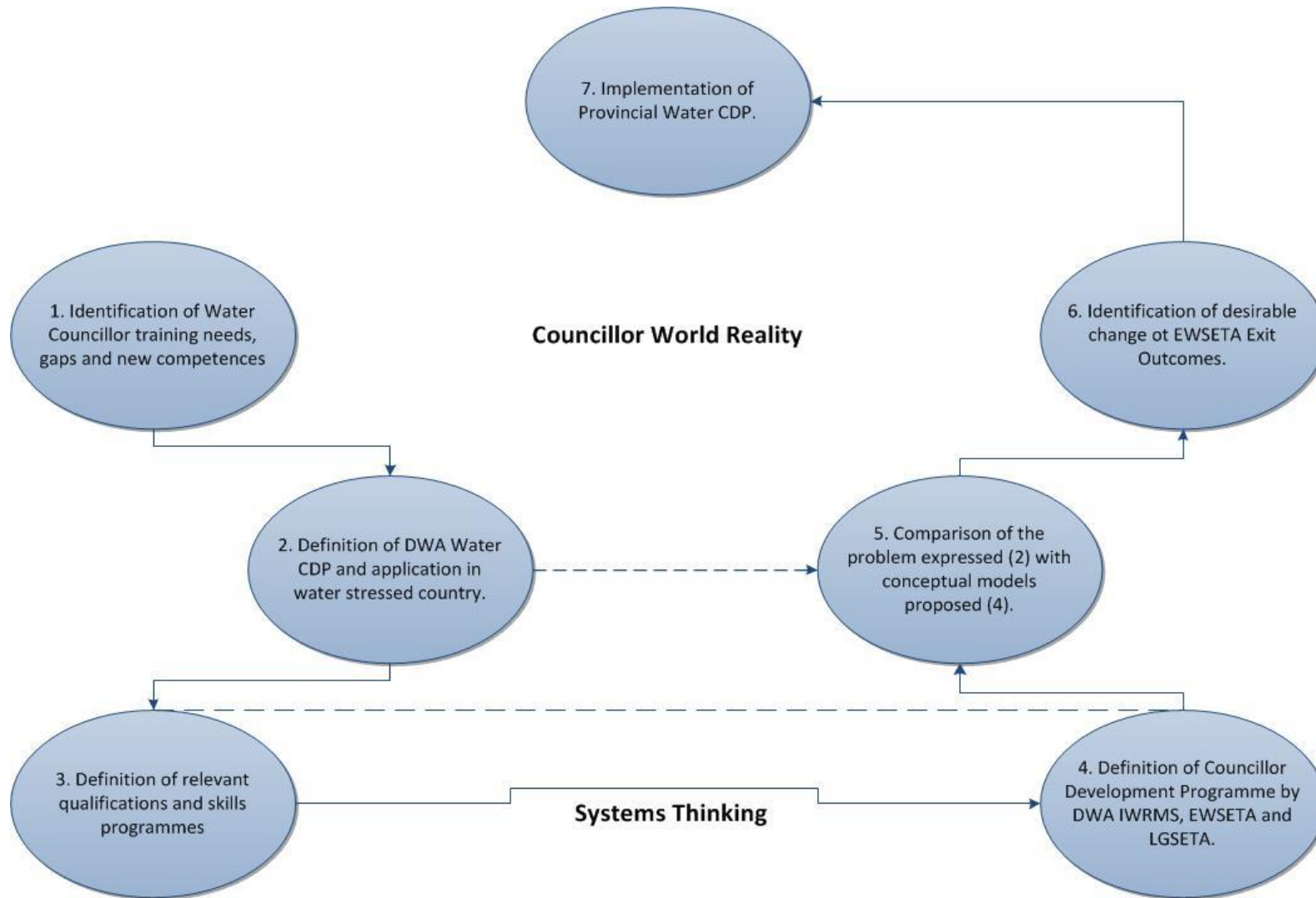
- Perceived problem;
- Pre-analysis;
- Data collection;
- Analysis of needs; and
- Results of needs assessment.

### **2.3.5.4 Strategic level**

Given the complex nature of the LGDA as defined in Chapter 3, the TNA must concentrate, *inter alia*, on the future needs of local authorities, especially where the needs that emerge from the new LGDA represent a significant departure from the past Apartheid local government system. Van Wart *et al.* (1993: 92-93) argue that this strategic planning may focus on changing organisational priorities, [councillors and] personnel forecasting, and organisational attitudes [or perceptions as defined by councillors]. An assessment of councillors' overall attitudes and perceptions can help to detect areas in the organisation that require training; identify areas in which resistance to change and training may exist; and indicate when solutions other than training may be needed. From the ideas advanced by Van Wart *et al.* (1993: 94), it can be inferred that an assessment of organisational attitudes from the views of councillors may be a good starting point in reorganising the training and development plan for their organisation.

In view of the above-mentioned three levels of needs analysis, it may be concluded that conducting a TNA requires great consideration and effort since the success of any training and development programme for councillors is affected by the thoroughness of the needs analysis process. The

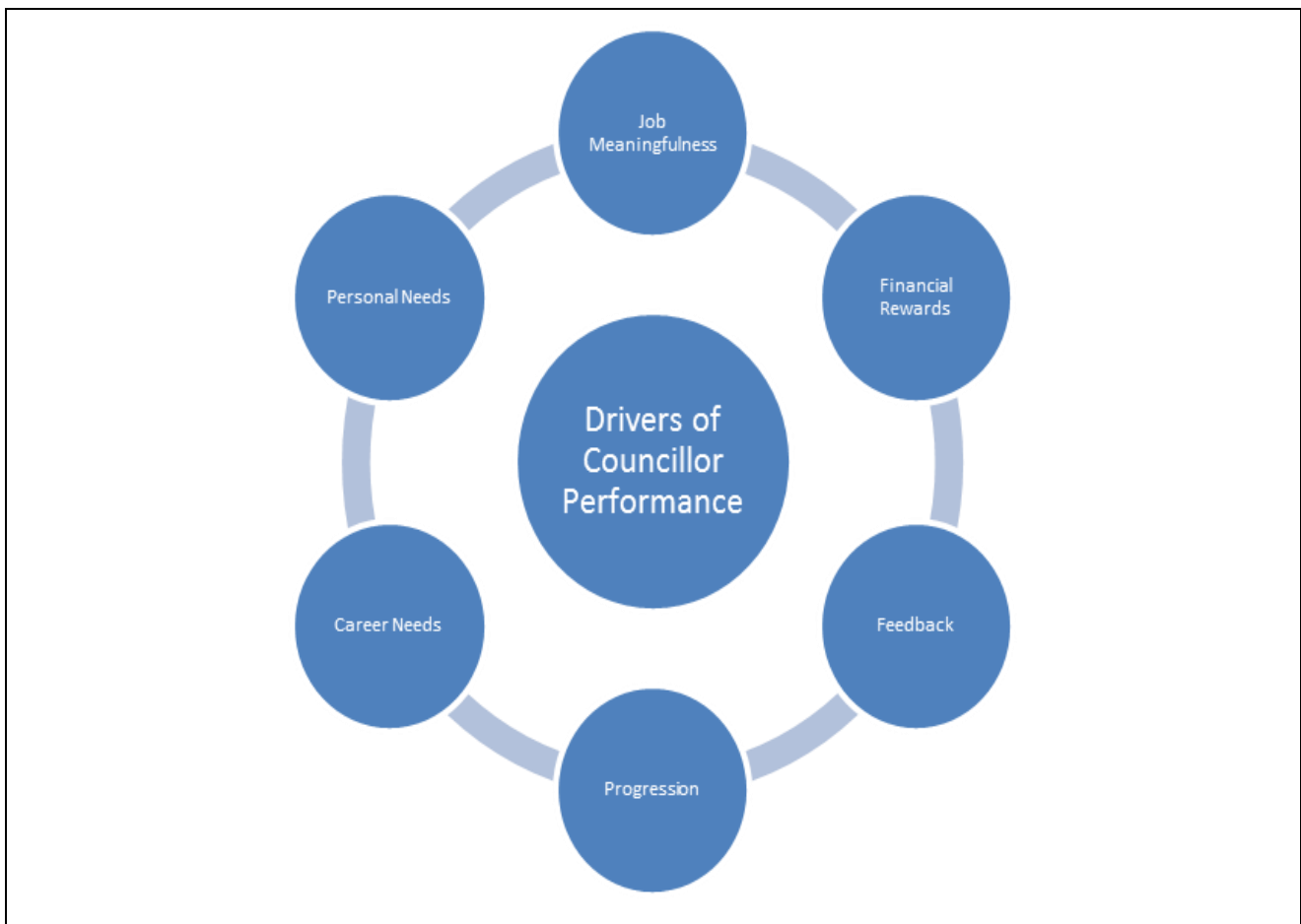
steps of the process leading from a TNA to an accredited CBWCE&T are presented in Figure 2.4 below.



**Figure 2.4: Seven steps for developing accredited CBWCE&T for DWA**

From the training assessment strategy and the seven steps in Figure 2.4, it is also expected that the training guideline for the councillors must be informed by the adult education principle that “even modest allocation of time, creativity and effort might induce tremendous payoffs ... [and] become responsible for 80 percent of [the] results” (Newstrom, 1986: 35-36).

It is suggested that the design of a water education and training programme for councillors must take the different functions, roles and responsibilities, age, experience, and post-matriculation qualifications of councillors into account. This means that the programme must also focus on the councillors’ career path development, as depicted in Figure 2.5 below.



**Figure 2.5: Drivers of councillor performance in LGDA**

When developing an appropriate training guideline, the facilitators and curriculum designers must keep in mind that the envisaged water governance councillor training and development programme has to be based on SAQA principles of adult education or principles of andragogy, as explained by Knowles (1970). Adult education principles require that the learner or councillor must have ownership of the process from start to finish; in other words, up to the compilation of the portfolio of evidence. The training sessions are required to be structured in such a manner that they form a tripartite agreement (learner / councillor, employer/WSA and training provider). Taking into account SAQA principles and the theories of adult education of Knowles (1987), the water governance councillor training and development programme should be informed by the following principles:

- The 370 councillors in the Northern Cape are unique people with 370 sets of unique needs and, therefore, an individualised development plan must be pursued for them to be competent.
- Facilitators and experts must make training relevant to the councillors' water business activities, tasks and assignments in order to draw from the existing abundance of experience and knowledge of councillors. This means starting from what is known in order to move to what is unknown.
- Daily work activities must be used to enable learners to direct themselves and have control of the training sessions.
- Councillors must take centre stage in the proceedings and be active participants in the learning environment.
- Individual and group tasks and assignments must be designed in such a manner that councillors are able to use their work experiences and daily duties, and determine how best they can solve current and future water problems as part of their daily duties.

The water education and training needs assessment framework demonstrates the three components adopted in this study:

- Needs assessment;
- Design of curriculum training and development activities; and
- Evaluation (internal assessment, moderation and external moderation by the EWSETA, LGSETA or SAQA, as the case may be), as depicted hereunder.

The above-mentioned three components assisted the researcher to determine councillor skills and competencies. Using the TNA as an approach allowed the researcher to distinguish between "competence" and "competency". Internet sources argue that "competence" describes the skill and the desired performance, while "competency" refers to the required behaviour to achieve said performance, as illustrated in Table 2.4.

**Table 2.4: The interface between competence and competency**

Competence	Competency
Skill-based	Behaviour-based
Standard attained	Manner of behaviour
What is measured in performance	How the standard is achieved

Source: Rowe, 1995. Rowe, 1995: <http://www.Careertrainer.com/Request.jsp?|ViewArticle>, 7 May 2013

The TNA approach is further linked to the roles and responsibilities of councillors as leaders in water governance and those of officials in management and administration of waterworks and assets under the strategic guidance of councillors. It is clear that both water councillors and officials must be informed by good theoretical values and models of leadership, as shown in Table

2.5 below. While WSAs need leaders and managers, the difference between the roles of leaders and those of managers is very clear from the literature survey, as depicted in Table 2.6 hereunder.

**Table 2.5: Leadership paradigms compared**

Leadership Style	Tough-minded	Tender-minded	Ubuntu
Leadership writer	Jack Welch	Stephen Covey	Reuel Khoza
Basic principles	Stresses the strong individualist with a mission. Leaders make change happen and have an aggressive, no-nonsense attitude.	Stresses emotional intelligence, moral qualities, and group values. The leader is centred on empathy and quality.	Stresses the community concept with cohabitation, cooperation and co-determination. The emphasis is on tapping the collective unconscious in all of us.
Personality: developing trust	Win and keep with candour, transparency and by giving credit where it is due. Nothing is hidden. Toughness is an element of trust.	Leaders express trust at every level in interpersonal, familial, managerial and organisational relationships.	Establish trust with probity, humility, integrity, compassion and humanity. Leaders practise introspection in order to empathise with others.
Power and influence: decision making	Leaders question everything and get answers, holding others accountable. They make unpopular decisions when they must.	Leaders empower people to make them self-reliant. Principle-centred leadership harnesses people's innate drive for progress.	Sufficient consensus is the basis of effective and meaningful decision-making. Reach consensus through adequate consultation, then act with firmness.
Intelligence and creativity: innovation and transformation	Leaders coach and educate. They aim at success by developing others to be competitive and become leaders themselves.	Leaders encourage lifelong learning, aiming to improve people and fulfil them personally as well as professionally.	Leaders build relationships that support teamwork. They empower through corrective action, and by affirming equitability.

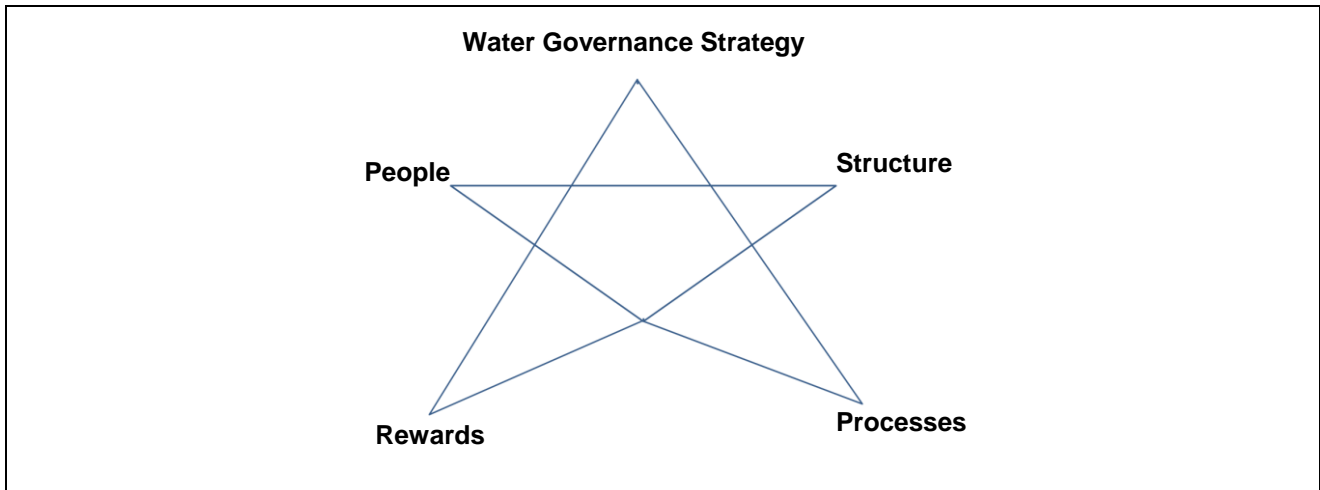
Source: <http://www.organisational-leadership.com/paradigms.cfm>; [http://www.idosi.org/wasj/wasj3\(6\)/1.pdf](http://www.idosi.org/wasj/wasj3(6)/1.pdf), accessed 7 May 2013. Also, see Khoza 2005: 249

**Table 2.6: Difference between WSA officials and water portfolio councillors**

WSA officials as managers	Water portfolio councillors as leaders
Control risks	Take risks
React	Seek opportunities
Enforce organisational rules	Change organisational rules
Seek and then follow direction	Provide something to believe in
Coordinate effort	Inspire achievement and performance

Source: <http://www.genuinewriting.com/blog/sample-essays/sample-essay-difference-between-management-and-leadership/> accessed 7 May 2013

Tables 2.5 to 2.7 provided the researcher with a clear road map of a typical water governance strategic framework or LGDA model in WSAs. Accordingly, successful execution of a water governance strategy for Northern Cape WSAs entails addressing barriers to the desired level of coordination and deliberation, with “the line to lead, the culture to enable, the people to be motivated, and knowledge and commitment about what is required” as key enabling factors (Havenga & Hobbs, 2004: 114). The elements of such a water governance strategy are depicted in Figure 2.6.

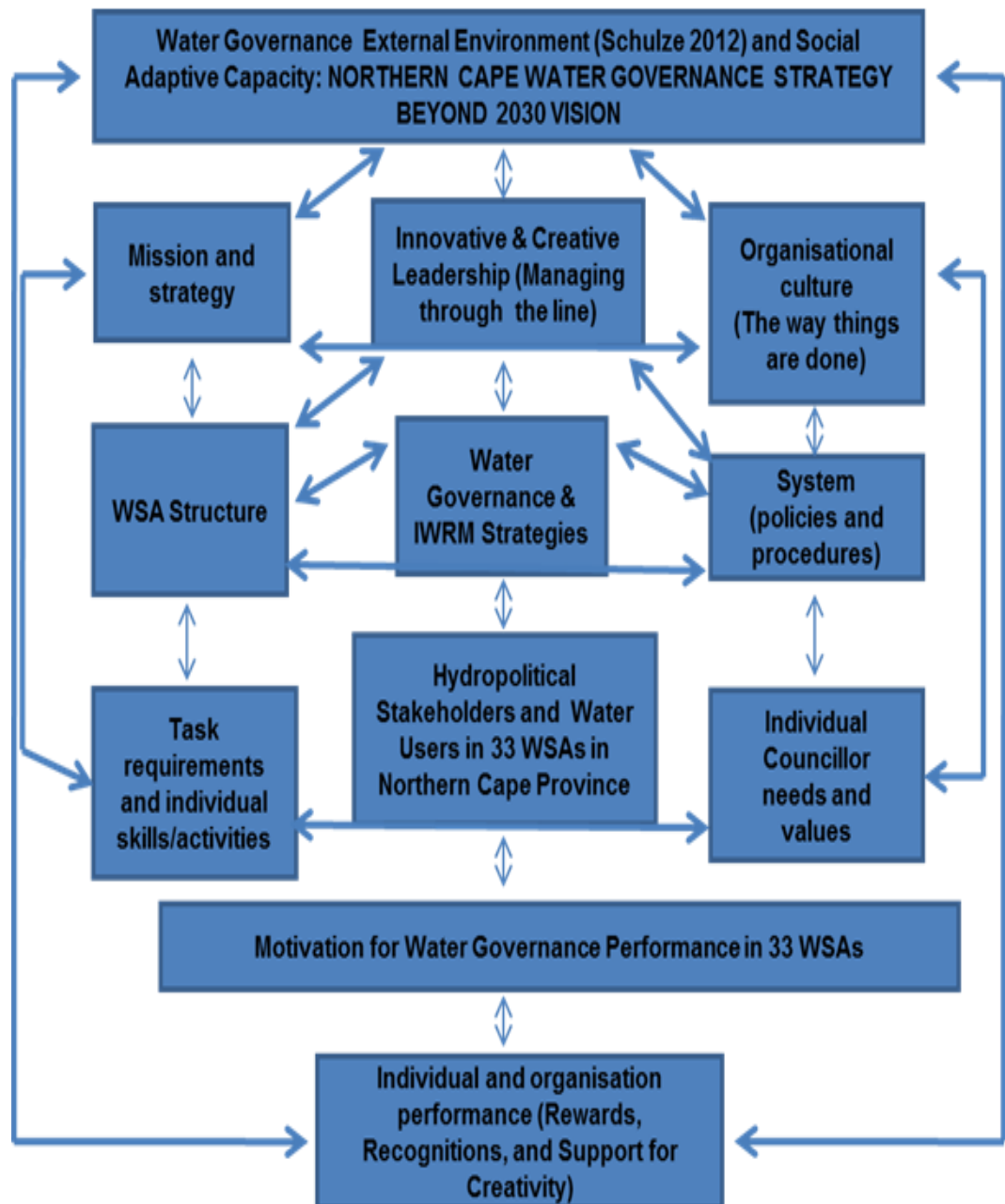


**Figure 2.6: Water governance strategy for Northern Cape WSAs**

Source: Galbraith, 2002. JR Galbraith - Organizational dynamics, 2002 - classic.marshall.usc.edu, accessed 7 May 2013

This was further conceptualised into an integrated model with elements from Weisbord's Six Box Model and the five Ps Model by Pryor, Anderson, Toombs and Humphreys (2007: 7). This conceptual model would have to be followed by formalisation processes and procedures used to manage the organisation, including the management of control systems, performance measurement and reward systems, planning, budgeting, resource allocation systems, information systems and distribution systems to ensure that the change management strategy is shared and internalised by councillors in their WSAs. Consequently, the TNA provides the basis for a Water Adaptive Capacity Framework as depicted in Figure 2.7 (Havenga & Hobbs, 2004: 110) to address the necessary minimum requirements to lead, direct and manage LGDA system as implicitly and explicitly explained in Chapter 3 under paragraph 3.5. read with the leadership values, principles and skills in Table 3.3. and Table 3.5. The Tables provided the researcher with a framework to develop an ideal water councillor profile in modernised LGDA system in democratic South Africa as depicted in Chapter 4 under Figure 4.1., and required competences for ideal water governance leaders in Tables 4.2 to 4.3. read with Table 2.7. on emotional intelligence framework of councillors in Chapter. The linkages of these Tables, Figures and Diagrams make the readers to see cohesion and integration of Training Needs Analysis (TNA) strategy adopted by the researcher.





**Figure 2.7: Water adaptive capacity (WAC) framework**

Source: Adopted from Havenga and Hobbs, 2004: 110. and <http://www.reflectlearn.org/.../a-causal-model-of-organizational-performance-ch...> Burke-Litwin Causal Model (1992)

Through the emotional intelligence framework outlined in Table 2.7, the councillors in the water portfolio are seen as implementers and champions of the execution of the water strategy as they have sufficient knowledge and skills. Consequently, the water portfolio councillors will be able to communicate with customers as partners. As can be seen from the Burke-Litwin Causal Model, the business activities and skills of the councillors and officials are linked to performance management (PM) and balanced scorecard (BSC) systems for appraisal, assessment and rewards (Currie 2006: 5; Jarrar & Schiuma, 2007: 5; Goleman, 2000: 82). The theoretical explanation of dynamics

between water crisis in Northern Cape and good enough governance are based on the required balance between local government after May 2011 elections, and water users. This 'hydro-social and economic contract' between water users and councillors comes into existence when councillors are unable to provide good enough water governance in their WSAs. In this context, services delivery protests are reported to emanate from the breach of the 'hydro-socio and economic contract' by water portfolio leaders. The water users use services delivery protests as a demonstration of dissatisfaction with water portfolio councillors in terms of water governance, and a need for public capability, accountability and responsiveness of councillors in their portfolios.

The performance framework referred to above is directly linked to the water councillor emotional intelligence framework so that councillors may achieve their needs and goals in their positions in the water portfolio, as explained in Table 2.7. This is further linked to drivers of councillors' performance that include feedback, progression, career needs, personal needs, job meaningfulness and financial rewards, as shown earlier in Figure 2.5.

**Table 2.7: Water councillor emotional intelligence framework**

<b>ELEMENT OF EMOTIONAL INTELLIGENCE</b>	<b>EMOTIONAL COMPETENCE</b>	<b>DEFINITIONS OF EMOTIONAL COMPETENCIES</b>
1. Self-awareness: Knowing one's internal state, preferences, resources and intuition	1.1 Emotional awareness	Recognising one's emotions and their effects
	1.2 Accurate self-awareness	Knowing one's strengths and limits
	1.3 Self-confidence	A strong sense of one's worth and capability
2. Self-regulation: Maintaining one's internal state, impulse and resources	2.1 Self-control	Keeping disruptive emotions and impulses in check
	2.2 Trustworthy	Maintaining standards of honesty and integrity
	2.3 Conscientiousness	Taking responsibility for personal performance
	2.4 Adaptability	Flexibility in handling change
	2.5 Innovation	Being comfortable with novel ideas, approaches, and new information
3. Motivation: Emotional tendencies that guide or facilitate the reaching of goals	3.1 Achievement drive	Striving or improving to meet the standards of excellence
	3.2 Commitment	Aligning with the goals of the group or organisation
	3.3 Initiative	Readiness to act on opportunities
	3.4 Optimism	Persistence in pursuing goals despite obstacles and setbacks
<b>SOCIAL COMPETENCE: These competencies determine how we handle relationships</b>		
4. Empathy: Awareness of others' feelings, needs and concerns	4.1 Understanding others	Sensing others' development needs and perspectives, and taking an active interest in their abilities

ELEMENT OF EMOTIONAL INTELLIGENCE	EMOTIONAL COMPETENCE	DEFINITIONS OF EMOTIONAL COMPETENCIES
	4.2 Developing others	Sensing others' development needs and bolstering their abilities
	4.3 Service orientation	Anticipating, recognising and meeting customers' needs
	4.4 Leveraging diversity	Cultivating opportunities through different kinds of people
	4.5 Political awareness	Reading a group's emotional currents and power relationships
5. Social Skills: Adeptness at inducing desirable behaviour in others	5.1 Influence	Wielding effective tactics for persuasion
	5.2 Communication	Listening openly and sending convincing messages
	5.3 Conflict management	Negotiating
	5.4 Leadership	Inspiring and guiding individuals and groups
	5.5 Change catalyst	Initiating or managing change
	5.6 Building bonds	Nurturing instrumental relationships
	5.7 Collaboration and cooperation	Working with others towards shared goals
	5.8 Team capabilities	Creating group synergy in pursuing collective goals

Sources: <http://www.srds.co.uk/begin/theECF.htm>. accessed 20 August 2013

Using the TNA process, the researcher was able to link theory, strategies, policies, processes and councillor development drivers leading to emotional intelligence framework competencies and skills for water governance and acceleration of water business for growth and development. Consequently, the findings of the study are conceptually, theoretically and operationally contextualised to individual councillor's needs, and to the needs of a group of councillors in the Northern Cape in terms of social anthropology and political sociology, as depicted in Figure 2.8. Figure 2.8 shows the elements of the Capability, Accountability and Responsiveness (CAR) tool. In Figure 3.6 under paragraph 3.4.5 in Chapter 3, details of the CAR elements as indicated in Figure 2.8 are conceptualised, operationalised and applied in accordance with the LGDA framework values in line with the objectives of the study. The TNA, complemented by CAR tools, demonstrates the power of using mixed methods in analysing the complex capacity constraints of WSAs in the Northern Cape and critical variables thereof. Such an analysis is vital if one is to be able to ensure that this neglected area is given national priority using the CAR tool as depicted in Figure 2.8. Using hydro-social and economic contract, it is argued that Figure 2.8. assist the readers to understand need for socio-economic adaptive capacity and innovative leaders to address social pathologies and combinations of social trauma left by Apartheid water allocation in Northern Cape and current negative water scarcity consequences in Northern Cape.

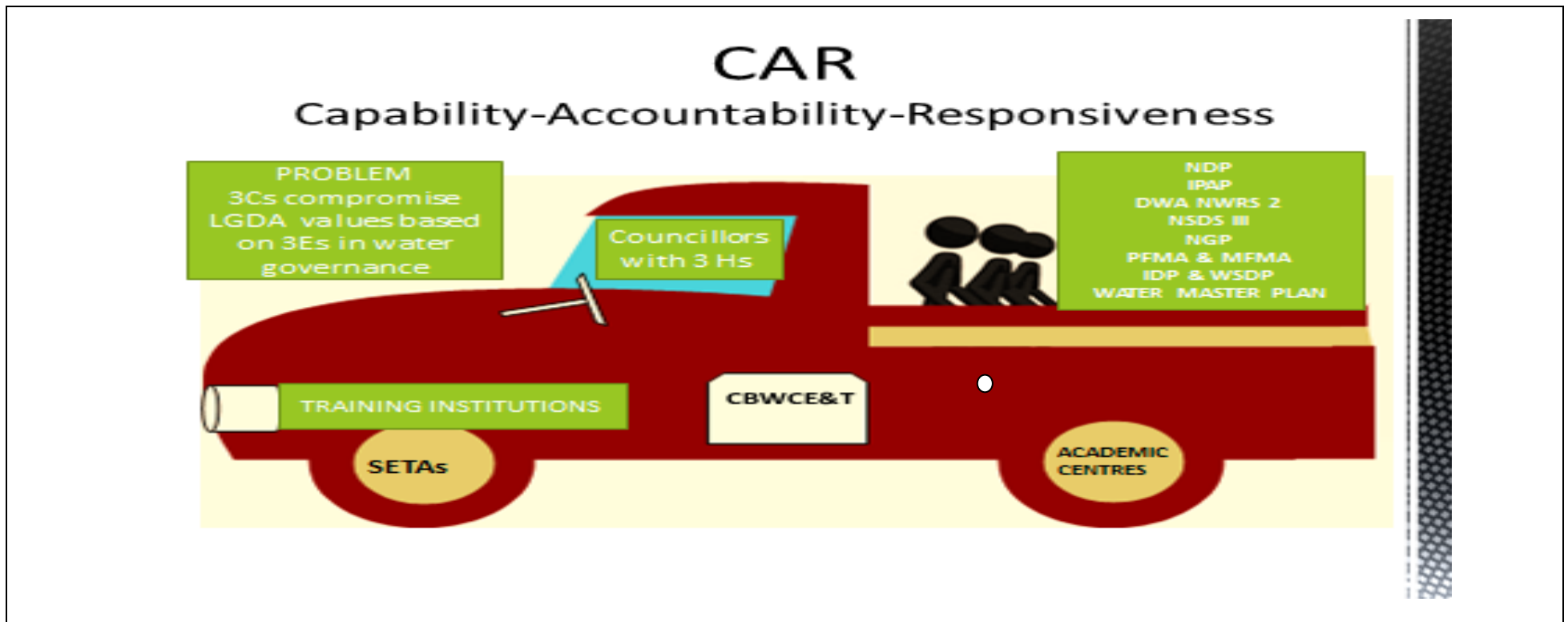


Figure 2.8: Capability, Accountability and Responsiveness (CAR) tool with councillors as local operators, hydropolitical drivers, and decision-makers in the 33 WSA in Northern Cape under Local Government Developmental Agenda or New Public Management System of democratic Local Government Administration System in South Africa ( See also Figures 3.6, 3.7, 5.12, and 5.13)

## **2.3.6 Descriptive studies and baseline survey**

### **2.3.6.1 Introduction to quantitative studies**

Qualitative methods using the training needs analysis (TNA) process were adopted to back up theoretical arguments about the LGDA system in Chapters 3, 4 and 5 of LGDA. These methods were complemented by quantitative methods using a sampling strategy for ensuring that the results could be generalised to Northern Cape councillors under the 33 WSAs. In order to gather adequate and relevant information, a structured questionnaire was distributed and primary data from 77 (20,8%) respondents were compiled.

The questionnaire was designed with closed questions to ensure statistical significance and to capture trends. However, the respondents were also allowed to give their own comments so that qualitative aspects could be obtained (Van der Horst & McDonald, 1997: 18; Lindlo & Taylor, 2002: 195; Mouton, 1998: 103). The end result was to provide a systematic explanation that attempts to draw logical inferences in Chapters 3, 4 and 5 of the study. The approved questionnaires were piloted at the Bohlamelolo (Mpumalanga) and Bophirima (North West) district municipalities in early May 2008. The objectives for the pilot included:

- Finding out whether the councillors were able to understand the questions, especially the wording;
- Determining the time taken to administer a questionnaire or to complete the questionnaire, as the study depended on a postal survey; and
- Determining whether the analysis of the pilot survey answered the main objectives of the study.

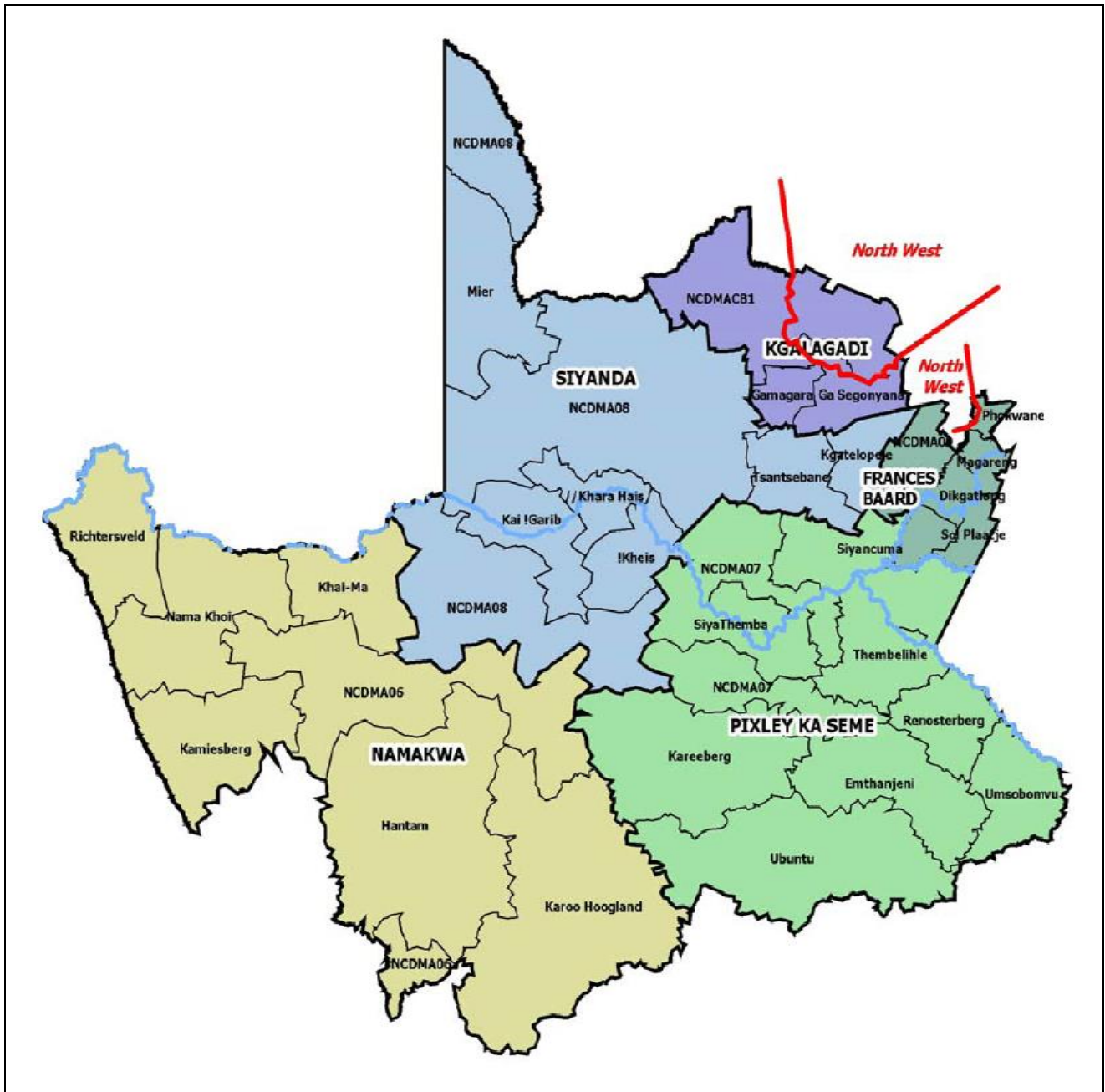
### **2.3.6.2 Descriptive study**

In the case of this study, description, as a research purpose, implies the examination of the characteristics of councillors in local authorities as social phenomena and the description thereof in terms of the LGDA conceptual framework. Possible relationships between the phenomena were not necessarily investigated. This means that the study is limited to accurate description of the circumstances, situations, events, individuals involved in local government affairs, interaction and so forth, without trying to relate the events or to interpret them (Mouton & Marais, 1991: 46). Guy *et al.* (1987: 103) add that a study such as this one could have the following goals:

- To portray accurately the characteristics of councillors in local authorities; and
- To determine the frequency with which something occurs or is associated with something else.

This allowed the researcher to describe sufficiently the relevant interactions and the unit of analysis (councillors as respondents) involved in the delivery of water services within local authorities. Babbie (1973: 51) could have argued that an accurate description was provided of the

characteristics of councillors in municipalities in the Northern Cape, which fall under five district municipalities as shown in the map in Figure 2.9 below.



**Figure 2.9: Northern Cape map showing district municipalities**

Source: DWA, 2013.

**2.3.6.3 Sampling strategy and unit of analysis**

The unit of analysis refers to the type of unit in terms of which variables are measured (Neuman, 1997: 113), or the object from which data is collected (Bless & Higson-Smith, 1995: 64). The Northern Cape has 370 councillors who are a unit of analysis of this study. The data were collected from 77 councillors who responded to questionnaires. Problems of ecological fallacy and reductionism have been reduced because the research focuses on individual councillor’s

perceptions and attitudes with regard to current and future needs in water governance and developmental water services. The interpretation and conclusions are limited to the data collected from the 77 (20,8%) respondents in the Northern Cape, and are complemented by literature and documentary evidence on the prerequisites, requirements and expectations of councillors in water portfolios under the LGDA framework (Siddle & Koelble, 2012: 33-38).

Successful statistical practice is based on focused problem definition. Sampling includes defining the population from which a sample is drawn. A population can be defined as including all people or items with the characteristic one wishes to understand. Because there is very rarely enough time or money to gather information from everyone or everything in a population, the goal becomes the finding of a representative sample (or sub-set) of that population. A statistical population is a set of entities about which statistical inferences are to be drawn, often based on a random sample taken from the population. "Population" is also used to refer to a set of potential measurements or values, including not only cases actually observed but those that are potentially observable. In this study, the population includes 370 councillors in the Northern Cape in 33 WSAs falling under five district municipalities.

In statistics, a mixture model is a probabilistic model for representing the presence of sub-populations within an overall population, without requiring that an observed data set should identify the sub-population to which an individual observation belongs. Formally, a mixture model corresponds to the mixture distribution that represents the probability distribution of observations in the overall population. However, while problems associated with mixture distributions relate to deriving the properties of the overall population from those of the sub-populations, mixture models are used to make statistical inferences about the properties of the sub-populations given only observations on the pooled population, without sub-population identity information.

In statistics, statistical inference is the process of drawing conclusions from data. More substantially, the terms statistical inference, statistical induction and inferential statistics are used to describe systems of procedures that can be used to draw conclusions from data sets arising from systems affected by random variation. The survey questionnaires were distributed to 370 councillors. Even though the questionnaires were distributed in the 370 using our experience of data collection on 404 councillors in 1993 in Northern Cape for a Master thesis, the researcher was aware of the potential for low response rate. Even if the researcher adopted a "conventional practice" in social sciences as was intended, with the type of respondents being councillors, sampling errors were expected. By negotiating with SALGA coordinators, managers and leaders of the SALGA Conference on 28 August 2011 to 2 September 2011 in Durban ICC, and follow up with SALGA Northern Cape, i.e., where the researcher received 100% non-response from the councillors; a confidence level of 95% and an sampling error level of 5% was theoretically planned. It was hoped that using consultation processes, following necessary protocols, and

research ethical considerations as explained in Chapter 1, under paragraph 1.7., a minimum sample of 188 was expected to extrapolate the findings to a population of 370.

In this study, the 77 councillors from whom data were collected from January 2012 to May 2013 represented 20,8% of the 370 Northern Cape councillors. As the survey was largely dependent to councillors to voluntarily complete the questionnaire, the 20.8% responses were not enough to generalise the findings. The latter is due to the observation in Table 2.8 that the sample was skew. Consequently, strong inferences about the water governance training needs of councillors in the Northern Cape cannot be drawn from the findings of this survey conducted. In short, the sample size of this survey study was less proportional to the size of the stratum in the proportional stratified sampling (Babbie & Mouton, 2001: 191-193). It can be deduced that the findings of this study cannot be generalised to a very limited degree to the entire population of 370. In other words, through lack of the statistical representativeness of the respondents, the findings cannot provide a reasonable indication of the whole (Groenewald, 2013). There are weaknesses on the representation of the councillors in terms of municipalities, i.e., critical structures and institutions to determine reliability and validity with confidence of the study's findings as explained hereunder.

As discussed in detail in Chapter 6, the study sample represents the opinions of 20,8% of councillors from local authorities that fall under five Northern Cape district municipalities. The representativeness of the study sample is lowest in the Namakwa District Municipality (3,90%) and highest in the Frances Baard District Municipality (38,96%), as depicted in Table 2.8, below. The sample population response rate is over-concentrated in the Frances Baard, Siyanda and John Taolo Gaetsewe District Municipalities (DMs) respectively as depicted in Table 2.8, below. This can be attributed to the fact that, apart from posting questionnaires to councillors, the researcher distributed questionnaires at the Human Settlements Induction Workshop for councillors that was conducted by the NDHS from 23 to 25 April 2013, where the majority of the Northern Cape councillors that attended were from the Frances Baard DM. Councillors from the Namakwa and Pixley ka Seme DMs are geographically far from the two main centres of the Northern Cape, Kimberley (the provincial capital) and Upington, and have to travel long distances to attend events that are presented there. Yet, it is also significant that if the analysis is sampled on local municipalities per district, it tends to be unrepresentative. For example, there were no respondents from municipalities such as Richtersveld, Nama Khoi, Kamiesberg and Karoo Hoogland (Namakwa DM); Renosterberg, Thembelihle, Siyathemba and Siyancuma (Pixley ka Seme DM); Kheis, Tsantsabane and Kgatelopele (Siyanda DM); and Dikgatlong and Phokwane (Frances Baard DM). Having explained the sample limitations as experienced in this study, the adoption of the mixed methods have more advantages and benefits to narrow the statistical errors as motivated under paragraphs 2.3.2 and 2.3.3. respectively. Apart from an extensive literature review, the methodology also allowed for primary data in the form of the focus group sessions, key-informant



interviews with strategic informants and consultation with senior lecturers of the School of Public Leadership. Therefore, the chosen research design is appropriate for and applicable to the nature of the study in public management and administration and leadership in the water sector. The research design or Training Needs Analysis (TNA) strategy assisted the researcher to have the findings well-grounded in the data analysis and the recommendations are solid and logically linked to the findings.

Even though the White Paper on Local Government (March 1998) provides a framework for the ward committee system, the financial resources to attend the meeting remain an obstacle. Most ward committees are reported to be very weak and unable to attend most of the meetings held in their constituencies and council chambers. Evidence received from informal discussions and experience, on one hand, show that ward committees become ineffective and irrelevant when representatives fail to account to their interest groups and their communities. On the other hand, many problems faced by municipalities can be overcome if municipalities listen to the concerns of residents, and if residents become actively involved in the affairs of their municipality. This can be achieved if councillors, municipal officials and residents ensure that public participation is meaningful, that ward committees have an impact and that municipal communication is effective.

Table 2.8: Representation of Northern Cape councillors per district, local municipalities and dominant political parties

District municipality	Local municipality	Population by political parties				Total population of councillors		Total respondents per LM		% Contribution of respondents per municipality
		ANC	COPE	DA	Others	Total	%	No of respondents	%	
Namakwa	Richtersveld	5	0	3	0	8	2,2	0	0,0	0,0
	Nama Khoi	8	3	6	0	17	4,6	0	0,0	0,0
	Kamiesberg	4	1	2	0	7	1,9	0	0,0	0,0
	Hantam	4	1	4	0	9	2,4	2	22,2	2,6
	Karoo Hoogland	3	2	2	0	7	1,9	0	0,0	0,0
	Khâi-Ma	4	2	1	0	7	1,9	1	14,3	1,3
Pixley ka Seme	Ubuntu	4	1	3	0	8	2,2	2	25,0	2,6
	Umsobomvu	7	2	1	0	10	2,7	2	20,0	2,6
	Emthanjeni	7	1	5	1	14	3,8	1	7,1	1,3
	Kareeberg	4	1	2	0	7	1,9	0	0,0	0,0
	Renosterberg	4	2	1	0	7	1,9	0	0,0	0,0
	Thembelihle	5	2	1	0	8	2,2	0	0,0	0,0
	Siyathemba	4	2	1	0	7	1,9	0	0,0	0,0
	Siyancuma	7	2	2	0	11	3,0	0	0,0	0,0

District municipality	Local municipality	Population by political parties				Total population of councillors		Total respondents per LM		% Contribution of respondents per municipality
		ANC	COPE	DA	Others	Total	%	No of respondents	%	
<b>Siyanda</b>	Mier	4	1	2	0	7	1,9	6	85,7	7,8
	Kai !Garib	10	3	4	0	17	4,6	2	11,8	2,6
	//Khara Hais	16	4	7	0	27	7,3	18	66,7	23,4
	!Kheis	4	2	1	0	7	1,9	0	0,0	0,0
	Tsantsabane	6	1	2	2	11	3,0	0	0,0	0,0
	Kgatelopele	5	1	2	0	8	2,2	0	0,0	0,0
<b>Frances Baard</b>	Sol Plaatje	40	5	16	1	62	16,8	23	37,1	29,9
	Dikgatlong	10	1	2	0	13	3,5	0	0,0	0,0
	Magareng	6	1	2	0	9	2,4	7	77,8	9,1
	Phokwane	13	1	3	1	18	4,9	0	0,0	0,0
<b>John Taolo Gaetsewe</b>	Joe Morolong	23	3	1	2	29	7,8	4	13,8	5,2
	Ga-Segonyana	20	1	3	1	25	6,8	6	24,0	7,8
	Gamagara	6	1	3	0	10	2,7	3	30,0	3,9
	Total	233	47	82	8	370	100,0	77	20,8	100,0

## 2.4 DATA CAPTURING AND ANALYSIS

Data were electronically captured and processed by means of the Statistical Package for the Social Sciences (hereafter referred to as SPSS). Data were collected from the focus group sessions held on 8 February 2012, and survey data were collected from January 2012 to May 2013. The data spreadsheet was developed with the assistance of the Statistical Units of both the University of South Africa (UNISA) and the University of Stellenbosch.

The data captured in SPSS were used for tabulations, correlations, factor analysis and statistical graphics (bar charts, plots, pie charts) to achieve a visual presentation of the findings. The SPSS seemed to be an appropriate tool to summarise, interpret, analyse and synthesise the findings of the literature review with reference to various chapters in this study in order to:

- examine and document relationships among variables;
- perform tests of statistical significance based on the assumptions of the study; and
- come to a proper understanding of the specific training needs of the councillors using age, educational qualifications, gender/sex and work experience as a councillor as variables.

Through this process of SPSS data capturing and analysis, a logical dissertation of the findings was contextualised and operationalised within the probability sample of Northern Cape councillors.

Discussions of the data covered, inter alia:

- levels of measurement;
- descriptive statistical procedures; and
- inferential statistical procedures.

A chi-squared test, a test for significance, is used to quantify the degree to which chance variability may account for the results observed in any individual study. The p-value is the measure reported from all tests of statistical significance (Tustin, 2006: 61-95). It is defined as the probability that an effect, at least as extreme as that observed in a particular study, could have occurred by chance alone. If the p-value is greater than 0.05, by convention, chance cannot be excluded as a likely explanation and the findings are stated as not statistically significant at that level (Burns & Grove, 2003: 328-331). Therefore, the 95% confidence interval will be applied to determine whether there is an association between variables. The Spearman rank-order correlation ( $\rho$ ) was used to show the strength of the relationship between two continuous variables. It is also significant that the textual data obtained through qualitative methods were analysed using a code-based approach (Lee, 1997) in order to control internal validity threats and limitations of 'human error' (Babbie & Mouton, 2001: 249-251; Lee, 1997; Wong & Meyer, 1998).

## 2.5 ETHICAL CONSIDERATIONS

On the basis of ethical considerations, letters from the University of Stellenbosch were circulated by the researcher as early as 2011 to DWA, CoGTA, SALGA, directors-general (DGs), heads of departments (HODs), chief executive officers (CEOs), deputy director-generals (DDGs), directors, the Member of the Executive Council (MEC) for COGTA in the Northern Cape, executive mayors, members of the executive mayoral committees, proportional representation councillors and ward councillors. The researcher participated in the SALGA conference held at the ICC in Durban from 28 August 2011 to 2 September 2011, where he made the necessary arrangements with the SALGA organisers of the conference and the leadership. While the researcher was allowed by programme directors to distribute the questionnaires during the conference, the questionnaires were, unfortunately, not completed nor returned to the researcher after he had spent more than five days at the conference.

The following steps in respect of ethical considerations were taken during data collection:

- Respondents' participation in the research was completely voluntary;
- Respondents' privacy was considered at all times;
- Respondents' anonymity was guaranteed and no information that could identify respondents was collected; and
- Questionnaires were printed with a covering letter, which included the logo of the University of Stellenbosch, names and contact numbers of the researcher and his supervisor, and an explanation of the purpose of the research.

The researcher followed up with the Northern Cape SALGA where he visited councillors during the induction programmes hosted by the National Department of Human Settlement (NDHS) in Upington from 23 to 25 April 2013. Mr Gavin January, a former colleague, arranged with the facilitators from the NDHS and SALGA that a formal letter from the University of Stellenbosch would be distributed to the councillors and facilitators. The facilitators allowed the researcher to explain the purpose of the study. The researcher further ensured that the councillors who were inductees were given an assurance of the confidentiality of the study.

## 2.6 STUDY LIMITATION

The terms 'internal validity' and 'external validity' are not used in their technical sense in the context of this research design, but rather to refer to the 'validity of data' (Punch, 1998: 143). Validity has to do with "how well ... these data represent the phenomena for which they stand" (Punch, 1998). The 'phenomena' for which specific needs of councillors and water governance councillor curriculum outcomes stand are taken as the outcomes of water portfolio councillors. Thus, the concepts of internal and external validity are used to denote validity with regard to the theory, assumptions, goals and outcomes of a water governance councillor development

programme embraced and articulated by SAQA or EWSETA ETQA as depicted in Figure 2.10. Moreover, issues of internal and external validity involve comprehensive analysis of settings, and WSAs as organisations. An undertaking of this nature is beyond the scope of this study. However, where these concepts are used, the researcher is using them to illustrate a notion, argument or proposition as far as possible.

Although an extensive literature review was conducted by the researcher, it is likely, as Schwartz & Jacobs (1994) pointed out, that much work on LGDA values and corresponding requirements with regard to water governance might not be well reported or documented (Siddle & Koelble, 2012: 79). This limits the usefulness of the literature as a resource in this regard. Equally, the current White Paper on Local Government (March 1998), the Local Government Turnaround Strategy by CoGTA (2009), the New Growth Path Framework (NGP), the DWA National Water Resource Strategy Two (NWRs2) and the National Development Plan (NDP) reflect a multiplicity of ambitious targets which are often contradictory and confusing. These documents tend to be too optimistic a political manifesto on the local government system within a context of a complex legislative framework (NDP, 2012: 416; Pieterse, 2002: 3; Manor, 2000: 5). Rather, it is argued that the multiple targets set in the above-mentioned plans will not be reached by 2030. It is more likely that water scarcity, the negative consequences of a mining-based economy, low productivity, poverty, unemployment and inequalities will be more severe by 2030 (Terreblanche, 2012: 122). Unfortunately, forecasting analysis of the current malfunction of governance and socioeconomic and political developments as a result of the global economic recession is not addressed. Such a forecasting analysis, complemented by population growth statistics, would have given a more coherent picture of the water demands and developmental interventions to reverse the “unsolvable Poverty Unemployment and Inequality (PUI)” matters to which Terreblanche (2012) refers.

The study targeted 370 councillors as respondents as non-response rate is higher amongst councillors. Consequently, the empirical findings were received from 77 respondents (20, 8%) of the total population of councillors in the Northern Cape. This does not necessarily provide a direct overall assessment regarding the success or failure of WSAs as opposed to what Chen calls “Outcome-Improvement Evaluation” and “Outcome-Assessment Evaluation” (Chen, 1994: 229-238; Weiss, 1997: 515; Lipton, 1992: 177, Figure 2.10). Nonetheless, the findings of the study should be viewed as an important landmark of possible direct benefits to describe and explore, as noted by Nutbeam (1992: 153). They can be used as a basis for further studies in the area of leadership in the water sector, which has received very little attention in academic studies. Therefore, the findings of the study must be seen as a first step on an unavoidable epistemological journey towards a turnaround strategy in the water sector that would prioritise a water governance councillor development programme, as the current water crisis is caused by a governance crisis.

## 2.7 SUMMARY

Using different conceptions of governance from global politico-administration applications from authors such as Rhodes (1996:655); Reisner (1993:44-48); Stoker (1998:17-28); Van Gils (2005:584-488); Ansell & Gash (2008:544-569); Siddle & Koelble (2012:150-152) to mention but few, the researcher is able to define, conceptualise, operationalise, and contextualise forms of governance as depicted in Figures 3.1 and 3.3 of the next Chapter. The richness of the study is complemented by a number of similar surveys, some on a much larger scale to ensure that the adopted methodology is appropriate to governance framework in Northern Cape. They include studies conducted by SALGA (2006), CoGTA Local Government Review (2009), SALGA (2012) and LGSETA (2012), EWSETA Sector Skills Plans (2012), DWA National Water Resources Management Strategy (2012), the Auditor-General's Municipal Report (August, 2012), the Nationwide Sanitation Sustainability Assessment Report by the National Department of Human Settlements (March, 2013), and the HSRC State of the Nation (2012-2013). These studies reveal an emphasis that is similar to that of this study and the evidence from the literature, newspaper articles and documental reviews as depicted in Figure 2.10. As depicted in Figure 2.10, the effective elements of good enough governance largely depend on empowerment of councillors on water technical and leadership skills for them to drive required hydro-social and economic contract signed with water users.

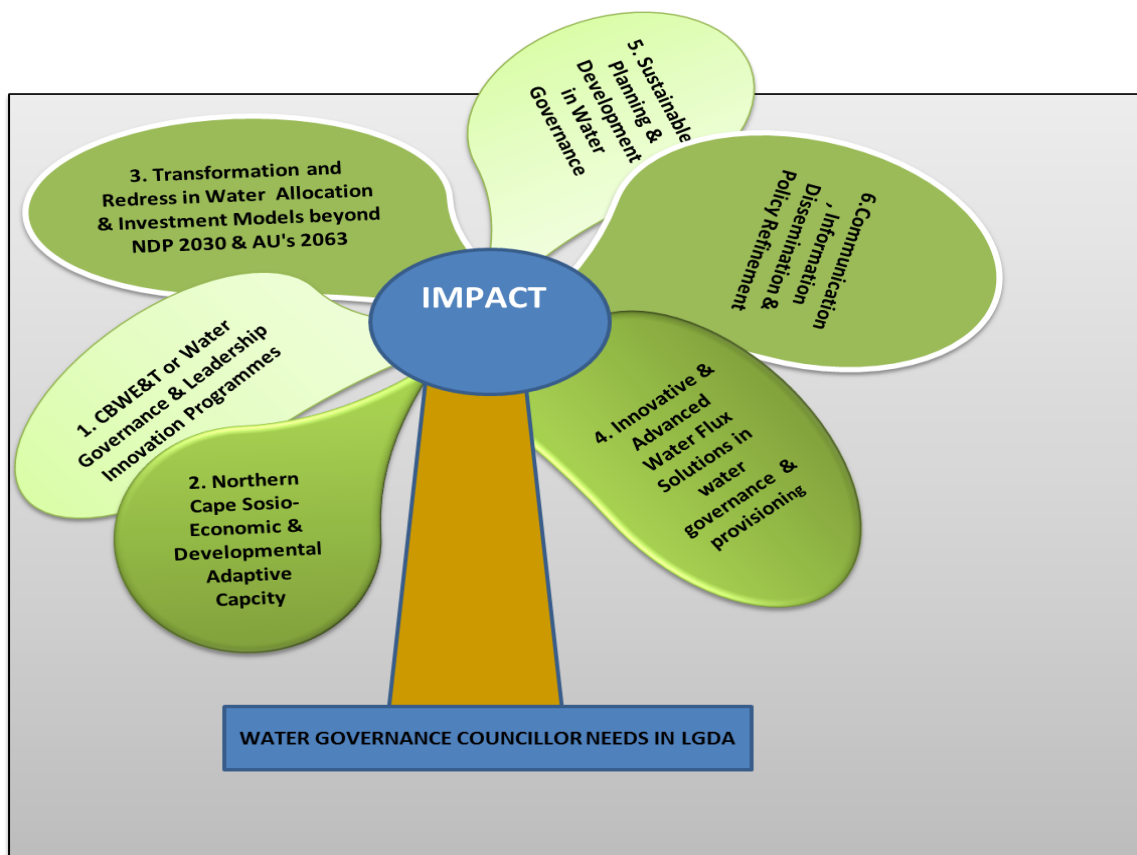


Figure 2.10: Intended Impact of the Study using Mixed Methods

The use of mixed methods helped the researcher to unpack LGDA values as depicted in Figure 2.10 with the focus on the empowerment of councillors and development of Northern Cape socio-economic and developmental adaptive capacity strategy for water governance. If councillors are empowered on hydro-political development and water governance and hydro-political stakeholders are able to develop water and energy adaptive capacity model for water investment models, it was assumed that transformation of the current abject poverty, systematic unemployment and increased inequalities will be addressed as the water governance investment models will be structured to address ills of the past on one hand. On the other hand, the Northern Cape Socio-Economic and Developmental Adaptive Capacity Strategy will be structured through an inclusive consultation process with hydro-political stakeholders and citizens to attract investors in Northern Cape for an alternative economy to the current declining mining-based economy.

The elements of LGDA model and water governance needs of councillors as depicted in Figure 2.10, read with decentralisation of water governance management in Figure 3.1, were further tested using Chi-square, Mann-Whitney and Kruskal-Wallis tests. Accordingly, chi-square, Mann-Whitney and Kruskal-Wallis tests were used to determine whether the views of councillors who responded the questionnaire were affected by gender, category of councillor, age group, years as a councillor and post-matriculation qualification, as agreed with Professor Cornie Groenewald (promoter of the study) and Professor Martin Kidd (a leading scholar in statistics at the University of Stellenbosch), in October 2012.

Drawing on a body of diverse and eclectic literature as well as government documents, both national and international, the contributions in this dissertation comprise a comprehensive and revealing analysis of modern councillors. This has been done in order to explore and describe further the concept of 'representation' and councillor leadership skills and competencies under the LGDA. The researcher has taken into account that local government as administration systems is managed in a context of climate changes and ever-changing water needs and demands.

This chapter described the research methodology that was followed in order to collect the relevant data for the research. It focused on both exploratory and descriptive research methods used in this study and explained how they were applied. A review of descriptive, exploratory, qualitative and quantitative research methods was also given. In the next Chapter, theoretical presupposition of LGDA concepts, definitions, and application are explained in line with the study's aims and objectives.



## **CHAPTER 3**

### **THEORETICAL PERSPECTIVES ON THE LOCAL GOVERNMENT DEVELOPMENTAL AGENDA (LGDA) IN NORTHERN CAPE PROVINCE**

*All the rivers run into the sea,  
Yet, the sea is not full;  
Unto the place from whence the rivers come,  
Thither they return again.*

Ecclesiastes 1: 7.

#### **3.1 INTRODUCTION**

This chapter provides a detailed theoretical analysis of the changing fiscal, legal, social, environmental, economic and political dimensions (framework) within local government in general and local authorities (LAs) in particular. It reviews selected relevant literature and outlines the starting assumptions and premises in terms of the conceptual framework for LGDA. Furthermore, the chapter will not describe local government systems and structures; instead, the researcher attempts to interpret local government's developmental role in terms of the required competence of councillors in the water sector. The chapter contributes to the compelling literature evidence in supporting the need for skills profiling of councillors in accordance with the research question. For this reason, the dissertation is not prescriptive, universal or rigid, but tends to be normative in exploring the LGDA system and its requirements for elected representatives, with the Northern Cape as a case study. The requirements and required skills for councillors in water and infrastructure portfolios to ensure the realisation of the economic, social, legal, moral, developmental and political values of LGDA have been unpacked. It is argued that sustainable implementation of "good enough governance" in the context of the current water crisis largely depends on innovative and exemplary leaders such as former presidents Nelson Mandela and Sir Seretse Khama (Schwella, 2012) at a national level, and more expert-type leadership at a local level (Tsibani, 2004).

#### **3.2 OVERVIEW OF LGDA IN THE CONTEXT OF DECENTRALISATION OF THE WATER MANAGEMENT SYSTEM IN SOUTH AFRICA**

The researcher adopted the LGDA as a framework in order to conceptualise and operationalise the water sector education and training (E&T) needs of councillors in local authorities in the Northern Cape Province. Burns and Grove (2007: 189) view a conceptual framework as a brief explanation of the theories, concepts, variables or parts of theories that will be tested by a study. For the purpose of this study, the researcher used interdisciplinary disciplines in order to arrive at a deeper understanding of the LGDA values, processes and procedures to facilitate developmental water

services and water management for socioeconomic growth in the Northern Cape using training needs assessment (TNA) and Capability, Accountability and Responsiveness (CAR) tools.

Interdisciplinary approach would define councillors as self-directed, self-conscious and symbolic human beings with different personal traits and identities as depicted in Tables 3.5 and 3.6. respectively. Under the LGDA system, councillors as human beings are “engaged in the process of making sense of their (life) worlds [and challenges] imposed by more than 144 pieces of legislation” (Tsibani, 2005: 337). The world of working in the case of Northern Cape councillors refers to the inter-subjective world shared by all human beings in the province; hence, it has a specific meaning or relevance in the mental structure of each councillor. Accordingly, the researcher was able to assess which LGDA variables have been achieved, and if they have not, to determine a new thinking approach to achieve “desired water management or governance results”, including the use of the CAR tool. The chapter’s sub-sections provide a theoretical basis in terms of which the needs of the Northern Cape local authorities and their councillors should be understood within the context of LGDA theoretical paradigms in Figures 3.4 to 3.6.

In Figures 3.1. to 3.2., the LGDA framework is part of public management and administration of basic municipal services to drive national government policies and strategies. With regard to water and sanitation, public administration is the implementation of government water policy, drinking-water quality, safe drinking water, and adequate sanitation services without negative environmental impact or violation of groundwater protocols. In this regard, public administration as an academic discipline refers to “the management of integrated water resources management, bulk water infrastructure programmes and projects in order to deliver on the government’s strategic goals and priorities now subsumed under LGDA values in South Africa” (Tsibani, 2004). In this sense, a study of new public management (NPM) or the LGDA is a study of water governance and developmental water services priorities and decisions by councillors in their executive councils to properly execute their legislative mandate from various “Acts of Parliament which are a spine for LGDA” (Tsibani, 2005: 336).

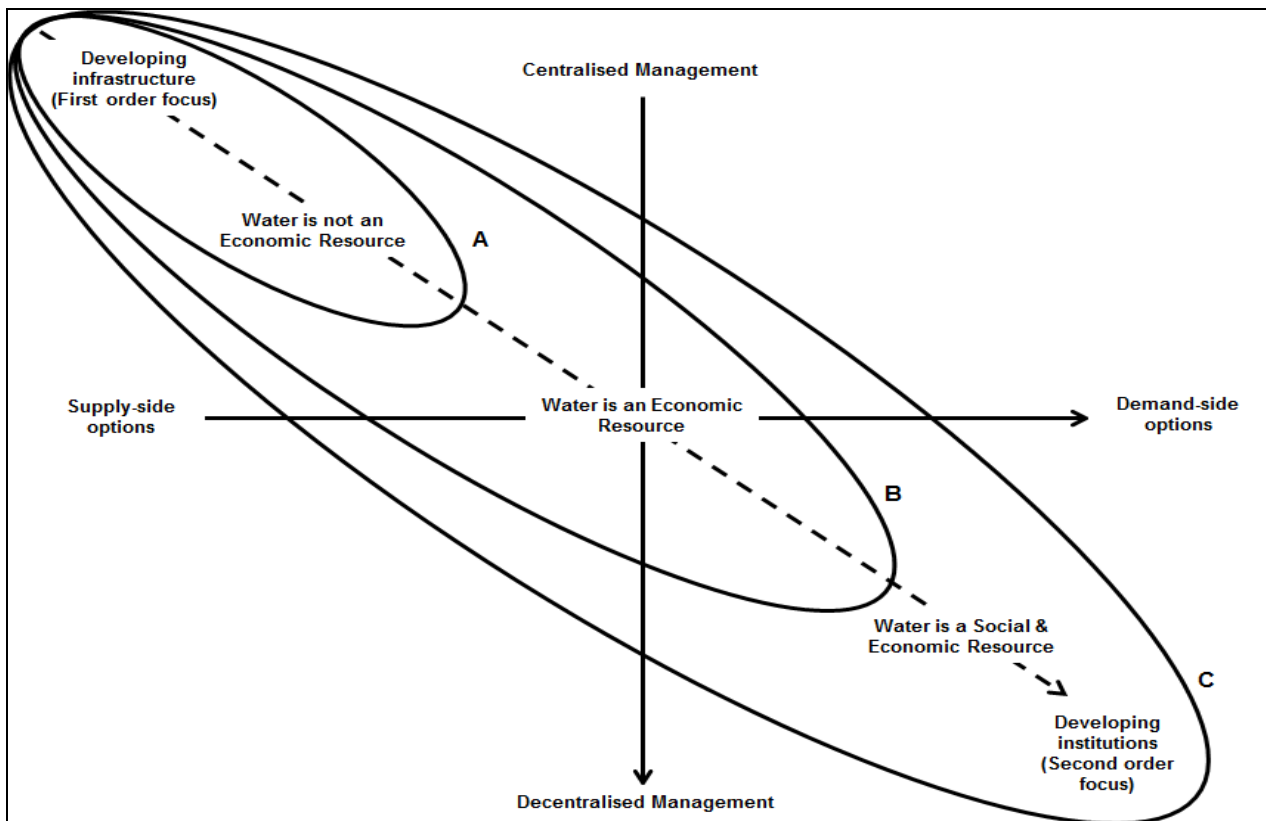
One of the fundamental goals of local government, which is “a field of inquiry with a diverse scope”, is to advance water governance and management so that government can function for the public good (see Figure 3.2.). With regard to the Northern Cape, this drive for better water governance must be informed by the notion that water governance and management are facing major challenges as a result of increasing uncertainties caused by climate and global change as well as fast-changing patterns of socioeconomic and urban development. The LGDA requires councillors to understand the changing environment and direct WSAs to be more adaptive to new water regimes that take into account environmental, technological, economic and institutional factors, and the characteristics of river basins. This implies a paradigm shift in hydropolitical relations and water governance on the part of councillors to include “adaptive water governance and

management” through learning how to manage and direct WSAs to learn. Such change in local government governance is aimed at increasing the adaptive capacity of water resources and allocation in the Northern Cape for economic growth and attraction of investors using water governance models.

With councillors as leaders in the local government domain, local government as a programme and project management vehicle is established mainly to manage public programmes, and then to translate democratic values and principles into the reality that citizens see every day. The elected councillors with their executive powers do so by studying and analysing democratic government priorities and initiatives and translating these into action plans and specific projects that are incorporated in the integrated development plans (IDPs) of the local authorities. For the Northern Cape to be adaptive to water systems and water demand for socioeconomic growth and attraction of investment, it is argued that an integrated approach to water systems and allocation is required. The Northern Cape water system as a trans-border suite of water-related human, physical, biological and biogeochemical components and their interactions is managed in accordance with the LGDA water governance decentralisation system that is depicted in Figure 3.1 below. The components of the Northern Cape water system include the following:

- **Human components** – These are the sum of water-related organisations, engineering works by the Department of Water Affairs (DWA) and water users in the Northern Cape which are institutionalised under catchment management agencies (CMAs) by DWA. The Northern Cape population is both a component of the SADC water system and a significant agent of change within the South African water system, especially for both the Orange and the Vaal Rivers.
- **Physical components** – These are the physical attributes and processes of the traditional global hydrologic or water cycle, including runoff, geomorphology and sediment processes.
- **Biological and biogeochemical components** – This category includes the sum of aquatic and riparian organisms and their associated ecosystems and biodiversity. These organisms are also integral to the geochemical functioning of the global water system and not simply recipients of changes in the physical-chemical system.

The above three water governance components are critical for water security and investment models. If one of the three components are not in a state of ‘equilibrium’ or well balanced, they may lead to hydropolitical instability, regime change, and services delivery protests. As depicted in Figure 2.10, i.e., tree analysis technique adopted, an understanding of the balance between these three components is a prerequisite for good enough governance, socio-economic and developmental adaptive capacity of Northern Cape hydropolitical stakeholders as depicted in Figures 3.6 and 5.13. Equally, understanding these aforementioned water governance components, there is a need to focus on hydropolitical operators or councillors in WSAs for hydrohegemonic governance and management of limited water resources in South Africa.



**Figure 3.1: Water governance decentralisation**

Source: Turton, 2002.

Governance is a method through which power is exercised in the management of a country's political, economic, and social resources for development (World Bank, 1992). Governance is the manner in which power is exercised in the management of a country's social and economic resources for development. Governance is the process whereby societies or organizations make important decisions, determine whom they involve and how they render accountability for public good. Governance is the exercise of economic, political and administrative authority to manage a country's affairs at all level. Like water governance, good governance comprises the mechanisms, processes and institutions through which citizens and groups articulate their interest, exercises their legal rights meet their obligations and mediate their differences (UNDP, 1997). Water governance can be seen as a purposeful activity with multiple and partly conflicting goals to maintain and improve the state of water resources (Pahl-Wostl, Jeffrey, Brugnach & Sendimir, 2007: 50). If councillors in WSAs are to be able to provide water governance and management for the public good as part of the adaptive capacity under climate change in a water-stressed province like the Northern Cape, they need to have a better understanding of the interdependence and co-evolutionary development of water governance and management objectives and paradigms, environmental characteristics, technologies and social routines.

Climate change increases the need to plan for and control natural disasters, such as droughts and floods. As part of water governance and management under the LGDA, councillors are expected to take into account the true complexity of water systems on different scales. In most cases, it appears that the LGDA within the context of climate change associated with extreme weather conditions and uncertainties requires a radical shift from technical water management to a true integration of the human dimension; hence, councillors are required to think innovatively in order to ensure adaptive and flexible water governance 'ideapreneurship' and operational plans. The adaptive water management capacity under the LGDA assumes that councillors have the ability to predict future key drivers influencing an ecosystem, as well as system behaviour and responses. The LGDA assumes that councillors are capable of increasing the adaptive capacity of the water system to cope with novelty, without compromising future water demands. Consequently, in terms of the LGDA, the elected councillors are required to be innovative leaders who are able to increase the ability of the whole water system in the Northern Cape to respond proactively to change rather than merely to react to undesirable impacts of change.

For a water system to be able to adapt to change or to be prepared for an uncertain future, the following two aspects are key requirements:

- New information must be available to the system and the system must be able to process this information; and
- The system must have the ability to change, based on processing new information [which is directed by innovative and competent leaders and officials in local municipalities] (Pahl-Wostl *et al.*, 2007: 53).

Adaptive water governance is a process of creating adaptability and transformability of water institutions such as WSAs, CMAs and water boards. 'Adaptability' refers to the capacity to absorb disturbance and reorganise while undergoing change to retain essentially the same core function, structure, identity and feedbacks. 'Transformability' refers to the capacity to create a fundamentally new system (e.g. new ways of making a living) when ecological, economic or social (including political) conditions make the existing system untenable (Turton, 2002). Adaptive governance relates strongly to adaptive management (Walters, 1986), which has been widely promoted as a necessary basis for sustainable development, but has frequently failed because the existing governance structures have not allowed it to function effectively (Turton, 2002). It is clear from the adaptive water management system of Turton (2002) and Pahl-Wostl *et al.* (2007: 53-56) that the LGDA assumes that councillors and officials in the 33 Northern Cape WSAs should have an improved understanding of water systems and their adaptive capacity in order that they can perform their daily duties as depicted in Figures 3.6 . and 5.13. respectively.

Under the LGDA and the Dublin Principles on water and sustainable development, councillors are expected to facilitate and strengthen local stakeholder participation in decision making for water

resources management. These institutional changes are most easily visible in the emergence of catchment councils, water user associations (WUAs) and catchment management agencies (CMAs) in different parts of the world (Turton, 2002). Taken together, the technical, economic and institutional components of the LGDA values require councillors to have a more thorough understanding of the functioning of the complex interlinkages between ecosystems, water resource management options, and human activities that impact on the water resource. Conceptually, the degree to which water resource management is centralised, and the degree to which management focus is directed towards supply-side or demand-side options, can be considered important drivers of change in the water sector in the Northern Cape. Turton (2002) argues that these drivers can also be represented as axes on a matrix, with the implications of the interactions between these drivers presented schematically in Figure 3.1 to support the adaptive water management systems required for socioeconomic growth and development (Pahl-Wostl et al., 2007: 53-56). Figure 3.1 read with Figure 3.6. provides a conceptual model illustrating the general trend of change as water resource management approaches expand from their original centralised focus to include increasingly more decentralised approaches, and the primary focus widens from strictly supply-side options to include more demand-side options such as water conservation policies (Turton, 2002; Stoker, 1996; Cloete, 1996).

The general trend of change in the breadth of focus of water resource management is shown as the progressive broadening of the scope of management envelopes from (A) to (C) over time. The upper left-hand quadrant represents the position occupied by the Department of Water Affairs (DWA) as a national custodian of water resource management and allocation within the context of the SADC Water Protocol. The DWA negotiates with SADC countries where water is a shared responsibility and the process tends to be more technically and administratively cumbersome and highly centralised and bureaucratic, with its primary focus on supply-side options that can provide water with a high assurance of supply (e.g. envelope A in Figure 3.1). This has been called the “hydraulic mission” phase of society (Waterbury, 1979; Reisner, 1993), where water resource infrastructure provides the foundation for all future economic development now subsumed under the LGDA (Turton *et al.*, 2002). The Minister for Water Affairs and the national office must have technical, engineering and hydrological skills and competence as the primary focus is on the construction and operation of engineering structures.

The lower right-hand quadrant of Figure 3.1 shows the changes that occur as the locus of management becomes progressively more decentralised over time (e.g. envelopes B and C). The primary focus of management places increasingly greater emphasis on the effectiveness of decentralised institutional structures (subsidiarity on the vertical axis such as CMAs, WSAs and WUAs) and efficiencies of water utilisation patterns (on the horizontal axis) on the part of water users. As the 33 WSAs in the Northern Cape share boundaries with provinces and other municipalities, they are expected to have strong technical and engineering competence in the case

of both councillors and officials. The latter is due to the notion advanced by Turton (2002) that decentralised water management systems require local authorities to have water by-laws, water conservation management plans, water demand management strategies, and intersectoral water allocation strategies to enhance developmental water allocation and distribution in an efficient, effective and economically viable (3Es) manner. In Figure 3.1, it appears that the lower right-hand quadrant emphasises innovative leadership for LGDA operationalisation in the 33 WSAs complemented by effective, efficient and economically viable water utilities and CMAs in the Northern Cape. Accordingly, the councillors and officials from water institutions must be far advanced in water management and engineering water management systems if they are to deal successfully with the aforementioned natural phenomena. This can be interpreted to mean that the elected councillors or appointed representatives in the water and infrastructure portfolios must have strong engineering and technical skills (engineers, hydrologists, ecologists and geohydrologists) to drive the required developmental water agenda, whereas other portfolios in the WSAs can have a heterogeneous mix of councillors consisting of policy specialists, social scientists, economists, lawyers and communication specialists, to mention but a few.

Theoretically, the LGDA value chain as part of public administration is centrally concerned with the organisation of government policies and programmes whereby innovative and creative councillors are assumed to be executing programmes and projects in a way that would ensure maximum social and economic impact. The LGDA as part of public management is a science with various tools such as integrated development plans (IDPs), local economic development (LED) plans and water services development plans (WSDPs) to deliver on government priority areas and targets informed by national and international declarations and resolutions such as the Millennium Development Goals (MDGs), New Growth Path Framework (NGP), and the National Development Plan (NDP). Tools like the WSDP and the IDP have been developed for adoption by the relevant structures of municipalities in order to maximise efficiency and effectiveness in the developmental water agenda (Tsibani, 2005).

Rogers and Hall (2003: 7) concur with Turton (2002; 2009; 2012; 2013) when they define water governance as including, inter alia, “the range of political, social, economic and administrative systems that are in place to develop and manage water resources, and the delivery of water services, at different levels in society”, as depicted in Figure 3.2 read with Figure 3.1.

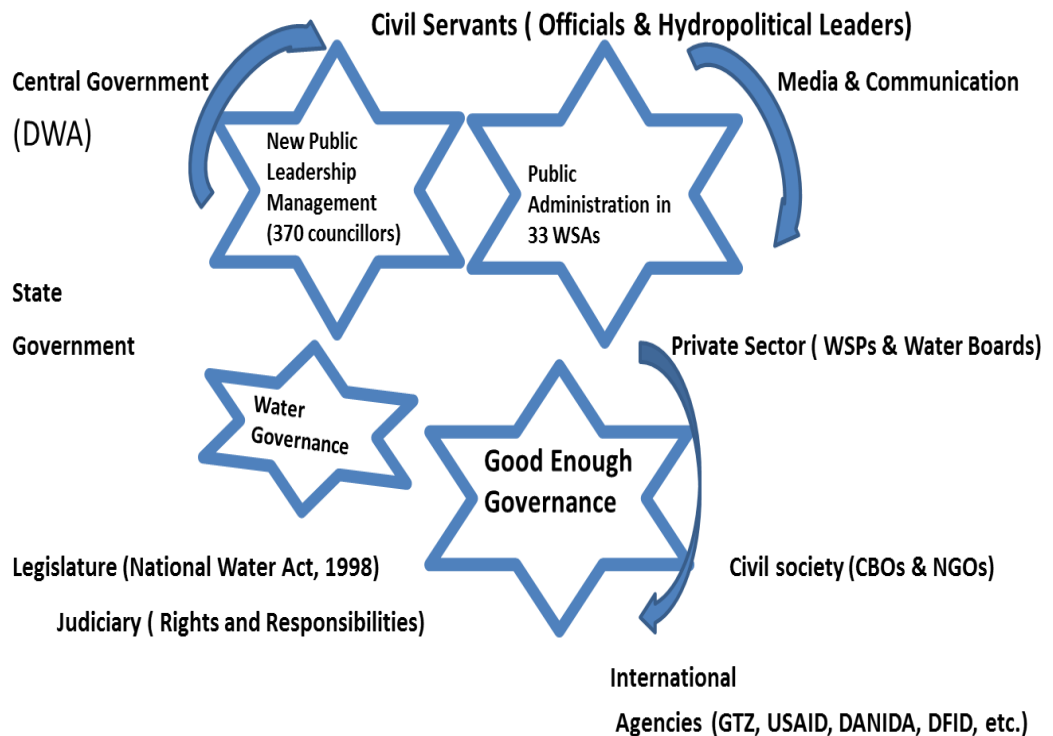


Figure 3.2: Water governance administration and political management

Source: Adopted from UNDP, 1997.

In Figure 3.1 and Figure 3.2, it appears that governance is the exercise of economic, political and administrative authority to manage a country's affairs at all levels. It comprises the mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences (United Nations Development Programme, 1997). In Figure 3.2., it is argued that the concept of good governance emerged at the end of the 1980s, first at the World Bank, but early incorporated and further developed by international development aid agencies and organizations as UNDP and OECD. According to the World Bank, good governance entails sound public sector management (efficiency, effectiveness and economy), accountability, exchange and free flow of information (transparency) to CBOs, NGOs and ward committees in the 33 WSAs, and a legal framework for development (justice, respect for human rights and liberties). UNDP states nine major characteristics of good governance, which are applicable in this study. They include, inter alia, participation, rule of law, transparency, responsiveness, consensus orientation, equity, effectiveness and efficiency, accountability and Strategic Vision (UNDP, 1997) in accordance with Figures 3.5. to 3.6 read with Figure 3.2. This definition requires the overall LGDA strategic goal to include a process, which promotes the coordinated development and management of water, land and related resources to maximise the resultant economic and social welfare in an equitable manner without compromising



the sustainability of vital ecosystems. As part of a new public management (NPM) or LGDA framework, the water governance and adaptive water management systems require municipalities to be effective, efficient and economically viable in the water business (3Es). The word 'effective' comes from the Latin word *effectivus*, which means creative, productive or effective. In theories of management, effectiveness relates to getting the right things done.

(<http://en.wiktionary.org/wiki/effectivus>.accessed28 August 2013; Stewart & Wash, 1992:501).

In Figure 3.2., the new LGDA is a management philosophy used by the post-1994 democratic state in South Africa to modernise and rationalise municipal services. As a public administration and management model, LGDA is a broad and very complex term used to describe the wave of public sector reforms in the local government domain. The main hypothesis or assumption in the LGDA as defined in the White Paper on Local Government (1998) is that a more market-oriented approach in the public sector will lead to greater cost-efficiency for the South African developmental state, without having negative side effects on other objectives and considerations. This assumes that the various municipalities in the Northern Cape are structured and institutionalised to provide developmental water services for growth and development in terms of IPAP, NGP, NSDS III, DWA NWRS 2 and NDP 2030 vision (Siddle & Koelble, 2012:2008-213; Mogale, 2007:10-18).

With the advent of the globalisation of water management, there are growing pressures on WSAs in a water-stressed country like South Africa to be more responsive to the demands of internal and external hydropolitical stakeholders for good water governance, accountability (section 120 (4) (b) (iii) of the Municipal Finance Management Act 56 of 2003) and transparency (section 83 of the Municipal Systems Act 32 of 2000), greater development effectiveness (section 6 (2) (a) of the Municipal Systems Act 117 of 1998), and delivery of tangible developmental water results in pursuance of the MDGs, the NGP, and more recently the NDP (Kusek & Rist, 2004: 4-5; Rosenbaum, 2000: 47-48). Together with the call for "making services work for the poor" by the World Bank (2005) within the context of greater financial accountability, responsiveness, and responsibilities of councillors as policy-makers for Northern Cape citizens, there is also an increasing demand for integrity and inclusiveness on the part of councillors. Schedule 1 of the Code of Conduct for councillors governs the conduct of councillors by stipulating, among other things, that they

- should constantly maintain the integrity and credibility of the municipality;
- should disclose to the council any direct or indirect private or personal business interest they may have in any matter before the council;
- are not allowed to use confidential information for personal gain; and

- should be transparent in the municipal business in terms of the Promotion of Access to Information Act (PAIA, Act 2 of 2000 as amended).

Inductively, from the perspective of an integrated water system approach, councillors should be able to do the following:

- Provide an oversight role with regard to water systems and develop intervention strategies including risk management plans;
- Perform water governance in terms of institutions (formal legal structures and informal norms), horizontal and vertical interplay and fit with physical boundaries;
- Promote water information and knowledge management and sharing on water governance and related systems;
- Apply water risk management as extreme weather conditions – as a result of climate change – are not easy to predict;
- Ensure environmentally friendly infrastructure investment; and
- Understand qualitative and quantitative environmental factors and their relationship with the ecosystem.

The above-mentioned competencies of elected councillors must be complemented by morally acceptable attributes if the new LGDA values and principles are to be operationalised in municipalities. In South Africa, independent analysts and researchers in public administration and management agree that councillors who are elected to deliver services for the public good must have integrity, courage, fortitude, honesty and loyalty, or be of good behaviours or habits. Integrity in local government is a concept that refers to consistency of actions, values, methods, measures, principles, expectations and outcomes (Rao, 1998: 291-305, Tsibani, 2004:37-40). In ethics, integrity is regarded as the honesty and truthfulness or accuracy of one's actions. The LGDA requires good leadership skills from the councillors in the water portfolio. These include listening to water stakeholders and consumers, being organised, and having the ability to communicate clearly and effectively, to get along with others, and to influence people. Councillor leadership in the context of the new LGDA refers to the process of political, socioeconomic and developmental influence in which a relevant water portfolio councillor can enlist the aid and support of others in the accomplishment of developmental water goals as discussed in Chapters 4 and 7.

It can be argued that the councillors in water portfolios must provide in-depth understanding and influence in the water sector in the Northern Cape. They must be able to interpret and apply the National Water Act 36 of 1998, the Water Services Act 108 of 1997, the Compulsory National Standards for Potable Water, the National Drinking Water Quality Management (DWQM) Framework, the South African National Standard (SANS 241) Drinking Water Specifications, and the infrastructure investment model wherein water is defined as a scarce resource for economic

growth and development. With the various phases for development in South Africa, it is assumed that the councillors in water portfolios are elected on the grounds that they are able to communicate and plan both commercial and domestic water supplies in line with the Compulsory National Standards for the Quality of Potable Water (as published in Government Gazette No. 22355 of 8 June 2001 and amended in 2012). According to the Government Gazette No. 22355, water portfolio councillors are expected to fulfil strategic and oversight roles and responsibilities in the allocation of water and associated cost-effective delivery models to consumers. Some of the hydropolitical oversight duties include:

- Ensuring legislative compliance and satisfaction of governance requirements;
- Progressively ensuring the provision of safe drinking-water quality;
- Progressively ensuring infrastructural efficiencies; and
- Identifying and achieving the necessary training and capacity development of the personnel as part of addressing scarce and critical skills required for infrastructure investment and interventions for growth and development (Table 3.8 and Figure 3.9).

### **3.3 HISTORICAL EVOLUTION OF LGDA IN SOUTH AFRICA**

#### **3.3.1 South Africa's political transition**

##### ***3.3.1.1 Water infrastructure and LGDA evolution***

The concept of developmental local government is relatively new in South African hydropolitical developments. The LGDA paradigm arose out of the failures of the Apartheid local government system (Table 3.1. and Figure 3.3.). After the transition to democracy in 1994, this new paradigm for local government was incorporated in the White Paper on Local Government (1998) and the Reconstruction and Development (RDP) Framework of the African National Congress (ANC), read with the general trend towards water governance decentralisation as depicted in Figure 3.4. From Table; 3.1, it is clear that the Apartheid legislation meant different local authorities for different race groups and that the needs of the majority of the population were not sufficiently addressed. The major deficiencies from the pre-1994 era relate to the notion that the bulk of the water available was distributed and consumed by the minority of the population, or what is called in hydropolitical terminology "resource capture" (Turton, 1998a).

**Table 3.1: Water and sanitation infrastructure history**

Pre-1900	1900-1930	1930-1960	1960-1994	Post-1994
Separate municipal services	Central dam construction commenced	1930s: Vaalharts Irrigation Scheme	Massive dam building increased	Legislative overhaul for both resources and services
Bucket latrines in Johannesburg and Cape Town	1903: Rand Water bulk supplier for Witwatersrand	1956: Water Act	Massive building of irrigation schemes	Central Government focused on rural water supplies and sanitation
	1904: Sewerage in Johannesburg	1950s: Dam building stepped up	Formation of 10 Water Boards	2001: On-site sanitation emphasis, phasing out all bucket latrines
	1912: Irrigation Act		Investment in homeland water supplies	
	1924: Athlone sewerage works Cape Town		Homeland 'toilets in the veld' often not appropriate	
			1986: Lesotho Highlands Water Project Treaty	

Source: DBSA 2006: 32-33.

The Apartheid system of local government left behind a totally unsustainable local system, as can be seen from the Northern Cape socioeconomic profile described in Chapter 5 (Craythorne, 2006: 9-13). At the time of writing this dissertation, the legacy of the past was being addressed, albeit at a very slow pace as far as the unserved population is concerned. From documentary and literature reviews, the findings of this study, supported by Answell & Gash (2008), Mjoli (2012), Cronjé (2012) and Census (2011), indicate that there has been an improvement of service delivery in general, with sanitation lagging behind, to achieve the Millennium Development Goals (MDGs).

The following observations can be made with regard to service delivery in South Africa:

- Between 1996 and 2010, the number of households living in formal houses increased from 5, 7 million to 11 million, or by 92%. Close to two-thirds of these houses were built via state housing programmes. By sharp contrast, the number of households living in informal human settlements increased from 1, 5 million to 1, 9 million, or by 26%.
- The number of households cooking with electricity increased by 5, 9 million over the same period (1996-2010).
- The number of households with access to sanitation increased from 5, 06 million in 1994 (49, 9%), to 6, 6 million in 2000 (57, 6%), and to 9, 4 million in 2007 (72, 6%). According to Census, 2011, access to sanitation increased from 83% in 2001 to 91% in 2011, including shared and individual pit latrines as well as chemical toilets. The share of households with access to flush toilets increased from 53% in 2001 to 60% in 2011 (Census, 2011: 52-53).

- It is argued that the number of households without access to adequate basic sanitation is 4, 5 million (DWA, 2012; Cronjé, 2012; Census, 2011), and estimated costs to eradicate the sanitation backlog by the fourth quarter in 2009 would have been R34 billion, which is consistent with the figure cited by Dr Jay Bhagwan (WRC Director) in the Water Wheel, September/October 2008.
- According to Sausi, Modimowabarwa, Kanyane and Huston (2012: 23), there is an enormous demand for access to housing, electricity, water and sanitation. There was a social housing backlog of approximately 2,2 million units in 2012; about 3,4 million households still without access to electricity in 2012, and about 11% (1 381 687) in 2012 with no sanitation services, with 28% having inadequate sanitation.
- Empirically, for many years now the rate of natural increase of the South African population has been among the slowest in Africa (next to that of Mauritius and Botswana). It was estimated at 47 million in 2009, and is now estimated at 52, 5 million in 2013. It is significant that backlogs in services in South Africa are often resulting from a rapid growth in the number of households or new human settlements especially from the rural migration to urban areas. With the rapid growth of number of households, new sanitation demands emerge. Given South Africa's rapid growth of households especially in the informal settlements, a new sanitation backlog needs to be addressed. Therefore, the current estimated funding required to eradicate the backlog by 2014-2015 is R7, 5 billion per annum; excluding the budget for operation and maintenance (O&M) and upgrading of the old sanitation facilities to possible double pits. In 2012, it was estimated that the country required more than R75 billion to address the bulk infrastructure needed for rehabilitation and upgrading of the current water and wastewater treatment plants under the increasing population growth from 47 million in 2009 to 51,7 in 2012 (Engineering News).
- It is reported that 55% of wastewater treatment plants, especially smaller ones, do not meet effluent standards and some do not even measure effluent quality. In analogy to the Blue Drop certification system for drinking water, the government has launched a Green Drop certification for municipal wastewater treatment. As of May 2011, seven out of 159 WSAs were certified with the Green Drop, and 32 out of 1 237-wastewater treatment plants. In 2009, when 449 wastewater treatment plants were assessed, according to DWA official data, 7% were classified as excellently managed, 38% "performed within acceptable standards", and 55% did not perform within acceptable standards. Accordingly, out of 1 600-wastewater treatment plants in South Africa – not all of which were included in the Green Drop assessment by the DWA Technical Regulation Unit – at least 60% are not meeting regulatory compliance requirements (DWA, 2012).

From documentary review reports and the DWA National Information System (NIS), it can be concluded that service delivery by government has not necessarily failed (Cronjé, 2012). Rather, there are new demands and needs that arise as a result of unintended consequences of socioeconomic growth and development of the new democratic South Africa, such as migration from rural communities to urban and informal human settlements, and the influx of refugees and illegal migrants from various continents. Municipalities are geographically close to households. Hence, basic services such as water and sanitation, which are part and parcel of public health, are demanded at municipal offices. Additionally, leaders as local government are expected by households in more than 68 000 human settlements to bring together a variety of sectoral developmental water services programmes and projects within one integrated development plan (IDP). As noted before in this study, these expectations, which are often unrealistic on the part of both households and sectorial departments, tend to be high in newly established local government areas with the hallmarks of “Apartheid spatial anomalies” (De Visser, 2005: 58-60). Cronjé (2012) contends that

people are stimulated to struggle when there seems to be a turn in the tide of misery. When the masses sense the opening of new possibilities, they gain in confidence and resort to mass action. Hence, the level of protest has increased from 10 major incidents in 2004 to over 100 in 2010.

From Cronjé’s argument (2012) and government self-appraisal reports, it appears that government has established and adopted the LGDA to address the legacy of the past. As a “progressive movement”, the African National Congress (ANC) was cautious of approaches that were inspired by conservative ideologies of the 1980s. With the fall of the Berlin Wall and the international community stressing notions like acceleration (*uskorenje*), openness (*glasnost*) and restructuring (*perestroika*), the ANC leadership looked at other models of progressive governance like the Third Way approach of Tony Blair’s New Labour and Bill Clinton’s New Democrats to deal with the South African transformation and restructuring agenda (Stoker, 1996: 13). In sharp contrast to traditional public services, which have been described as “non-productive” and a drain on the “wealth-producing” part of the economy, the new public management (NPM) approach emphasises decentralisation, devolution and modernisation of public services such as water, electricity and health. In other words, NPM is a wide field concerned both with the “administration of development” (i.e. how to manage development intervention programmes) and “development administration” (how to develop management structures and skilled leaders within a political system led by councillors) (Cloete, 1995: 34; Kleinsmith, 1997: 74-77; Ford & Zussman, 1997: 261; Clapper, 1997: 66). The historical evolution of the local government system in South Africa from 1910 to the NPM or LGDA framework is schematically presented in Figure 3.3

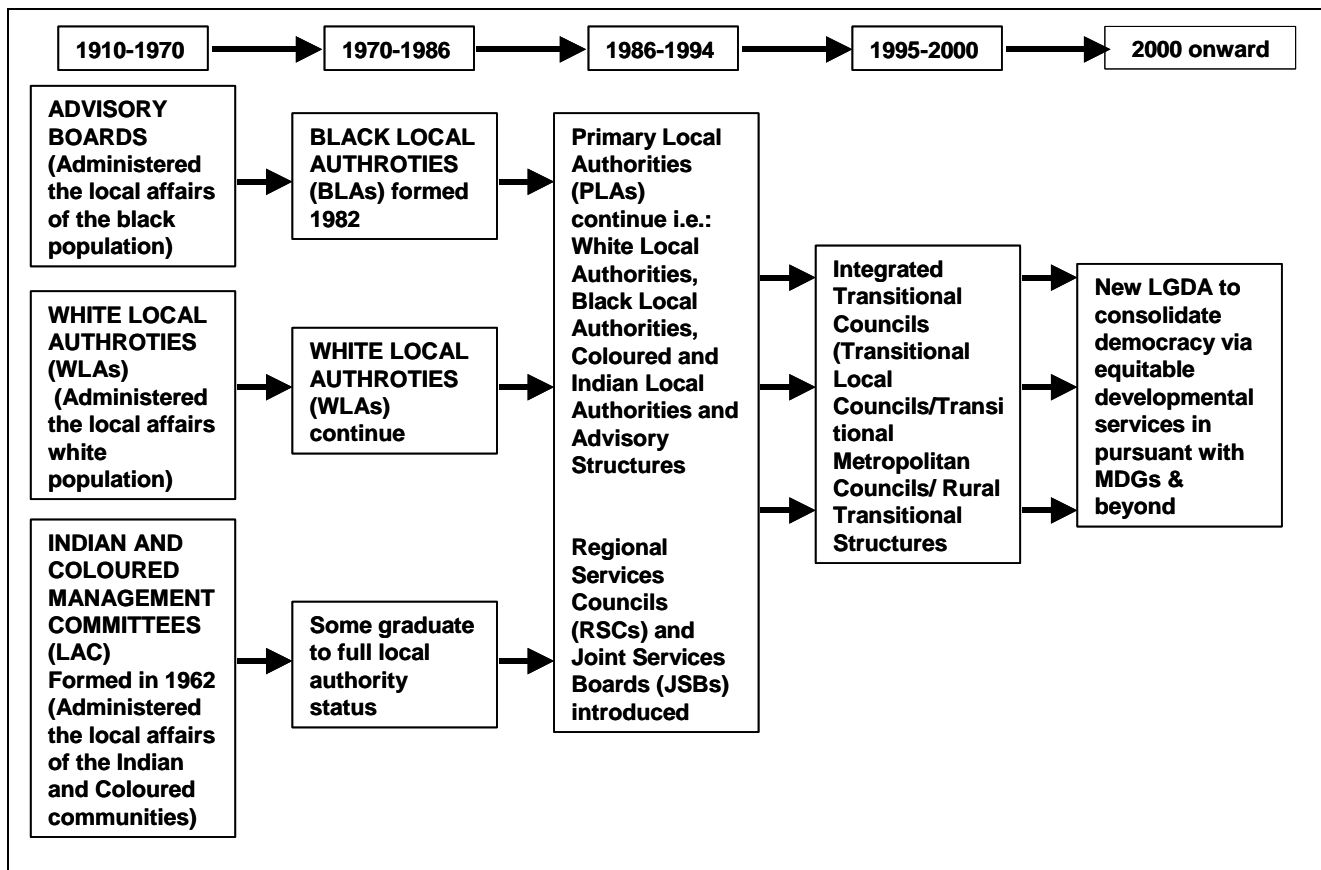


Figure 3.3: Historical evolution of local government in South Africa

Source: Adopted from International Republican Institute, 1995: 24

Similarly, the NPM in which the LGDA or modernisation agenda is conceptualised has had a long evolution from the rule of kings to modern administration systems, which are now dominated by information technology (IT). The evolution of local government administration management units as shown in Figure 3.2 and the evolution of development theories depicted in Figure 3.4 revolved around similar historical periods, as discussed below.

### 3.3.1.2 LGDA evolution 1980 to 1990

In the late 1980s, a new theory, which came to be called new public management (NPM), was proposed by David Osborne and Ted Gaebler in their book *Reinventing Government* (1996: 247-255). These authors advocated the use of private sector-style models, organisational ideas and values to improve the efficiency and service-orientation of the public sector. During the Clinton Administration (1993-2001) in the United States (USA), vice president Al Gore adopted and reformed federal agencies using NPM approaches. In the 1990s, new public management became prevalent throughout the bureaucracies of the USA and the United Kingdom (UK) and, to a lesser extent, in Canada. NPM theory spawned the audit culture and its focus on results (Hughes, 1998; Strathern, 2000). It emphasises the measurement of performance against objectives, with defined responsibilities for achieving these objectives and the use of data, especially cost and output information, to evaluate performance and decide whether to apply sanctions or rewards.

Performance management has been described as one facet of the audit culture that “relies upon hierarchical relationships and coercive practices” (Shore & Wright, 2000: 62).

In this case, the DWA, CoGTA, SALGA, the Auditor-General and the Department of Finance or the Treasury conduct joint audits of WSAs to ensure accountability and responsiveness with regard to developmental services such as water, sanitation, electricity and municipal health services funded through grants such the municipal infrastructure grant (MIG) and the provincial infrastructure grant (PIG) and the municipality’s own funds, especially the eight metropolitan municipalities in South Africa.

The use of the adjective ‘new’ suggests that NPM is a novel project. Equally, such a conception is reflected in the language used in New Democratic Government or New Republic of South Africa documents that counterpose the discredited ‘old’ approaches (the focus on ‘inputs’) to the effective ‘new’ approaches (the focus on the ‘outcomes that matter’) in terms of water governance and the selection, recruitment and deployment of a new calibre of councillors in water portfolios with minimum engineering and technical qualifications, complemented by a minimum of five years of experience of working in environmental and water management programmes and projects at various levels.

### **3.3.1.3 LGDA evolution 1990 to 2000**

In the late 1990s, Janet and Robert Denhardt (2000) proposed a new public services model in response to the dominance of NPM. A successor to NPM is digital era governance, focusing on themes of reintegrating government responsibilities, needs-based holism, and digitalisation (exploiting the transformational capabilities of modern IT and digital storage) (Kotze, 1997: 41; Vil-Nkomo, 1997: 125). These two eras have provided an overarching framework for LGDA in South Africa in terms of Figure 3.3 and Figure 3.4 read with Figure 3.1. The framework pinpoints appropriate performance measures of outputs from the customer viewpoint. Mwita (2000: 20-21) argues that the “neo-liberal administration” of Anglo-Saxon countries such as the UK, the USA, Australia and New Zealand can be in place if the primary and secondary objectives are linked with strategic plans and performance measures of institutions and their leaders. The NPM approach is concerned with business-like efficiency and outcomes in public institutions such as WSAs. This includes flexible and professional management and separation of policy-making from operation, the disaggregation of the public sector departments into corporatised units, the introduction of competition into water service delivery, outsourcing and competitive tendering, and an emphasis on output-based performance evaluation (Harrison, 2006: 319-335).

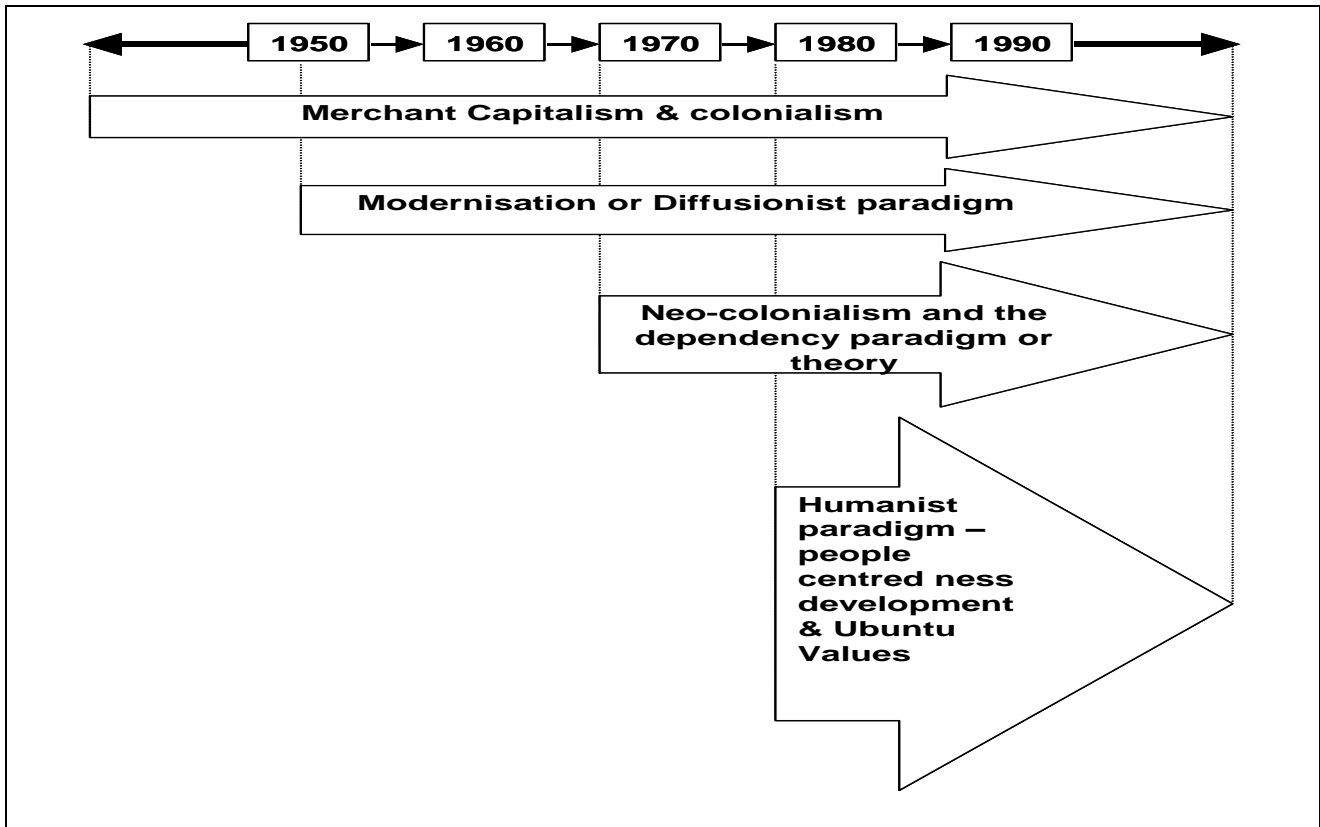
Furthermore, techniques such as ABC model behaviour (Ayers, 1995), system analysis (Skidmore, 1994), a budgetary control system (Otley, 1999) in line with sections 71 or 72 of the Municipal Systems Act, the famous balanced scorecard approach (BSA) in South Africa, the results and determinants framework IPAP, NGP, DWA NWRS2, and NDP, and the economic value added by



National Treasury can provide the required linkage for developmental water services and water resource management plans, especially using the CAR tool in water governance. Essentially, the WSDP and the Water Master Plan as sub-chapters of the municipal IDP are developmental tools of the municipal NPM framework (Mbeki, 2002; Table 3.2., especially Phase II on State Reforms between 1994 and 1999). Together, these complementary planning tools for IDPs act as yardsticks for good governance and political accountability of WSAs and councillors in accordance with long-term water business plans. As explained in Figure 3.1 and Table 3.2 on local government decentralisation administration processes, the new LGDA assumes that WSAs are geared up to maximise socioeconomic development and growth initiatives through integration by using WSDPs and IDPs that are aligned with the Provincial Water Master Plan. Therefore, the LGDA must be understood within the context of NPM or the world of work for councillors informed by Chapter 10 of the RSA Constitution, section 195 (l) (Harrison, 2006: 188; Figures 3.1- 3.2).

#### **3.3.1.4 Development theories and LGDA values**

Mead (1934), cited in Babbie and Mouton (2001: 31) argued that individuals are born into and emerge from an already formed society and that the society can be defined in terms of an ongoing flux of social activity, as also shown by the evolution of development theories depicted in Figure 3.4. This symbolic interaction between the individual and his or her immediate environment or society is further discussed by various writers such as Joseph (1997: 365), Van Binsbergen (1995: 5), Brohman (1995: 128), Leroke (1996: 226), Todaro (1997: 13-18) and Coll (2000), who maintain that the LGDA is not new in public management. Accordingly, the historical foundation of the LGDA as part of NPM is embedded in Western democracy. Davids (2005: 4-5) contends that development theories or paradigms tend to accumulate rather than replace each other. This explains the existence of parallel or overlapping development theories, as shown in Figure 3.4.



**Figure 3.4: The evolution of development theories**

Source: Adopted from Davids, 2005.

### **3.3.1.5 Merchant capitalism and modernisation theories**

From Figure 3.4 above, it can be seen that merchant capitalism and colonialism have had a great influence on development theories that emerged after the Second World War in the form of the modernisation, dependency and humanist paradigms or theories. Literature reveals that in the 1950s and early 1960s, development theories were dominated by modernisation theory. During the late 1960s and early 1970s, they were dominated by dependency theory. In the 1980s, the focus shifted from macro-theories to micro-theories centred on human resource development, or a people-centred approach. In line with the perspective of symbolic interactionism, it is significant that the word 'democracy' comes from the Greek language. In Greek, *demos* means 'the people' and *kratos* means 'rule' or 'authority at local level'. The term 'democracy' was first used to describe the form of government in the city-state of Athens, wherein the citizens (excluding women and slaves) gathered in the city squares (as a form of what would be local government nowadays) in order to make decisions collectively on how the city (or municipality nowadays) would be run. Obviously, the concept of democracy has changed since then to include freedom, the rule of law, public accountability, responsiveness, good governance and modernisation, multiparty elections, inclusive representation and development in the delivering of sustainable [water] services to the citizens in accordance with various human rights declarations (World Report, 2003a).

From this evolution of developmental theories, it is clear that the LGDA comprises a combination of modernisation, dependency and humanist theories under NPM. In terms of water governance and management, these interconnected features of NPM (of which LGDA is a sub-component) include: improvement of the efficiency and effectiveness of water resource management and water services by councillors and WSAs; promotion of applicable strategies, guidelines and tools to ensure efficiency and effectiveness in the design, implementation, monitoring and evaluation of developmental water services, water by-laws and policies, waterworks and projects; monitoring and, where appropriate, regulating of municipal services in pursuance of Chapter 3, section 11 of the Municipal Systems Act, 2000, read with Chapter 5, sections 83-85 of the Municipal Structures Act, 1998. It can be argued that these requirements support the need to ensure that a councillor development programme is an intervention in the current status quo of the Northern Cape society described in Chapter 5. In this way, strategic leadership of water business is infused with hydropolitics; therefore, councillors' needs are determined and a plan of action adopted. In understanding the urgency to deliver on the LGDA objectives in the water sector, it can be argued that the success factors would include the following:

- Innovative and strong councillor leadership to drive this necessary political agenda for the public good in the water sector;
- Sector commitment and partnerships among the water sector stakeholders;
- An urgency and dedication to improve management and the practical implementation skills of councillors;
- Timeous mobilisation of implementation improvement mechanisms within the greater milieu of community participation in ward committees;
- Improvement in project management and procurement systems, thereby ensuring efficiency and effectiveness in pursuance of LED, Expanded Public Works Programme (EPWP), NGP, IPAP, Skills Accords, DWA IWRS and NDP targets;
- Additional financial resources for building dams, sewerage plants and other water-related infrastructure within the Orange and Vaal WMAs, thereby addressing the required water resource demand;
- Proactive integrated planning that is relevant and appropriate to each WSA; and
- Improved alignment and utilisation of interrelated programmes in infrastructure development, asset management and leadership development.

These values of NPM may mean that the LGDA is a constructed and manufactured global phenomenon, which is rooted in history and development paradigms. As the Nigerian writer, Chinua Achebe says in his book *Things Fall Apart*, "any good novel should have a message, should have a purpose". Therefore, the researcher must organise these diverse theories into a coherent whole and contextualise them in the multiple world realities of the Northern Cape. It is

rather unfortunate that theories of political development within the context of decentralisation and the devolution of powers and functions to local government, almost without exception, have taken the form of rigid ideology complete with pre-given answers to all questions (Stewart, 1971: 24).

### **3.4 CHALLENGES TO IMPLEMENT LGDA**

#### **3.4.1 Challenges and constraints arising from decentralisation processes**

In line with the aforementioned LGDA evolution theories and implications of the decentralisation of water services implicitly and explicitly articulated in paragraphs 3.3.1 to 3.3.1.5., Van Beek (2005: 80-81) argues that

devolution and decentralisation are the new mantras of the turn of the century and few politicians [including councillors] dare speak up against them. In practice, however, things are more complicated and true devolution ... including control over financial resources [and understanding of content] is less widespread than one might expect, given all the rhetoric about bringing government decision making closer to the people.

Dr Motsoko Pheko (2007: 15), a great African thinker of the 21st century, supports van Beek (2005) when he eloquently stressed that

[the local] leaders believe in policies that have failed ... [since the 1994 non-racial and non-sexist democratic election in South Africa] .... They are destroying jobs and making the rich richer, and even selling water to the poor .... They preach moral regeneration but walk the path of moral degeneration, backed by repugnant laws that they pass .... [Consequently], people have been held back in economic development and cast in the quagmire of poverty for far too long.

This has created, inter alia, an expectation gap, with councillors coming under increased public scrutiny. In the concrete struggle for socioeconomic development using water services and water resources as natural resources for economic growth and poverty eradication, the citizens of the Northern Cape cannot do without their legitimate political representatives at local government level that will direct them to the desired outcomes of the LGDA as depicted in Figures 3.5 to 3.6. Equally, it is politically naive to think of democracy only in terms of periodic local government elections from 2000 to date and the number of political parties that have participated in these elections. Local government elections and leadership are about the concrete implementation of actions aimed at addressing the ills left by colonialism and economic oppression under the Apartheid regime (Terreblanche, 2012). This noble local government agenda is undoubtedly about raising the standard of living of people in terms of employment, accessible and appropriate education, decent and affordable houses, equitable sharing of the land and its wealth, crime reduction at all costs, proactive response to HIV and AIDS, and basic services such as water, electricity and health, in accordance with Maslow's theory about the hierarchy of human needs

(see paragraph 3.6.3; Figure 3.8). The active implementation of such a pro-poor and pro-development local government agenda by competent and skilled councillors may not only bridge the current gap between expectations and reality and help solve the problem of 'invisible councillors', but will also address the second phase of the national democratic struggle, which is embedded in the notion of a socioeconomic revolution in the IPAP, NGP, and NDP vision for 2030.

In sharp contrast to the call for good enough governance as well as Capability, Accountability and Responsiveness (CAR) as depicted in Figure 3.6, the Northern Cape WSAs are faced with a number of constraints and challenges that include the following:

- The complexity of the metaphysical world problems, which precludes a straightforward cause-and-effect analysis of the problem as well as simple solutions implemented by any government authority acting alone.
- The failure of the traditional command-and-control bureaucracies, which are not well suited to dealing with rapid 'unplanned' change. This applies particularly to environmental problems, where both knowledge of the problem and the problem itself evolve rapidly and any solution must involve overlapping public, private and voluntary sector initiatives.
- The inadequate definition of environmental problems based on single-discipline perceptions and solutions.
- The administrative 'trap', which describes the common mismatch between the nature of environmental/ecological problems and the sectoral problem-solving structures in government, which recognise and treat symptoms as the problem itself, and generally remain inadequate for the task or fail to integrate horizontally.
- There is a significant mismatch between the LGDA requirements and the competencies of councillors.
- Likewise, there is a significant mismatch between the required engineering skills and available engineers in municipalities. A skills audit by the South African Institution of Civil Engineers (SAICE) found in 2008 that of all 283 municipalities surveyed, 83 had no civil engineers. Another 48 employed only one civil technician each. About 35% of posts, enough for 1 000 engineers, were unfilled mainly because of budget constraints.
- The failure of vertical integration, which is the result of the common failure of understanding and information flows between policy levels of government and the end resource user, who may generate substantial, cumulative environmental impacts.
- Over-reliance on organisational development reforms. Although organisational development reforms are often part of a high-quality management approach, there is a tendency to assume that if the 'right' organisational development arrangements, policies and strategies can be brought into being, then adequate environmental management will result.

- The failure to learn from experience. Within the traditional bureaucracy there is often little motivation to learn from past experience and even less to admit, analyse and learn from past mistakes.
- The failure to confront the management process. Most politicians and bureaucrats in public institutions such as WSAs have little interest in improving the process of meaningful decision making, and indeed little interest in considering the process at all (Muller, 1996: 25; Tsibani, 2004: 16-17).

It is clear from the argument above that WSAs are systems that require timeously responsive and decisive systematic interventions in their water business problems. In Figure 3.6, LGDA is presented as an administration system. A 'system' is described in a basic text as "a set of inter-related parts, specified [or specifiable] relations between the parts; and a system boundary [implying a system environment]" (Alexander, 1974: 3-5). Yet, WSAs are still characterised by

low capacity for service delivery and development, the predominance of an authoritarian and rule-bound management style, a lack of emphasis on accountability and transparency, and the ineffective utilisation of human resources; ... [and] the absence of comprehensive policies due to a lack of vision for the future of the community and inadequate knowledge concerning the metaphysical world (Tsibani, 2004: 17).

In many instances, municipalities as WSAs do not have the capacity to fulfil their powers and functions as stated in various pieces of legislation (Tsibani, 2005: 336). This lack of capacity is further complicated by the re-demarcation process, which has serious institutional development impacts on delivery of water services, operation and maintenance (O&M) of existing water infrastructure and asset management strategies. Tsibani (2005: 336) argues that

the new municipalities coming from segregationist policies of the past including the impact of transformation in South Africa in a context of new democratic era ... are in a state of despair and under-development ... [and] characterised by chaotic management and administration systems and an exodus of technical staff without strategic plans.

The biggest problem facing municipalities is that the right people are not in place in the technical and financial departments to operate and maintain the infrastructure properly and to spend the money they have properly (Tsibani, 2005: 337). The auditor general found in 2012 that 70% of the officials in the employment of municipalities were not suitably qualified for their positions, which renders municipalities unable to deliver on their developmental water services. The municipalities face two key problems with regard to personnel: Firstly, small and poor municipalities are unable to attract qualified and experienced water and wastewater treatment experts and specialists, unlike the eight metropolitan municipalities. Secondly, the challenge of working in a politically charged workplace environment creates pressure for newly appointed personnel to leave the organisation.

Factionalism and politics are major encumbrances for staff who wish to work in a professional work environment and execute their required mandate. This, in turn, exacerbates high staff turnover. This unacceptable state of affairs is worsened by the fact that municipalities largely depend on equitable share allocations and grants. A conventional critique noted in this regard is the flawed formula used by the Treasury in calculating the equitable share. It is computed on the basis of census data information such as population size in the respective jurisdictions of municipalities. This information is often grossly inaccurate, given the increasing growth of households occasioned by the migration of people into the areas of the municipalities in search of jobs, as well as natural population growth. It goes without saying that municipal self-revenue collection from rates and taxes is also hampered by the high percentage of indigent people resident within the jurisdiction of municipalities. Municipal debt has risen to R63 billion in the 2012/2013 financial year (SA National Treasury, 2012).

Yet, the incentive-based regulatory approach seems to have succeeded in raising overall awareness and acting as a positive stimulus for gradual and sustainable improvement across the country. This becomes evident when one compares the 2009 average Green Drop score of 37% to the current improved status of 45%. Analysis of the Green Drop results indicates a good national Green Drop score of 71% (DWA, 2009). The Green Drop philosophy does not chase numbers as targets, but quality and excellence. Inductively, it can be argued that the legislative mind-set shift, together with the new understanding of the role of local government as a facilitator of socioeconomic development, has been widely embraced by developmental planners and water sector practitioners. This is a necessary, but not a sufficient condition for developmental water services and change required to address the legacy of the past (Goldratt, 2000). What is questionable is the extent to which this legislative framework, grounded on people-centredness and Ubuntu values, has been translated into a workable process that can fulfil the strategic objectives of the LGDA in practice.

#### **3.4.2 Lack of capacity of the water sector leadership**

The above decentralisation challenges are further exacerbated by a lack of capacity of the water sector leadership at national level. Findings by SALGA (2012), AG (2012), LGSETA (2012), and EWSETA (2012) revealed the following:

- The new funding of water and sanitation under the MIG and the PIG from the 2004/2005 financial year to date has come at a time of challenges of human resources capacity in all spheres of government, especially water skills and competence.
- The rate of vacant posts at the DWA is extremely high for a department that is expected to provide the required technical support and regulation of water resources and related services. DWA has a vacancy rate of 36,4% of civil engineering technical posts, 93,6% of artisan superintendent posts, 21,4% of chemical and physical science technician posts, and 34,4% of

cartographic and surveying posts, with an aggregate staff turnover rate of 15,4%. This state of affairs in a water sector leader institution is further exacerbated by the EWSETA findings that 9% of laboratory staff in the water sector does not have a school-leaving certificate.

- There is a shortage of 3 000 engineers with a vacancy rate of 57%, as well as an urgent need for approximately 1 400 civil engineering technologists over the next five years.
- Besides an urgent need for 7 200 health and hygiene and environmental health practitioners (EHPs), there is an immediate need for 125 new EHPs, and for 150 EHPs to upgrade their skills.
- A total of 4 000 artisans/technicians are needed to overcome the crippling challenges of operation and maintenance of infrastructure [including sanitation facilities and sewerage systems].
- Around 12 000 financial specialists are required to turn around the financial failures in the water sector institutions, especially municipalities or water services authorities (WSAs).
- The Department of Higher Education and Training (DHET) system produces only 1 500 engineers of all designations per year for whom the energy and water sectors have to compete with other sectors.
- There is a substantial mismatch in most cases between the required skills and the actual skills of employees.
- Most councillors are inexperienced with regard to waterworks and very few have the technical qualifications that would equip them for their strategic, tactical and operational oversight roles.
- More than 80% of water sector officials and employees are above the age of 35.

In the case of groundwater and water personnel in various water institutions, it has been found that they have fewer than five years of experience, with no structured mentorship and coaching programme provided by the employers and immediate supervisors. This leads to a huge challenge when it comes to dealing with groundwater pollution and the negative consequences thereof. Ultimately, it is clear that the ministers responsible for water supply and sanitation services must implement special water services programmes, as there is a national shortage of experienced, competent and innovative personnel in the engineering and technical posts in all three spheres of government. 'Good enough governance' is required within the context of the ever-increasing migration of people to towns and cities that leads to the continuous mushrooming of informal human settlements and new demands for basic services such as water, sanitation, electricity and health services.

Another serious consideration is that the shortage of engineering and technical skills in all three spheres of government impacts negatively on weak municipalities identified through Project Consolidate, the Siyenza Manje Programme, the Municipal Infrastructure Agency and the CoGTA Turnaround Strategy. According to MacKay and Koster (2005), supported by Pietersen *et al.*



(2011) and the auditor general's Report (July 2012), municipalities are ill-positioned to deal with sanitation as a special programme for the public good, as can be seen from the context of more than 600 public protests for basic services in South Africa. The situation is made worse by the findings of MacKay and Koster (2005) that "no local government has its own groundwater expertise, and 74 out of 231 local authorities did not even employ technical experts". This has far-reaching negative consequences for both groundwater protocols and environmental protections.

The central government in collaboration with the SETA system and the Department of Higher Education and Training (DHET) is expected to embark on learnership and apprenticeship programmes to address these unsustainable skills gaps, as was revealed in the Skills Accord of 2011 and at a number of education, training and development conferences and summits thereafter. The latter is due to the fact that sustainable development has not existed in practice in the history of South Africa, either during the colonial or Apartheid era or in the democratic and modern South Africa. The results are the 'brain drain' damage of experienced and skilled engineers leaving government to join the private sector, the over-politicisation of municipal services, political interference including the deployment of incompetent officials in strategic and operational positions in municipalities, and an ageing infrastructure with the limited capacity to cater for 15 million people rather than the 52, 5 million people in the democratic South Africa. As sustainable development is a concept that involves satisfying the multiple criteria of sustainable growth, poverty eradication and sound environmental management, South Africa is required to invest in waterworks infrastructure and its human resources every year until 2030, while mathematics and science will be prioritised in both schools and Further Education and Training (FET) colleges throughout the country.

If the challenges named above are not met, the result will be that 'unserved' people will have their dream of human dignity and a better life deferred in accordance with the American poet Langston Hughes' 1974 poem *A dream deferred*. Although the poem refers to African-American dreams of emancipation from poverty and associated social ills, it is relevant to South Africa's water supply and sanitation services, as the dream of meeting basic services is still far from realisation (Mbeki 2002: 9). The current absence of the original Siyenza Manje Programme by the DBSA and the National Treasury, complemented by the Young Water Professionals Programme twinned with experienced experts in water and wastewater engineering works, is really disappointing. In cases where such human resource development, retention, mentorship and coaching programmes are practised, they do not receive as much attention as is required. Achieving the dream of attracting the best talents and skills in water and wastewater infrastructure may lead to proper operation and maintenance of water infrastructure, socioeconomic growth and development as a result of a reduction in waterborne diseases. It may also lead to 'improved' living standards and the optimal utilisation of time for self-employment and empowerment by South African citizens as discussed at the bottom of Figure 3.6., i.e., CAR framework to inform LGDA framework in Figure 3.2.

### 3.4.3 Interpretation of LGDA Values in Democratic South Africa

The rich historical genesis of the LGDA is not without its problems (see paragraphs 3.3.1.2 to 3.4). The current emergence of LGDA as a focus point of discussions by leaders, academics and even to some extent other African states may be attributed to South Africa's transition and the ideas and speeches of South African presidents during the 1990s (Table 3.2). Since 1996, the LGDA has featured prominently in the speeches of former president Thabo Mbeki and other Cabinet ministers of the African National Congress (ANC). Former president Thabo Mbeki set strong theoretical premises for the LGDA in South Africa when stated in his speech at the opening of Parliament in 2002:

South Africa's social transformation requires, among other things, that we create a truly developmental state system that serves the interests of the people that is truly representative of all these people, efficient and cost-effective. Our system of local government must also be built based on these principles. We are convinced that the local government legislation you have approved gives us the possibility to achieve these objectives and thus create a radically new system of local government.

Yet, the concept of LGDA can be traced back to Greco-Roman civilisation, the socioeconomic and political transformation of Europe, Asian societies, and more recently Africa's emancipation from the shackles of colonialism to modernised democracy. This modernisation of democracy and later local government began, inter alia, with Edmund Burke's address to the electors of Bristol following his election in 1774, which will be discussed later (Hoffman & Levack, 1970: 15, Rao, 1998:31, Figure 3.9). In essence, the modernisation theory states that if

less-developed countries (LDCs) are to become developed, they should follow the path taken by the developed countries over the past 100 to 200 years. For the protagonist of the modernisation theory [or agenda] after the Second World War, the solution to the development of LDCs is simple and straightforward: Do as the Western world did, forget about tradition ... and all your development problems will be solved! (Davids, 2005: 9)

There is compelling literature evidence that the concept of LGDA refers to a specific era in Europe, which is problematic in several ways. These include the following:

- Representation theories and democratic development in Europe had already occurred before 1774. Thus, LGDA in Europe was characterised by a posteriori assessment as opposed to an a priori wish for LGDA in South Africa.
- The LGDA concept is largely applicable to European countries as opposed to underdeveloped and developing countries and provinces like the Northern Cape in South Africa. Given the fact that 'democratic Europe' dominated and exploited Africans, the concept of the LGDA could be considered to have exploitative and imperialistic connotations that imply a linear conception of history according to which [local government] development in Africa is several centuries behind

that in Europe. Furthermore, the modernisation theory regards Western culture as superior to all others.

- The concept is frequently linked to improvements in technology, to modernisation and other changes which have nothing to do with the [re]discovery, [re]construction and [re]development of Northern Cape society.
- The concept is widely misconstrued and misinterpreted to mean the adoption of modernity or modern and scientific ways of doing things in a province such the Northern Cape, which, by implication, means a rejection of existing forms of living and governance as 'primitive, unsophisticated, old and backward. In essence, the modernisation theory in which the LGDA is embedded is too insensitive to the specific ways in which factors of socioeconomic growth, such as the introduction of new technology in the water sector, may be interpreted, modified, Adopted and adjusted, or accommodated within the existing governance systems in the Northern Cape. In a province such as the Northern Cape, the historical inequalities of power between different population, racial and class divisions imposed by Apartheid and male domination can be compared to Rostow's five-stage model of economic development that is discussed under paragraph 3.4.4.

Many of the requirements for the new LGDA are flawed, particularly with regard to their applicability in poor Northern Cape municipalities. A rethink is required for several reasons:

- The reality of the requirement of high-skilled councillors and officials is that this can only be achieved in well-resourced and financially viable municipalities in the world and in the eight metropolitan councils in South Africa.
- The high-skills discourse, complemented by sophisticated technology, undervalues the intermediate and low skills that are required for operation and maintenance in the Northern Cape and ignores the fact that the people of the province depend on low and intermediate skills for survival and employment.
- The typology of municipalities in South Africa as developed by CoGTA, LGSETA and SALGA demonstrates the gap between LGDA theory vis-à-vis practice in which the majority of Northern Cape WSAs fall somewhere between poor and fair to meet the LGDA requirements (COGTA 2005). There is a serious conceptual problem with the LGDA's high-skills requirements as they are based on a developed-countries discourse dominated by an industrial paradigm (Kraak, 2006: 10).

Notwithstanding the above-mentioned WSAs' capacity and capability constraints, it is also needs to be taken into account are pathological conditions and perceptions that have shaped or directed many of the local leaders in the post-Apartheid local government system, which can be characterised, inter alia, by the following:

- An excessive preoccupation with sophisticated gadgetry, signs of modernism, an inclination to exalt anything foreign or Western as sanctified and a tendency to castigate the traditional Northern Cape form of governance as ‘primitive, unsophisticated, backward’;
- A tendency to emphasise the mining industry or industrialisation along the rivers over agriculture;
- A misinterpretation of the so-called characteristics of underdevelopment as causes of economic ‘backwardness’ and of development as meaning absence of underdevelopment factors;
- A tendency to seek solutions to problems from outside the Northern Cape Province rather than from the Northern Cape people; and
- Attempts to model Northern Cape municipalities after the eight metropolitan councils in South Africa and international cities such as London, Paris or Moscow.

These implied negative perceptions about the Northern Cape may have compelled local councillors to opt for obscenely expensive and inappropriate capital-intensive water and sanitation technological options. In other words, it is common for local leaders to demand fully waterborne systems without championing the prerequisite infrastructure such as dams to cope with the necessary capacity and volume for the full waterborne system. Additionally, expensive and inappropriate capital-intensive techniques of agricultural production are used almost to the exclusion of less costly techniques that can accommodate the Northern Cape’s poorest of the poor. Clearly, this perverted way of looking at the LGDA has shifted the emphasis away from a rigorous process of ensuring skilled and competent councillors to having councillors with the ‘symbolic status’ of their occupation.. Consequently, the symbolic community status has shifted the focus from the understanding of the modus operandi of the LGDA system to a preoccupation with councillors’ status within the local government domain.

#### **3.4.4 Contextual realities for implementation of LGDA values in South Africa**

It is argued that a developmental state is rooted in the notion of a caring government in accordance with the Ubuntu philosophy as depicted in Table 3.3. read with Figure 3.6. While this may be the vision, the textbook model of the LGDA seems deeply flawed in practice. In this regard, one can use the metaphor of living between two worlds: an old order that is dying but not yet dead, and a new order that has been conceived but not yet born. This image of the LGDA as a system that already exists and is about to be born is perhaps the most appropriate way of resolving the tension between the LGDA as a vision for a future local government system in South Africa or as a process that is already under way. If one considers Rostow’s stages of growth theory read with Chapter 5 of this study, it is apparent that the LGDA is not yet being applied in practice in the Northern Cape.

According to Rostow's (1971) model of economic development read with Table 3.2 and Figures 3.1 to 3.6, countries follow a series of five stages from 'underdevelopment' to 'development'. These stages, which are summarised below, represent the path that all countries and, to some extent, municipalities must follow.

- **Stage One:** Traditional society: This is characterised by a kin-oriented, hierarchical socioeconomic and developmental system, high unemployment, low agricultural productivity, no savings in terms of banked financial reserves/nest eggs, low capitalisation, and high illiteracy. This stage tends to reflect the Northern Cape socioeconomic profile, which is characterised by detachment from the aim of 6% national growth in South Africa and a cycle of poverty rooted in the legacy of separate policies and strategies during the Apartheid era.
- **Stage Two:** Precondition for take-off: At this stage society has made significant economic progress and is characterised by the emergence of political elites for a modern economy, new commitments to capitalism and profit-making, the rise of entrepreneurs, expansion of education, investment in human resources via training, and investment in water infrastructure for economic growth and development. Thus, growth and development are seen as the same thing, with modernised technologies superimposed on traditional systems of governance. This superimposition may lead to pockets of development in a sea of underdevelopment, as discussed in Chapter 5.
- **Stage Three:** Take-off: This is characterised by rapid economic growth and the spread of Western technology in agriculture, mining, and industrial sectors of the economy. Rostow (cited in Fair 1982: 6) could have argued that some of the characteristics include the emergence of a political, social and institutional framework similar to that of the LGDA, and of CMAs to enhance water growth and development.
- **Stage Four:** Drive to maturity: Rostow (1971) argues that this stage is reached when the country's economy demonstrates that it has the technological and entrepreneurial skills to produce desired results.
- **Stage Five:** Age of high mass consumption: This stage is reached when a country is able to afford social security, HIV and AIDS control and welfare programmes. The country's economy has shifted towards a sustainable economy characterised by durable consumer goods and sustainable water services, and the overall living standards of people rank well on international human development indices.

From these developmental stages as interpreted in Table 3.2 below and from the background to the present situation in the Northern Cape (Tsibani, 2004: 60-82), it can be argued that the weaknesses in local authorities in the Northern Cape could be even worse than those in European local authorities. The reasons for this are well documented in literature (Greenwood & Jacobs, 1994: 3-12; Cameron, 2001: 97-177; Kroukamp, 1996: 4; Tsibani, 2004: 2-5). Furthermore, in their

evaluation of British local government systems, Greenwood and Wilson (1990: 43) found that “in Britain, municipal councillor’s knowledge and skills figured highly in education and training needs”.

**Table 3.2: Phases of transformation and development in the RSA**

Phase	Period	Performance Area/s
Phase I: Pre-Democracy	1600-1994	Colonialism, colonialism of a special type ( apartheid development) and advanced neo-liberalism era characterised by deep racism and separate development based on the philosophy of separate development and exclusion of the majority of South Africa from democratic powers and functions
Phase II: State reforms	1994-1999	The new democratic state under the ANC government and administration focused on new legislation and policies as well as institutional restructuring to meet its developmental objectives and performance areas.
Phase III: Micro- and Macroeconomic reforms	Late 1999-2004	The democratic government focused on microeconomic reforms to correct market failures. Growth sectors were identified under GEAR, IPAP, NGP, DWA NWRS 2 and later the NGP Framework (2010). The growth sectors and strategies were complemented by the Job Summit.
Phase IV: Better planning and coordination	2004-2009	The need for synergism and linkages between ministries and departments led to the clusters, e.g. Economic Cluster. There were even theoretical debates championed by ministers in the Departments of Public Administration in South Africa (DPSA) and Provincial and Local Government (DPLG), now known as the Department of Cooperative Governance and Traditional Affairs (CoGTA), to integrate the national, provincial and local spheres of government into a single public service, leading to a Draft Single Public Service Bill.
Phase V: Performance monitoring and evaluation (Appraisal Phase)	2009 to date	This phase is a consolidation of all phases, whereby the state has mature leadership and capable councillors as representatives of their WSAs with a commitment to advancing the public good and water governance for growth and development. The state has the capacity of years of democratic governance to ensure political stability, good enough governance, international solidarity in addressing the economic recession as a constraining factor for meaningful investment opportunities, and problems of systematic unemployment and inequality as unintended consequences of radical capitalism in an underdeveloped world with hallmarks of systematic colonialism and neo-colonialism of a special type or apartheid system of governance and administration.

Source: Adopted from Rostow, 1971.

Paradoxically, the British local government system has become more democratically consolidated since the re-organisation in the mid-1970s. Gyford (1985: 77-97) distinguishes five stages or phases in the process of the politicisation of local government in the UK: diversity (1835 to 1865); crystallisation (1865 to 1890s); realignment (1890s with the rise of the Labour Party to 1945); nationalisation (1945 to 1973); and, finally, the current period of re-appraisal (1974 to date). Indeed, if democratic consolidation is a necessary condition in a country with a long-established local government system and a generally stable socioeconomic and political system, how much more necessary must it be for local authorities in the Northern Cape with much less revenue collection (Cameron, 2001: 97) and a water-scarce environment characterised by highly skewed water distribution to consumers (Tsibani, 2004: 70-76).

The above-mentioned limitations and intellectual frame of reference are an important reason why the LGDA as a system is not effective in the Northern Cape. The phases listed above are good on paper, but not in practice in South Africa and its local government systems. The major challenge remains to translate Acts of Parliament into practice in most provinces and municipalities in South Africa. Administratively, these five phases can be operationalised into five phases or steps in the South African democratisation and institutionalisation of the LGDA, as depicted in Table 3.2 above.

These five phases have put South Africa on a par with most developed countries, albeit with hallmarks of the colonial and Apartheid regimes and weaknesses in all three spheres of government that lead to many institutions being put under administration. There is a limited number of personnel and political leaders with critical and scarce skills; and, where they are available, they are about to retire. There are also too many elections and too much reshuffling; each time politicians are elected they bring in new personnel who need more time to understand their particular sectors – which impedes the acceleration of sustainable services. Most municipal executive managers are on three-year contracts, while councillors serve for a term of five years. This limits the career paths for both technocrats and political leaders and severely compromises effective and efficient administration and management. Electioneering, rhetorical promises and corruption tend to replace the advancement of the public good. Among other things, this prevailing administration system within the water sector prevents innovative and creative methods that are required to simplify the LGDA so as to give effect to the RSA Constitution (Tables 2.7 and 3.3).

#### **3.4.5 People-oriented paradigm and LGDA**

Despite the plethora of global literature on development theories as depicted in Figure 3.4, very few useful conceptualisations of a councillor leadership framework in LGDA have been offered. Despite these omissions, there have been helpful attempts by scholars such as McGehee and Thayer (1961), Stewart (1971: 17); Weiss (2000), Boyne (2003); Chabal (1998); Chabal and Daloz (1999); Daloz (1999), and more recently by Khoza (2005), towards re-establishing an LGDA analytical framework embedded in the humanistic paradigm. Such a framework has been further operationalised by the researcher in Figure 3.5, which offers a councillor leadership framework in terms of the LGDA, and the representation of how the CAR tool can be used for LGDA water adaptive capacity as shown in Figure 3.6. Figure 3.5. provides the LGDA framework for analysis of LGDA requirements to support the CAR Tool in Figure 3.6. Both Figures allow the researcher to present a rather unexplored concept of CAR to operationalise LGDA values. Using Figure 3.6. with explanation at the bottom of the Figure 3.6 the meaning and application of each letter of CAR. The use of CAR Tool assisted the researcher to have a vehicle to define the three letters of CAR,

namely Capability, Accountability and Responsiveness. In hydropolitical studies, these CAR letters may refer to political accountability: answerability, justification and enforcement of water regulation and policies in terms of DWA Drinking Water Norms and Standards and treatment of wastewater in line with environmental management policies by the Department of Environmental Affairs (DEA). In order to be accountable, councillors are obliged to be answerable in the sense that they must provide strategic, tactical and operational information about their water decisions and about how they were taken. This process of giving logical reasons for actions taken creates a human culture of justification among hydropolitical leaders and stakeholders especially in Northern Cape with the high risks imposed by climate change and unsustainable use of water. Figure 3.6. provides three CAR vertical and horizontal key dimensions of hydropolitical role of councillors in the 33 WSAs.

Although the researcher attempted to provide comprehensive and well-integrated literature evidence on the definitions of LGDA, there is, at this stage, a sharp divergence of opinions between NPM or Third Way approach authors vis-à-vis comparative politics (Easton, 1969; Engel & Olsen, 2005: 6). Regarding the concept of LGDA within the humanist paradigm, the three aspects singled out by Mhone and Edigheji (2003: 4) in their introduction to an edited volume on globalisation challenges to governance in the 'New South Africa' seem to the researcher to apply equally well to local government (see also Figure 3.6)

[F]irst, the need for a rule-based, open, transparent, efficient and accountable government; second, the need for the [local] government to undertake its task in a manner that is participatory and consultative and that generally lives up to the democratic precepts of formal democracy; and third, the need for the [local] government ... to ensure that substantive aspects of democracy are achieved, which would be compatible with the need to attain sustainable human development in the long term.

In both Figures 3.5 and 3.6, water governance approach focuses on democratising internal work procedures, devolving decision-making power, and incorporating civil society bodies into governance. While recognising the need for a strong centre in order to plan strategically, and for the performance of functions such as the regulation of drinking water quality, water quality assessment and monitoring, auditing of water bills and revenue collections in accordance with DWA Norms and Standards, Turton (1999a) supported by Khoza (2005) argued for the creation of participative work processes at every level of the organisation as depicted in Figures 3.5 to 3.6. read with Table 3.3. Techniques for LGDA using CAR include the establishment of a counterweight to traditional line departments in the form of a strategic centre, thus shifting power to elected councillors; loosening bureaucratic rigidities through establishing task teams for projects (consisting of portfolio councillors, management, unions, water users, ward CBOs, NGOs, and community representatives); participative planning, and attention to increasing the capacity of civil society to participate in decision making as further depicted in Figures 3.5 and 3.6. respectively.



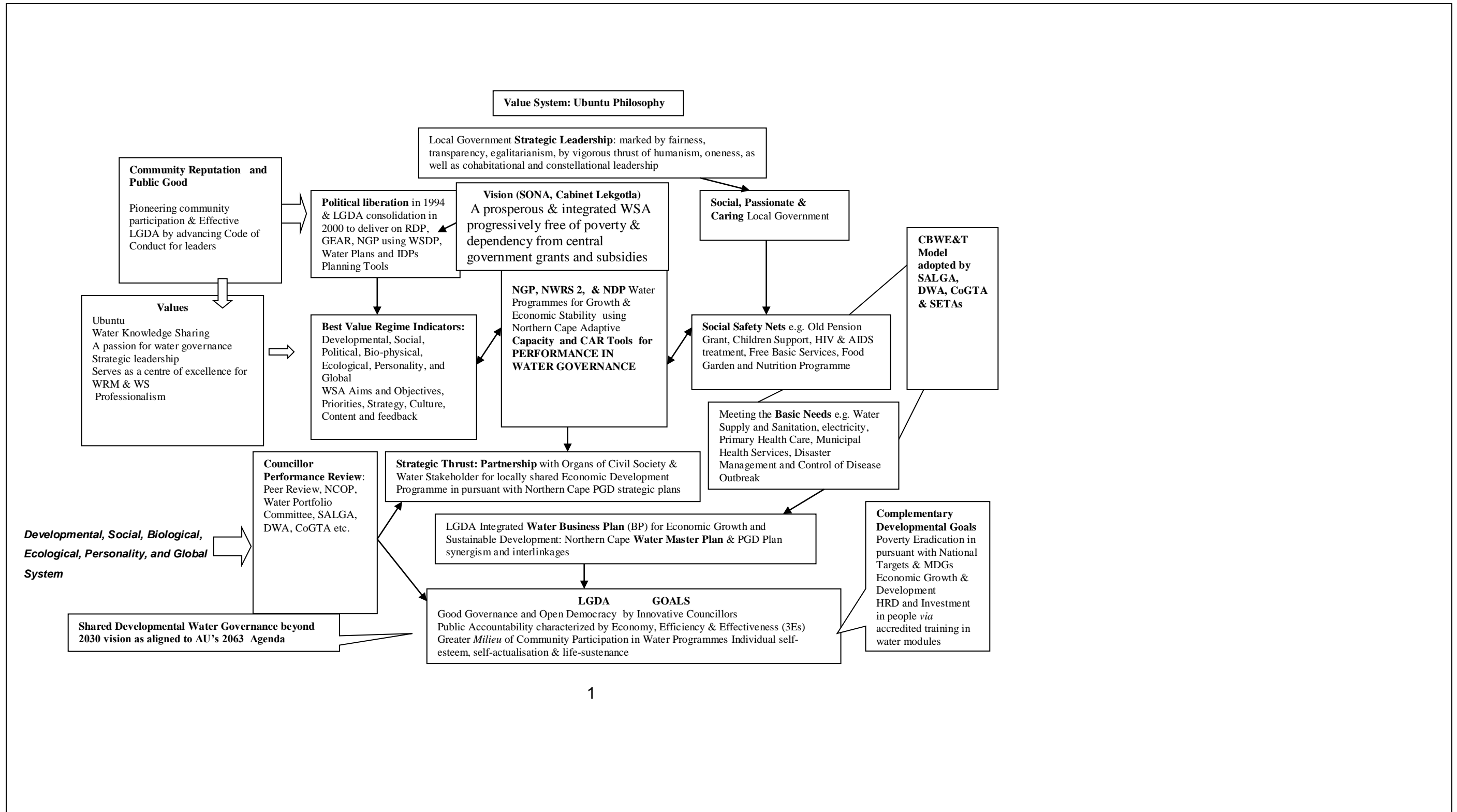
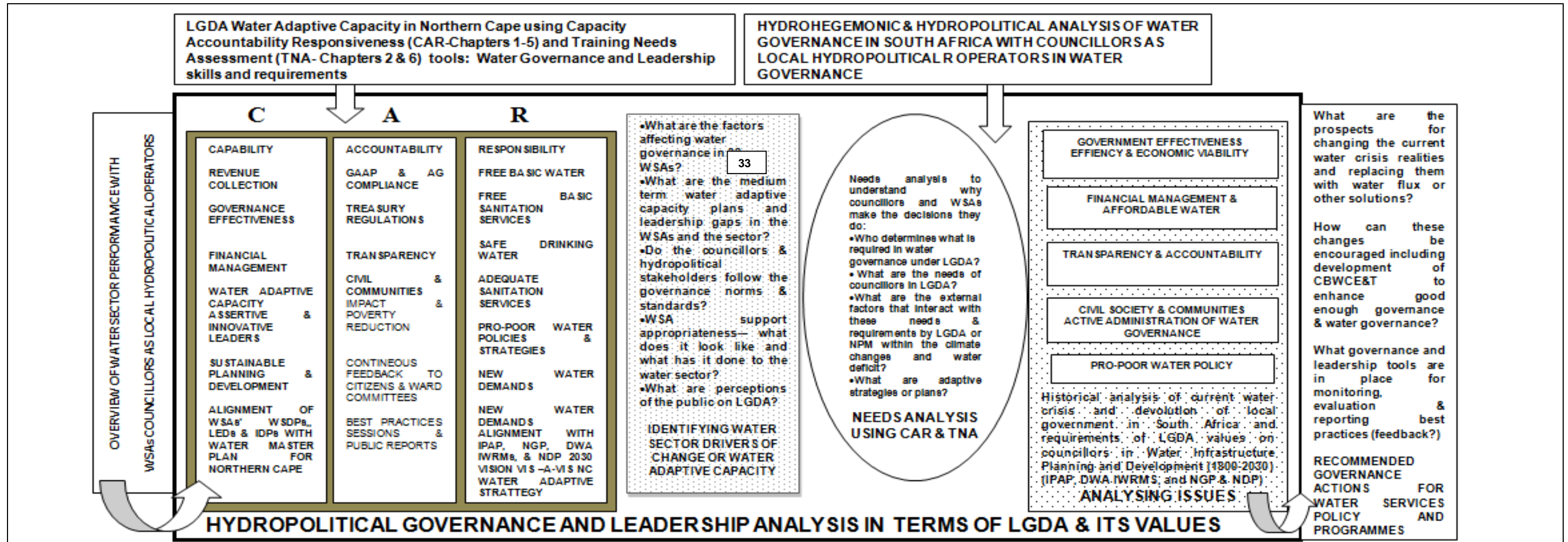


Figure 3.5: Councillor leadership framework in new LGDA



<p><b>LGDA water governance and leadership innovation and change management in terms of water adaptive capacity</b></p> <p>Description and exploratory analysis of devolution of local government system from 1800 to 2013 and emergence of NPM or LGDA and its implementation in South Africa since 1998 White Paper on Local Government and CoGTA Turn-Around Strategy, 2009</p> <p>Identification of main problems and requirements of LGDA to hydropolitical stakeholders and councillors in water infrastructure planning and development</p> <p>Key strategic areas for WSAs and performance indicators in accordance with the concept of cooperative governance in Northern Cape</p>	<p><b>Hydropolitical analysis in LGDA and water shared responsibilities</b></p> <p>Hydrohegemonic and hydropolitical stakeholders such as DWA, SALGA, CMAs, WUAs, State Owned Enterprises (SOEs) such as DBSA, IDC, NDA, &amp; SEDA, development agencies, NGOs, CBOs, research think tanks (e.g. WRC, CSIR, ARC, HSRC), farmers' associations, mining sector, agricultural sector, and citizens' identification of main drivers for water adaptive strategy, plans and initiatives at a provincial level on capacity vis-à-vis micro capacity to drive water governance adaptive capacity strategy for Northern Cape</p> <p>The concept of cooperative governance embraces the realisation that a single sphere of government cannot handle the responsibility of a developmental state.</p>	<p><b>Councillor profiles and needs analysis in water governance and strategic leadership</b></p> <p>Analyse the interests and needs behind the LGDA values vis-à-vis hydropolitical stakeholders sharing water with Northern Cape WSAs</p> <p>In-depth analysis of how the hydropolitics works in Northern Cape (conceptualisation, contextualisation, capacity gaps, content analysis of existing training programmes, exit outcomes of existing qualifications vis-à-vis the strategic role of councillors in water governance and leadership oversight role, operationalisation, and action-oriented solutions using CAR (Chapters 1-5) and TNA (Chapters 2 and 6) tools for analysis of LGDA requirements and values in Figures 3.5 and above. Using systems approach, the programme designers and analysts are able to take into account the historical presupposition of water governance (Tables 3.1 and Figure 3.3.) to develop ideal profile as depicted in Tables 3.3., 3.8., 4.1., 4.2., 4.3., 6.10, and 8.1. respectively</p>	<p><b>Critical and specific skills and competence for effective leadership in water governance and leadership innovation</b></p> <p>Compilation of councillors' profile, requirements and skills in new LGDA or NPM, especially in a water-stressed country or province (case study methodology)</p> <p>Key training needs and possible water flux solutions to address LGDA 3Cs (complexity of LGDA systems, capacity gaps within the modernised and globalised society in terms of water governance, and structural and financial constraints in terms of non-revenue, corruption, inappropriate deployment of both leaders and officials in all three spheres of government (including the private sector)</p> <p>Linking CBWCE&amp;T Model to developmental state goals and performance areas necessitates that hydropolitical stakeholders and WSAs take a systems view for training as depicted in Figures 2.4, 2.5, 2.8, 2.10, and 5.13.</p>	<p><b>Recommended actions</b></p> <p>Practical exercises to address the required 3Hs and 3Es in order to overcome 3Cs in water governance and leadership innovation in a local domain</p> <p>CBWCE&amp;T based on conceptual framework of LGDA and its values using CAR and TNA for ongoing problem solving, learning and solutions. The CBWCE&amp;T model to be supported by hydropolitical stakeholders through Northern Cape water adaptive capacity strategy</p> <p>CBWCE&amp;T Model must be designed and planned to ensure that hydropolitical leaders and their WSAs are empowered and helped to adapt to the changes in the metaphysical environment. In order for the CBWCE&amp;T Model to provide the <b>greatest benefit</b> to hydropolitical leaders and WSAs, the training programmes must be aligned to LGDA vision, mission statement, values, goals, national priorities, and targets beyond <b>2063 AU Agenda</b></p>
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Figure 3.6: Water adaptive capacity using CAR tool for LGDA

Source: Adopted from DFID, 2006.

It is significant to notice that the failure of the competing development theories has led development practitioners to develop the concept of human-orientated, people-driven or people-orientated development to address individual, collective and institutional needs as depicted in Figure 3.5 and Figure 3.6 respectively. Korten (1990: 76), a scholar of human theory, defines such development as

a process by which the members of a society [or local government] increase their personal and institutional capacities to mobilise and manage resources to produce sustainable and justly distributed improvements in their quality of life consistent with their own aspirations.

This definition supports the principles of a “democratic, non-racial, non-sexist society” complemented by “integrated planning and development” as well as “people-centred development, all of which strongly feature in the public domain in South Africa. This human paradigm has its building blocks in public participation, social learning, learning organisations, empowerment, and sustainable developmental services such as water, sanitation, electricity and health in pursuance of Maslow’s theory and Ubuntu African leadership philosophy (RDP White Paper 1994: 7-9). Researchers and authors have given many definitions of Ubuntu, all of which are officially recognised by the South African government:

[Ubuntu refers to] the principles of caring for each other’s well-being ... and a spirit of mutual support ... each individual’s humanity is ideally expressed through his or her relationship with others and theirs in turn through a recognition of the individual’s humanity. Ubuntu means that people are people through people. It also acknowledges both the rights and the responsibilities of every citizen in promoting individual and societal well-being (Government Gazette, 2 February 1996, No. 16943: 18).

In his book *Let Africa Lead*, Khoza (2005) adds Ubuntu philosophy or African humanism to the current conventional Western approach that is centred on the individual, as opposed to the African leadership approach that prizes the person within the group. Khoza (2005) spells out the lessons of his corporate experience in the state-owned enterprise Eskom, which has been operated under NPM during three decades of turmoil and change in South Africa. In this book, Khoza (2005), one of Africa’s distinguished thinkers and businesspersons, shows how Ubuntu assists the modern multicultural organisation to harmonise relationships, extend its market appeal, and innovate technologically. In accordance with the objectives of this study, Khoza (2005) argued that the [councillor] leadership styles can be distinguished and must be codified, cultivated and developed to promote social cohesion and a shared vision embedded in Ubuntu philosophy. This view was also anchored by former president Thabo Mbeki, cited in Khoza (2005: 157), when he argued that:

We all belong to Africa. Our everyday life is founded upon a talent for innovation that was first used to make stone tools in East Africa. From those beginnings, we have colonised the globe, built modern civilisations, and travelled to the moon. The thread that joins us to our African

ancestors ... still tugs at the heartstrings as we marvel at Africa's landscapes, wildlife and people.

The optimistic core values of Ubuntu not only add wide developmental scope for local government and its leaders, but also acknowledge the unrecognised African leadership dimension in order to set forth the theoretical foundations of the new LGDA paradigm for humanism and human relationships in WSAs. As Khoza (2005: 140) explains,

We know that by setting objectives for an African Renaissance around themes of cultural revival, peace, and security, and democracy and wealth creation we can turn our backs on Afro-pessimism and strike out on the path of Afro-optimism .... We aim to rebuild our societies as vibrant, productive members of the world community. More than that, we can show that African humanism has lessons for all .... So long as we let others tell our story, it can never be truly ours. We must find our own way. Having found it – I believe in Ubuntu – we have to go several steps further and propose to the world that a formula exists for a new and better approach to leadership, based on African principles.

This Ubuntu philosophical argument does suggest that the humanist paradigm has a concrete formula to turn around WSAs in the tangible form of productive outputs and wealth creation and, intangibly, in terms of greater personal happiness of the councillors and citizens, community well-being and the sense that everyone is a stakeholder in the process of making things work in the water sector in the Northern Cape as one of South Africa's provinces on African soil. Consequently, the Ubuntu values of cohabitation, coexistence and fundamental oneness of humanity that are embedded in the African psyche and expressed through the communitarian tradition of many widely scattered Namaqua people and other racial groups in the Northern Cape can only add to the developmental values of the LGDA, as depicted in Table 3.3. below.

**Table 3.3: Applied overarching councillor leadership values in LGDA in Northern Cape**

Key focus areas-based Ubuntu paradigm (Khoza, 2005)	Interpretation by the researcher
<p><b>Servant leadership</b></p> <p>Service is the fundamental quality of a councillor as local leader. Such local leadership is marked by fairness, transparency, egalitarianism, accountability, responsiveness; by the vigorous cut and thrust of the imbizo [or African gathering] to which even the humblest of burrow dwellers is cordially invited.</p>	<p>Leadership makes persons in positions of authority ever conscious of their role as servers rather than commanders. Genuine leaders are conduits of energy; energy that enables teams to achieve superlative results in developmental water services and water resource management. Locally, innovative leadership posits a form of leadership that serves rather than dictates; that builds trust and inspires followers.</p>
<p><b>Cohabitation, coexistence and communitarian tradition</b></p> <p>Ubuntu values promote tolerance of diversity. These values are about cohabitation, coexistence and fundamental oneness of humanity embedded in the African psyche and expressed through the communitarian tradition of many widely scattered Namaqua people and other racial groups in the Northern Cape.</p>	<p>Innovative leadership projects the importance of Northern Cape communities to work and live together in harmony and peace. Developmentally, African values point towards the fundamental oneness of humanity. There is no human difference between the rich and the poor, the intellectual and the labourer, the master and the slave, and the political class and under-class. Thus, Ubuntu or humanism calls for oneness and acceptance of unity in diversity in local government in pursuance of integrated developmental plans and programmes.</p>
<p><b>Social arbitrage</b></p> <p>Historically, Africa has a culture of respect for persons and their differences and similarities. Methods of conflict resolution go back for millennia, far beyond the arrival of slavers and colonialists. This win-win methodology of Africans has been able to infuse general human values into pragmatic solutions and then into social reality at local level.</p>	<p>Social arbitrage involves techniques of bargaining and compromise to reach optimal outcomes. The benefits are material, in the form of productive outputs and wealth creation; and intangible, in terms of greater personal happiness, community well-being and the sense that everyone is a stakeholder in the processes of making local government work for the people. The social arbitrage technique promotes social cohesion using social arbitrage.</p>
<p><b>Emotional intelligence</b></p> <p>African leadership needs to feel empathy and compassion, based on the human condition. Leaders build relationships that support collectivism, result-based approaches and teamwork. They empower through corrective action and by affirming equitability.</p>	<p>Emotional intelligence requires recognition of the mutual dependence of people and their shared humanity. Consequently, local leaders tend to reflect inwardly on the Dublin and Batho Pele principles. From psychoanalytic theory, councillors as local leaders must have capacity, or 'the power of containing, receiving, experiencing, or producing' (Concise Oxford Dictionary) as derived from the Latin words <i>capere</i> (hold) and <i>capacitas</i> (able to hold much). The implications include being able to hold or deal with complexity, and ambiguity in order to give constitutional and legislative effect in pursuance of LGDA humanistic values.</p>
<p><b>Paradox</b></p> <p>Contradiction between good governance and accelerated municipal services delivery is a key feature of all leadership in Africa and modern society.</p>	<p>Good governance reflects the mystery of effective leadership: power comes from those who are led. People in an imbizo inform their leader of actions and steps to be taken for them to be able to achieve self-reliance and economic freedom as a next phase of the national democratic revolution (NDR) in South Africa.</p>

Source: Adopted from Khoza, 2005.

From Table 3.3. above, the need for a theoretical framework arises from the political and social reforms in 1994 that are enshrined in sections 24(a) (b) (iii) and 25(8) of the RSA Constitution. This

constitutional mandate is to ensure that water is used for the public good and growth as depicted in Figure 3.5. Tables 3.3. and Figure 3.5 provide an appropriate and context-bound provincial framework to give effect to local needs in accordance with the constitutional mandate (sections 11, 9(i) and 14). It is argued that such an LGDA framework will give effect to the relevant provisions of the Constitution, as well as to administrative, procedural and legal rules applicable to water distribution and availability.

### **3.5 NECESSARY CONDITIONS FOR LGDA IMPLEMENTATION**

The understanding of LGDA requires, inter alia, a combination of necessary conditions that must exist if “developmental municipal [water] services” are to reach what Nortier (1995: 44) called “equilibrium”, read with section 27(1) (b) of the RSA Constitution (Act 108 of 1996) (Kenneth, 1968: 376-89). It is argued that unless a deliberate and dedicated councillor development programme is implemented and hydro-politics remain at the centre of both the local and provincial governments in the Northern Cape, it will take the province beyond the current targets to halve extreme poverty and the current socioeconomic profile can even become worse.

It is argued that for LGDA values to be implemented, effective, assertive and innovative leadership must be in place to advance political administration capacity, accountability, responsiveness to citizens’ needs, and the promotion and consolidation of democracy. Such leadership should advance local government as people-driven governance to deliver on a people’s mandate within a greater milieu of increased public participation in local governance and the delivery of services in an effective and efficient manner (Siddle & Koelble, 2012: 35-39) read with section 195 (1)(e) (f) and (g) of the RSA Constitution. Manor (1999: 39-59) and Sarker (2006: 180-2009), supported more recently by Siddle and Koelble (2012: 45-46), maintain that the preconditions or necessary conditions for LGDA success include the following:

- There should be a reasonable level of economic development and experience of the operations of global markets;
- There should be a well-developed judicial system to ensure the rule of law and to ensure both the accountability of elected politicians to citizens, and the accountability of bureaucrats to elected politicians;
- There should be strong and adequate administrative systems and processes to ensure an efficient and control-oriented position;
- The central state must have reasonable capacity where the state is able to take any reform measure decisively;
- There should be financial resources to deliver on governmental goals within the targets to ensure that citizens are satisfied with their government and developmental services, especially basic services such as water, sanitation, electricity and municipal health services; and

- There should be an abundance of exemplary leaders to drive water governance with hydropolitical stakeholders, water users and citizens within the greater milieu of citizen participation in both administration and development initiatives in line with the NDP vision for 2030, thereby increasing the ability to attract investment to address abject poverty.

In South Africa in general and the Northern Cape Province in particular, the above-named necessary conditions are theoretically in place rather than in reality, as explained earlier. Among other reasons for the failure to implement LGDA values, Siddle and Koelble (2012: 204) include “the tendency in South Africa, as in many other emerging economies, to adopt good governance parlance at the expense of actually governing well”.

Unlike South Africa and Bangladesh, Singapore has achieved significant economic growth. It has focused on the establishment of a meritocracy, solid institutional frameworks, the rule of law, proper control structures, checks and balances and accountability in the public administration system. South Africa and Bangladesh, on the other hand, have failed to achieve these (Sarker 2006: 180-2009; Siddle & Koelble 2012: 205-220). In Singapore, unlike South Africa, there has been consistent support from the political leadership for the implementation of reforms. The former prime minister Lee Kaun Yew repeatedly expressed his commitment to a competent, neutral and honest civil service. In both Bangladesh and South Africa, intentions to overhaul the administrative system have never been translated into reality. For instance, the Local Government Turnaround Strategy (LGTAS) generated enormous expectations. LGTAS declared that

the key question government undertook to reflect on with a range of role players over the past few months was what is the state of local government in 2009, and what must be done to restore the confidence of our people in this sphere of government by 2011 and beyond (CoGTA 2009b: 3).

At the time of writing this dissertation, the dysfunctional status of local government has not been changed. To add insult to injury, the National Development Plan (NDP), i.e. the South African blueprint or road map until 2030, asks the question

How does South Africa break this [poverty] cycle and enter a more virtuous one of rising confidence, investment, employment and incomes, and falling levels of inequality? (NDP 2012: 416).

At the national conference of the ruling party held at Mangaung from 16 to 20 December 2012, the ANC issued a draft declaration on 20 December 2012. In this declaration, the following was said about the NDP:

We engaged in vigorous and searching debates on the persistence of the legacy of apartheid colonialism, reflected in the triple challenges of poverty, inequality and unemployment. Responding to these challenges, we are boldly entering the second phase of the transition from

apartheid colonialism to a national democratic society. This phase will be characterised by decisive action to effect economic transformation and democratic consolidation, critical both to improve the quality of life of all South Africans and to promote nation building and social cohesion. Consequently, in pursuance of these objectives, we embraced Vision 2030 and the National Development Plan as a platform for united action by all South Africans to eradicate poverty, create full employment and reduce inequality as critical building blocks towards a truly united, non-racial, non-sexist, democratic and prosperous society (ANC, 2012).

As has been mentioned before, Terreblanche (2012: 121) supported by Cronje (2013: 14) argues that the NDP's expectations are, largely, either unrealistic or superficial. Given the lessons from government's failure to meet the MDGs in terms of safe water supply, adequate sanitation, basic electricity, housing, and the eradication of the bucket system, targets for establishing an effective, efficient and economically viable local government system by 2011 in terms of the CoGTA LGTAS, and owing to the malfunctioning of the new politico-economic system in South Africa, there exists

no chance whatsoever that the multiple and beautiful sounding targets of the NDP will be reached in the next twenty years. It is much more likely that the Poverty Unemployment and Inequality problem (PUI) will be more severe in 2030 than it is today (Terreblanche 2012: 122).

There is a need to create synergy between different plans such as DWA NWRS 2, NGP, and NDP targets and visions to ensure that there is coordination and that resources are optimally utilised for good enough governance. The current capital economy should be restructured to include strong interventions with regard to human resource development and the delivery of essential and basic services. In short, for decentralisation to be implemented successfully, appropriate leaders and officials in municipalities must have the required qualifications to make the LGDA a vehicle of citizens (Friedman & Kihato, 2004: 142). As has been stated earlier, the current water crisis is mainly a governance crisis. This means that, on one hand, sociological and developmental theories must guide the required changes in South African local government.. On the other hand, bold and assertive leadership is required in the 33 WSAs in the Northern Cape (Pillay, Hagg, & Nyamnjoh, 2013: 683).

## **3.6 OPERATIONALISATION OF LGDA**

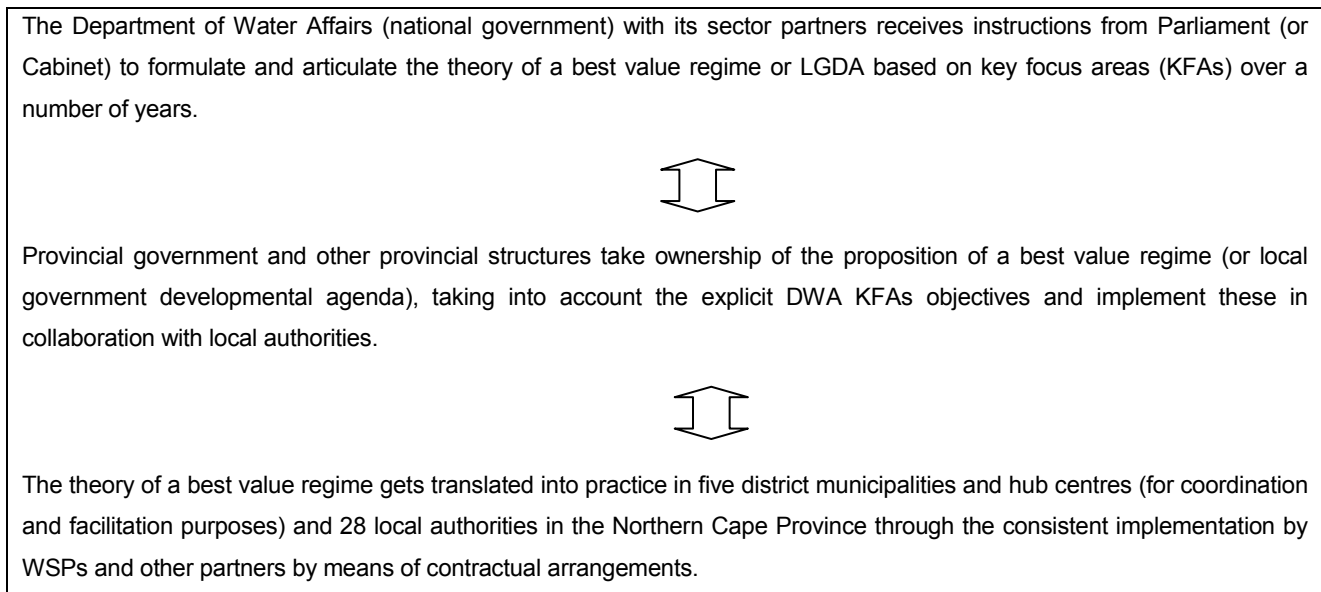
### **3.6.1 Introduction**

Authors such as Tsibani (2004: 18-23), Zybrands (1995: 1) and Cloete (1988: 254), read with sections 84 (a-d, o and p) and Schedules 4 and 5 of the RSA Constitution, have provided comprehensive definitions of municipalities as well as the different types of municipalities and their functions. For this reason, they will not be described in this section except where the researcher attempts to integrate the discussions into a coherent whole. In order to answer the first objective of this study as stated under paragraph 1.5.1, the researcher will operationalise the LGDA and its



requirements for councillors in the water sector. Using Figure 3.6 as a capacity-building framework, the researcher views a WSA as a system with a set of interrelated components, which are influenced by organisational or organisational development arrangements, operational factors, human resources (of which councillors are a sub-set) and environmental factors in implementing water services. In short, the LGDA means that municipalities should exercise their powers and functions so as to optimise social development and economic growth, doing this in cooperation with other spheres of government and through the participation and empowerment of local communities in pursuance of the Integrated Development Plan, a dual-faceted plan focusing on both the process and outcome for developmental water services interventions (White Paper on Local Government 1998: 18), taking into consideration the Northern Cape Province profile in Chapter 5 of this study.

The national Best Value Performance Indicators in Water Sector (BVPIsWS), which are used by the central government to judge the performance of local authorities, were recently developed in South Africa. The Department of Provincial and Local Government (DPLG), now called CoGTA, introduced these indicators during national workshops in October 2002. The logic can be constructed as depicted in Figure 3.7 to read as follows:



**Figure 3.7: Logic chain of LGDA**

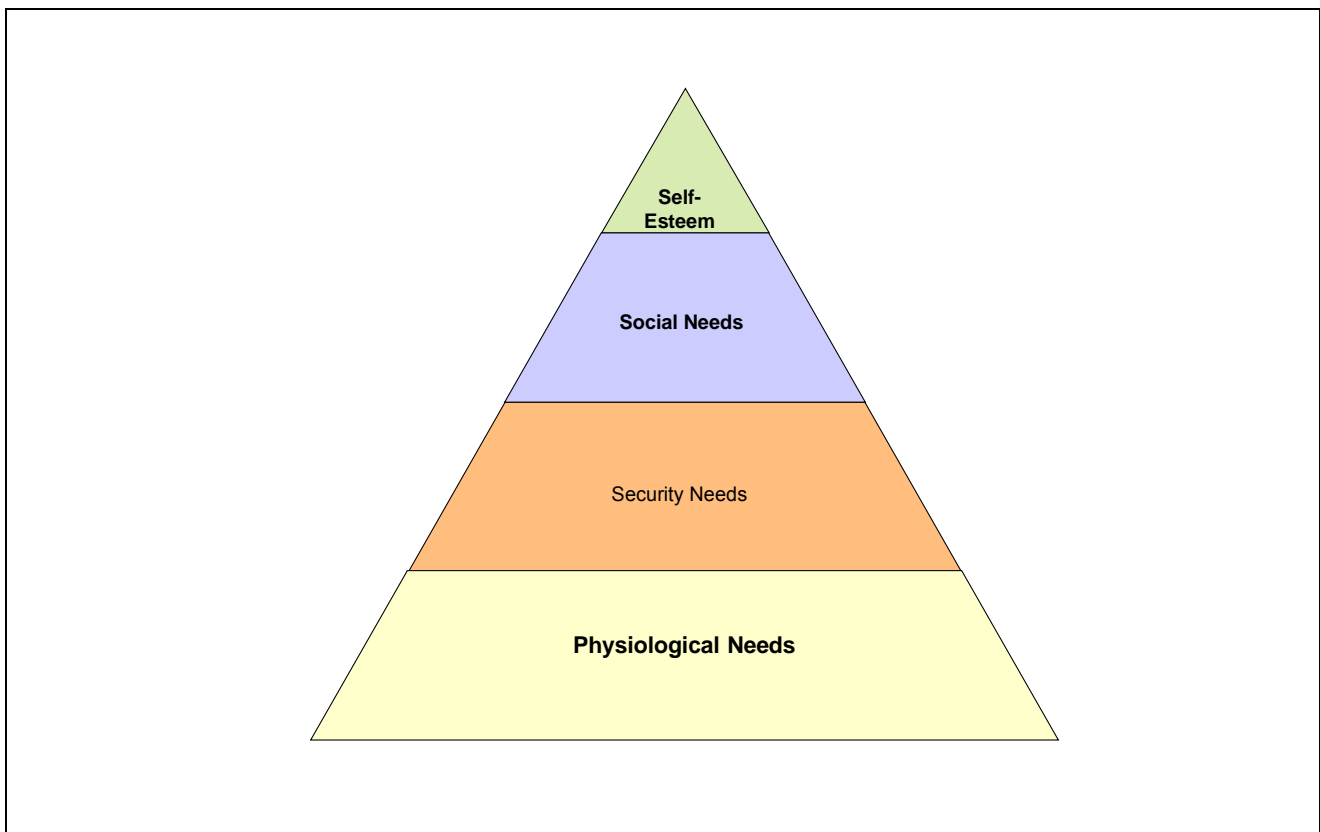
In short, the LGDA model provides an important integration framework, both academically and practically, to focus on the optimisation of developmental water services to consumers and customers. There is a need to link the NPM or LGDA systems design with water and water services policies, strategies, operational plans, assessments and information systems. Ultimately, The LGDA model allows reflection and feedback on the aims of WSAs and plans developed or implemented, thereby enabling the WSAs to go beyond the traditional boundaries of pure management to include good governance and public accountability.

### 3.6.2 Core values of LGDA and Maslow's theory

While the role of the state (or a municipality or WSA) may have changed and evolved during recent history, it is now readily apparent that

water as a socio-economic and public good is key to achieving sustainable socio-economic development. States are being challenged as never before by the demands of the global economy, new information and technology, and calls for greater participation and democracy (Kusek & Rist 2004: 1).

It is the researcher's interpretation that the three core values are central to what is understood as the LGDA framework in South Africa today. The first, life-sustenance, is related to Abraham Maslow's theory of human needs (1969). Certain needs are identified as basic and it is then understood that developmental local government or LGDA aims to provide all the people with the means to satisfy these basic needs. The psychologist Abraham Maslow developed a theoretical framework for the hierarchy of human needs, which placed essential physiological needs such as water, food and shelter at the bottom of the hierarchy as the basis or foundation of daily life, as depicted in Figure 3.8 below.



**Figure 3.8: Maslow's hierarchy of needs**

Source: Maslow, 1969.

In line with Maslow's theory, the UNDP's Human Development Report (1998: 14) supported Peter and Gleick (1996: 83-92) further identifies three essential capabilities for human development that

are relevant to the LGDA in this study. These are: the ability to live a long, healthy life; the ability to be knowledgeable; and access to the [water] resources needed to ensure a decent standard of living, namely health, knowledge and wealth. From this examination, it can be concluded that the LGDA concept is about local government renewal strategies and economic growth in South Africa. It is clear that the idea of the LGDA has borrowed extensively from earlier economic development traditions and Western democracy as discussed earlier on under paragraph 3.3.1.2.

### **3.6.3 Mandate of WSAs under LGDA and its local leaders**

#### **3.6.3.1 Mandate of WSAs under LGDA**

The RSA Constitution (Act 108 of 1996) and the White Paper on Local Government (March 1998) state certain guiding principles for implementing LGDA values in accordance with Ubuntu philosophy, which include the following:

- A commitment to the provision of high-quality [water] services to the community in an impartial, unbiased manner;
- Responsiveness to the [water services] needs of the communities;
- Representativeness of all sectors of the community;
- A commitment to education and training, and development of all public employees; and
- The entrenchment of democracy in the internal procedures of local government institutions and their relations with the community.

The term “local government” has been further defined as the

level of government closest to its constituents and involved in the rendering of a wide range of services that materially affect the lives of the inhabitants residing within its area of jurisdiction (Zybrands, 1995: 1).

Local government deals with locally defined needs, which have been identified as needs that are

- “unique to their particular area;
- influence their daily lives; and
- will be to their personal satisfaction and advantage” (Kroukamp 1994: 47).

Using a social anthropology definition, the White Paper on Local Government defines “developmental local government” as

local government committed to working with citizens and groups within the community to find sustainable ways to meet their social, economic and material needs and improve the quality of their lives.

There is general consensus in the literature that it is critical for a local authority to respond adequately to the above-mentioned best value regime principles, which emphasise cooperative

governance and customer and community satisfaction. In determining the “local government affairs”, section 152 (1) (b) (c) (e) of the Constitution outlines the objectives for developmental local government as the following:

- Providing democratic and accountable government for local communities;
- Ensuring the provision of [developmental water] services to communities in a sustainable manner;
- Promoting social and local economic development [in pursuance of EPWP, ASGISA, IPAP, NGP and NSDS III targets];
- Creating integrated cities, towns and rural areas through integrated planning, budgeting and performance monitoring;
- Promoting a safe and healthy environment; and
- Encouraging the involvement of communities, community organisations and strategic partners, both private and public, to address water matters of local government.

In addition, section 153 (a) (b) states that a municipality must strive, within its financial and administrative capacity, to achieve the objects mentioned above. The local sphere of government, like the other organs of the state, has an obligation to promote the rights as outlined in section 2 of the Constitution. More specifically, section 152 (1) creates a responsibility for local government in the promotion of rights associated with, for example, the environment, water and health care.

Section 153 of the Constitution (1996) then outlines the developmental duties of municipalities by stating that a municipality must

- structure and manage its administration, and budgeting and planning processes to give priority to the basic needs of the community, and to promote the social and economic development of the community; and
- participate in national and provincial development programmes.

In this context, LGDA means

[an] expanded developmental role, within the finite resources available to them [section 74 of the Municipal Systems Act], [where] municipalities need to adopt a strategic approach to planning and management [of water assets and their maintenance]. It is essential to spend the limited council resources on the key development priorities of local government [in pursuance of sections 27 (1) (a-c), 152 and 153 of the Constitution read with section 6(2) (a) of the Municipal Systems Act] (DBSA, 1998: 9-20).

The importance of sustainable and developmental water services is further underpinned by section 74 of the Municipal Systems Act, which imposes a number of principles for giving effect to sufficient water and sanitation. Section 74 states that

Tariffs must reflect the costs reasonably associated with rendering the service, including capital, operating, maintenance, administration and replacement costs, and interest charges.

It must be noted that, in the context of implementing developmental water services as part of the LGDA “value chain” or a “best value regime”, the term “value” in section 74 refers to “costs reasonably associated with rendering the service”. In short, the inputs must lead to satisfaction on the part of water customers and/or consumers. From a water perspective, municipalities and water services authorities (WSAs) have the following primary responsibilities:

- **Realisation of the right of access to basic water services:** ensuring the progressive realisation of the right to basic water services subject to available resources (that is, extension of services), the provision of effective and efficient ongoing services (performance management, by-laws), and sustainability (financial planning, tariffs, service level choices, environmental monitoring)
- **Planning:** preparing water services development plans (integrated financial, institutional, social, technical and environmental planning) to progressively ensure efficient, affordable, economical and sustainable access to water
- **Selection of water services providers (WSPs):** selection, procurement and contracting of WSPs (including itself)
- **Regulation:** of water service provision and WSPs (by-laws, contract regulation, monitoring, performance management)
- **Communication:** consumer education and communication (health and hygiene promotion, water conservation and demand management, information sharing, communication, and consumer charters)

In other words, local authorities, within their limited functions and powers granted by Acts of Parliament, in their capacities as legal corporations within the framework of the RSA Constitution, Act 108 of 1996, are expected, though not limited, to:

- Execute public functions within the context of cooperative governance and the Intergovernmental Relations Framework Act, 2005;
- Compel citizens to pay taxes for water services;
- Control internal and external funds or grants;
- Pass legislation and enforce that legislation either directly or indirectly;
- Take decisions that can affect the rights of persons;
- Exercise discretion in answer to requests or petitions;
- Employ competent and skilled human resources;
- Be financially viable to address socioeconomic and developmental needs of communities and citizens in a democratic, participatory and sustainable manner; and

- Allocate resources in accordance with the Division of Revenue Act, 2007, the Municipal Finance Management Act, 2005, and the Public Finance Management Act 29 of 1999 as promulgated by the Department of Finance (National Treasury), and other Treasury regulations read with section 2 of the Compulsory National Standards and Measures to Conserve Water Regulations of 2001.

Cloete (1988: 255) adds that local authorities, via their executive council resolutions, are also required to perform governmental functions in that, among other things, they have to

- give direction to their officials about the manner in which provisions of relevant legislation, ordinances and by-laws have to be carried out; and
- supervise the activities of the municipal officials to ensure that the councillors are able to render account to their voters.

In terms of these Acts and the views of authors on public management in the local government domain, key features of local authorities or WSAs include the following:

- Autonomy, which is derived from the Greek word auto, meaning self, and nomos, meaning law. This means that a local authority can pass legislation (or by-laws) and give effect to it without undue interference by another sphere of government.
- Territory or social space, or a geographical area awarded to the local authority according to nationally agreed upon demarcation criteria.
- Regulation of internal diversity and socioeconomic complexity.

Additionally, the White Paper on Local Government (March 1998) in accordance with the humanistic paradigm, states that municipalities should

- be in touch with the people;
- provide high-quality services;
- give vision and leadership for local communities;
- improve the quality of people's lives; and
- act quickly, responsively and accurately to meet the needs and aspirations of the community.

The understanding of human well-being that councillors can use as input in meeting the requirements of their developmental water services portfolios under the new LGDA has been inspired by Turton (1998a), Boyne (2003), Tsibani (2004; 2005) and the World Bank Report (2004) whereby developmental [water services] as a broad issue focuses on human well-being and economic growth. In reviewing strategic objectives of the White Paper and through the literature study of NPM theories, the researcher found that two strategic objectives often emerged. They are:

- Achievement of a 'mixed economy' in the provision of basic services such as water, electricity and a healthy environment; and

- Persuasion of water sector stakeholders that local authorities are the legitimate arbiters in their local areas of all issues of concern in the local self-government of the community.

It can be argued that the White Paper on Local Government (March 1998) stresses the three Es (Economy, Efficiency and Effectiveness), which, in turn, require a local authority to do the following:

- Adopt a corporate strategy that defines what it seeks to achieve and how it performs against key indicators and community aspirations;
- Develop a programme of fundamental performance reviews covering all its functions over a five-year period in terms of water services development plans (WSDPs) and integrated development plans (IDPs);
- Undertake fundamental reviews that challenge the purpose of [water] services and the most effective means of delivering set targets for improved [water services] performance, and publish [water services development] plans for making these improvements in the water sector;
- Submit performance targets and performance indicators to independent commissioner reviews; and
- Accept referral to the National Accounting Officer (DWA) in terms of section 13 of the Division of Revenue Act, March 2013, as annually amended, in cases of serious or persistent failure, with a view to direct intervention in the future running of the basic services [such as water].

From the examination described above of the core values of LGDA, it is deduced that LGDA is implemented if wealth generated by the municipality is used to meet the basic needs, increase the self-esteem, and broaden the choices of individuals in the Northern Cape.

### **3.6.3.2 LGDA leadership requirements**

These structural and systematic changes were intended to give expression to the new LGDA and its leadership requirements countrywide. The notion that 'leadership starts within' (inward-oriented approach) may also be explained by way of the following statement by former president Nelson Mandela:

As a leader ... I have always endeavoured to listen to what each and every person in a discussion has to say before venturing my own opinion. Oftentimes, my own opinion will simply represent a consensus of what I heard in the discussion. I always remember the ... axiom: a leader ... is like a shepherd. He stays behind the flock, letting the most nimble go out ahead, whereupon the others follow, not realizing that all along they are being directed from behind (Mandela, cited in McKnight, 1996: 107).

Logically, it is asserted that leadership begins from within, with the rediscovery of what each local councillor can contribute and achieve within the framework of the humanistic paradigm for the

benefit of the community (Khoza, 2005). The ideal local leadership type implies that party politics, in the conventional adversarial sense, would play a less prominent role, freeing leaders to seek the best interests of the local authority and the community rather than narrow party-based interests, and reducing the need for constantly referring decisions back to party groups. It can be concluded that political and non-political structures have a double life: they are both human products and social forces in their own right. However, while the creation of new municipal leadership structures is important, it is not sufficient to secure meaningful or consistent changes in water delivery in pursuance of LGDA values. Indeed, these “municipal skeletons” require strong and strategic leadership by councillors who are “positively conditioned” to deliver on water services and water resources management.

### **3.6.3.3 Councillors’ characteristics and critical role for LGDA**

The study of perceptions and behaviours is a complex field, with definitions and theories of these concepts tending to be highly interdisciplinary and inconclusive (McGregor, 1993: 17; Cantril, 1968: 5; Matlin & Foley, 1992: 2; McBurney & Collings, 1984: 1; Johnson, 1994: 476). In South Africa, different perceptions and behaviours of councillors can be vaguely attributed to the notion that black people believe in the Ubuntu philosophy of life and white people are Eurocentric in their cultural style (Markus & Kitayama, 1991: 225). Although such cultural generalisations may be scientifically verified and validated, the reasons for differences in perception are far more varied (Bergen, 1992: 6-8). Evidence gained from literature reveals that a combination of phenomenological and behavioural theories can best be applied to the perceptions and attitudes of councillors as critical actors in the LGDA and developmental water services.

It is deduced that in addition to the personality-type dimensions developed by Katherine Briggs and Isabel Myers, based largely on Carl Jung’s work, councillors’ personality types are closely influenced by a number of factors such as organisational type, friends, family, parents, peers, partners and personality traits. In her book *The Secret to Team Success is Elementary*, Jones (2005: 6) uses the four elements of creation, namely fire, water, wind and earth, to find a wisdom that is profoundly simple and can be used to unpack councillors’ personality types in local government. This excellent work by Jones (2005) has allowed the researcher to marry these four elements to modern personality theories (Genesis, 1: 1-3, Jerusalem Bible).

Jones’s symbolic quadrant framework (see Table 3.6) seems to be useful for the recurring feature of councillors in 33 WSAs in the Northern Cape. The ongoing quest for better-balanced personality types of councillors in order to ensure a better life for all. The latter is due to the notion that the delivery of developmental water services as part and parcel of the new public management system requires efficiency, economy, fairness, high performance, caring, openness, commitment, honesty and trust, which are closely related to the foundation principles of LGDA values. Thus, it appears to defeat the purpose of the LGDA within this complex system if one has to deal endlessly with so



many councillors that have been placed and/or [re-]elected] in [water services] positions beyond their competence. Accordingly, the LGDA requires councillors who are talented, well-educated and politically groomed.

### 3.6.3.4 *Characteristics and perceptions of councillors*

Theoretically, the term ‘perception’ is derived from the Old French language term *percepçion*, which meant the collecting of rents by feudal landlords (Barnhard, 1998). Cutting (1987: 62) and Mattin and Foley (1992: 2) refer to the collecting of information using five senses, either physically or mentally. The researchers identify and emphasise certain characteristics of the perceiver that modify perception in a setting or context. These characteristics include one’s previous experience, motivation and personality traits (Randolph & Blackburn, 1989: 87). Mouton (1996, 237-257) stresses physiological, gender or sex, personality and cognitive differences as contributors to differences in perceptions, while Robbins (1991: 129) and Grandori (1997: 30) see cultural background, expectations, experience, motives, interests, attitudes and values regarding a social phenomenon as contributing further to differences in perceptions as depicted in Table 3.4 below.

**Table 3.4: Factors influencing councillors**

Individual factors	Group factors
Motivation	Family
Perception	Reference group
Learning ability	Opinion leaders
Attitude	Social class
Personality	Cultural group
Lifestyle	

Source: Nieman & Bennett, 2002: 181.

The six factors above, namely motivation, perception, learning ability, attitude, personality and lifestyle, are classified as individual factors that may affect councillors’ behaviour in 33 WSAs in the Northern Cape. With Maslow’s hierarchy of needs theory, it is possible to explain different councillors’ needs. Accordingly, councillors will generally first satisfy their lower-level needs, namely their physiological, safety and security, and social needs, before they will attempt to satisfy their ego and self-actualisation needs. Councillors may differ in their ability to articulate their needs. In some instances, they may be totally unaware of their needs, while in other instances they may be fully aware of them and able to express them to others.

Perceptions are often categorised in terms of stereotypes and projection. Stereotypes, either positive or negative, refer to generalised assumptions attributing identical characteristics to all members of a particular group or class of individuals. Projection occurs when a person attributes his or her own characteristics, traits, emotions and dispositions to other people. According to

Robbins (1991: 133), supported by Mouton (1996: 143), this means that people's perceptions about others are influenced more by what they themselves are like, than by what the person being observed is like. Another category is that of selective perceptions, where people selectively interpret what they perceive based on their own interests, background, experience and attitudes, instead of looking objectively at the total picture (Robbins, 1991: 132). Consequently, councillors' roles and characteristics in terms of developmental and democratic values of local government mean different things to different people. Given the rich history of the Northern Cape and its local government, the role of councillors and their ideal personality traits are subject to many interpretations because of a number of factors. These include the undemocratic ideology of Apartheid structures, the fact that the new LGDA is a historically unknown social phenomenon, the socioeconomic, topographic and environmental nature of the Northern Cape, and individual councillor's worldview and reality (Cutting, 1987:61-90; Johnson, 1994:475-497).

It may be concluded that perceptions are dynamic, and that they may change as a result of the emergence of new and valid information. Essentially, several factors are responsible for differences in perceptions, and there should be an understanding of and a sensitivity to these factors when one interprets councillors' roles, characteristics and required leadership qualities and competencies in the water sector (Athey & Orth, 1999:215-226; Mansfield, 1999:24-28).

### **3.6.3.5 Leadership attributes of councillors in Transitional Periods**

The belief systems of Northern Cape councillors and elites represent knowledge that could be seen in terms of Bourdieu's notion of "symbolic capital". In line with Bourdieu's (1997: 182) views, it is argued that "water can be analysed as a resource that embraces both material and symbolic interests". Consequently, there is a need to analyse what happens when there is an attempt to introduce new LGDA knowledge based on notions of developmental water services efficiency. The lack of knowledge, or needs gaps between water sector stakeholders and councillors, affects the transition from the old local government system to the new LGDA system. Ethnomethodologically, it is argued that for newly elected councillors, the process of alteration is extremely complex as perceptions are culturally derived. This requires a triangulation approach, which Giddens (1979:336) has dubbed "mutual knowledge", in understanding the transition from the old system to the new LGDA system. Allen (1998: 545–546.) adds that

the process of reform is subject to a protracted discourse ... which is subject to the interests of [water] stakeholders other than those enjoying mutual knowledge .... [He argues that] in order for the belief systems to shift, mutual knowledge has to contend with the old knowledge that is based on farmers', rural communities' [and newly elected councillors'] long-held beliefs in water.

These familiar old beliefs inspire an alliance of great significance between water users and councillors. Tripp (1997: 3), cited in Kunigk (1999: 10), has referred to the discourse that occurs in these circumstances as a "sanctioned discourse". Based on evidence from the literature, but

granted that the nature of the impact is difficult to predict, it is clear that the research on a best value regime emphasises the need to measure change, or lack of change, in the culture of local authorities, and the shift, or lack of shift, in the mind-set of councillors to a new paradigm in pursuance of section 16(1) of the Municipal Systems Act, 2000. Capra (cited in Ray & Rinzier, 1993: 236) has expressed the shift alluded to in this study succinctly:

As far as thinking is concerned, we are talking about a shift from the rational to the intuitive, from analysis to synthesis, from reductionism to holism, from linear to non-linear thinking. As far as values are concerned, we are observing a corresponding shift from competition to co-operation [in this case between spheres of government and other partners in the water industry], from expansion to conservation [of natural resources such as water], from quantity to quality [of water services delivery to end-users and heterogeneous communities and stakeholders in local authorities in the Northern Cape], from [one-party] domination to partnership [in accordance with the Reconstruction and Development Programme]

### **3.6.3.6 Contextual characteristics of councillors**

In a transitional period, knowledge about the type or characteristic of the representative might be of importance in so far as the transition is of a socioeconomic, cultural or political nature. Wesolowski (2000: 369-77) identifies four types or characteristics of representatives that, in the case of this study, may influence a councillor's role in local government. These are:

- Professional economists;
- Business owners;
- International development agents and technocrats; and
- Elites.

In addition, the researcher has observed from fieldwork that there tend to be three types of councillors in local authorities. Firstly, there is the ordinary politician: that is, one who makes a living from politics as a permanent job. Secondly, one gets a councillor with a calling: that is, a councillor who lives for politics and who is motivated by a certain programmatic and political duty. Thirdly, there is the strategic leader: that is, one who is endowed with exceptional abilities and personal qualities, a high degree of responsibility, and a high political standing on LGDA in pursuance of national and global targets. Similarly, Jones (2005) has identified four personality types, using water, fire, earth and wind to describe them. By means of her Path Elements Profile™ (PEM) tool, Jones (2005: 209-243) demonstrates how each human being can contain all four elements in their make-up, yet most particularly one or two elements that dominate and drive their behaviour, attitude and practices. The researcher has contextualised these insights with regard to councillors in local government and water business in the Northern Cape.

Accordingly, the following possible characteristics of councillors are arrived at:

- An earth councillor tends to do well in accomplishing tasks and getting results. An earth councillor's behavioural leadership style can be associated with the traits of earth: being steady but sure, slow to move, good at operation and maintenance, predictable, foundational, solid, and secure in his or her establishment or portfolio.
- A water councillor is sensitive to the needs of the people and enjoys building relationships by encouraging and supporting partners. A water councillor's behavioural leadership style can be associated with the traits of water: reflective, transparent, life giving and motivation support, easy-going and capable of going with the flow.
- A wind councillor is also motivated by interaction with people, but prefers a fast-moving and changing local government environment. A wind councillor's behavioural leadership style can be closely associated with the traits of wind: restless, unpredictable, invisible, quick to move, needs to see things in motion and enjoys networking.
- A fire councillor is motivated to undertake challenging tasks in order to get results, and controls the environment to achieve the desired results. A typical behavioural leadership style includes being hot, passionate, all-consuming, uncompromising and dedicated to more than 100% in any task at hand (Jones, 2005: 210).

For the councillors in the water sector to succeed, they need all four elements, namely earth, water, wind and fire, as depicted in Table 3.5 below. As far as possible, councillors must ensure that they surround themselves with people that have different elemental profiles, thereby complement their own weaknesses with the strengths of others. From Jones's elements, it is clear that LGDA values require councillors to be team-based as opposed to working in silos (Tsibani, 2005).

**Table 3.5: Combined behavioural elements from Jones's theory**

<b>WIND</b>		<b>FIRE</b>		<b>WATER</b>		<b>EARTH</b>	
Strength	Weakness	Strength	Weakness	Strength	Weakness	Strength	Weakness
Optimistic	Unrealistic	Bold	Impulsive	Steady	Complacent	Accurate with details	Picky
Charming	Manipulative	Assertive	Controlling	Satisfy	Passive	Predictable	Boring
Amusing	Silly	Risk-taking	Reckless	Team-oriented	Dependent	Reserved	Distant
Spontaneous	Impulsive	Daring	Overcommits others	Good listener	Closemouthed	Organised and scheduled	Inflexible
Passionate	Emotional	Results- oriented	Self-absorbed	Loyal	Possessive	Conscientious	Perfectionistic
Talkative	Self-promoting	Visionary	Poor listener	Supportive	Used by others	Cautious	Suspicious
Lively	Hyper	Direct	Egotistical	Sensitive	Thin-skinned	Prepared	Lacking confidence
Persuasive	Fast-tracking	Confident	Opinionated	Traditional	Lacks vision	Analytical	Obsessive
		Decisive	Pushy	Cooperative	Unassertive	Focused	Unresponsive
		Initiating	Win at all costs	Quiet	Timid	Factual	Emotionless
		Confronting	Unapproachable	Consistent	Stubborn	Realistic	Pessimistic
				Trusting	Naive	Modest	Self-critical

Source: Jones, 2005: 212-222.

It can be observed from the table above that one councillor can have a combination of one or two of wind, earth, water and fire behavioural leadership styles, leading to 16 possible personality leadership styles of councillors, as depicted in Table 3.6. However, the value of having the full overview of possible behavioural styles of councillors is that it can assist one in designing an appropriate intervention (Grandori, 1995:29-47).

**Table 3.6: The sixteen possible personality types of councillors**

Earth	Water
Earth/wind	Wind/water
Earth/water	Wind/earth
Earth/fire	Wind/fire
Wind	Fire
Wind/water	Fire/wind
Wind/earth	Fire/earth
Wind/fire	Fire /water

Source: Jones, 2005: 8-9.

Although the survey of 77 councillors in this study was not based on symbolism, the researcher can make associations where possible. Furthermore, the use of personality theory and symbolism can facilitate the future career paths of councillors (Jones, 2005: 131-143; Schwella, 2012: 193-204). However, literature reveals that some personality types are a result of the combination of four factors at an individual level: genetic inheritance; education and training; experience; and attitudes (Markus & Kitayama, 1991: 224-253; Mandell, 2009:163-178; Schwella, 2012: 198-204).

It is significant that these 16 leadership styles are applicable in both public and private institutions and cut across the leadership paradigm divide as depicted in Table 2.5 in Chapter 2. Literature reveals that these elements can be found in the tough-minded, tender-minded and Ubuntu paradigms that were compared in Tables 3.5 to 3.6 (Jones, 2005: 8-9; Khoza, 2005: 249). By striving to reach sufficient consensus and prompting individuals to contribute to the common good, the councillor creates teams with a shared vision and a competitive edge for the WSA (Khoza, 2005: 249).

### **3.6.3.7 Contextual role of councillors in developmental local government**

In local government, which has enormous challenges, it appears that a fusion between earth, wind, water and fire behaviour traits for councillors is greatly needed. This is because the articulation of local government legislative frameworks and the implementation of policies is a very complex process, which involves, on the one hand, the interaction between general programmes of parties, associations and local pressure groups within local authorities, and, on the other hand, spontaneous individual perceptions of reality. As such, dynamic, strategic and charismatic leadership characteristics will be an indication that local authority councillors are empowered to

- plan and organise collective action for, in the case of this study, WSDPs and IDPs. Democracy assumes that political action is structured and that there should be a defined goal. It is not an act of spontaneously putting shoulders to the wheel;
- have a high concern for communities and voters in delivering reliable water services;
- have scientific knowledge of the community and customers as a means of informing the ongoing assessment process;
- convey information to communities and customers, explaining the council's decisions, mission, goals and other water services plans;
- motivate other councillors and officials in order to improve performance on the delivery of sustainable and efficient water services;
- generate social phenomena and processes at a level appropriate for the initiation of political discussions based on facts and logical evidence;
- infuse general human values into pragmatic solutions and then into social reality; and
- elaborate on a sequence of steps necessary in collective actions. These tactics and strategies must be issue-specific and dynamic.

In order to appreciate the complex process of councillor leadership and management in local authorities, one has to understand the aspects of authority, power, influence, delegation, responsibility and accountability in pursuance of sections 55, 57(1) and 60(1) of the Municipal Structures Act. For instance, fire/wind councillors would be well placed to attend to the following roles and responsibilities:

- Meet new water stakeholders and consumers, with opportunities for acting spontaneously and freely;
- Develop by-laws, water tariffs and regulations, design water strategies and implementation plans, and find solutions to the current hydropolitics and water shortage in a creative manner (Chapter 3, section 12 of the Municipal Systems Act, 2000);
- Indulge their curiosity and participate in adventurous activities;
- Express their imagination and enthusiasm in a supportive environment;
- Review the WSA's modus operandi and design a best value implementation strategy for the municipality;
- Embark on joint programmes and implementation of the protocols of the Intergovernmental Relations Framework Act, 2005;
- Put in place oversight mechanisms to ensure that the Government Programme of Action and protocols enhance cooperative governance as far as possible, in accordance with section 40(1) of the Constitution, 1996; and
- Embark on marketing and public relations programmes to ensure community participation in the water business cycle (Jones, 2005: 139, see also Tables 3.5. to 3.7 ).

Such a synthesis of councillors' roles is further supported by the Water Services Act 108 of 1997, read with the Municipal Structures Act. Councillors are expected to do the following:

- Identify and prioritise the needs of communities living within the area of jurisdiction of the municipality or water services authority;
- Develop strategies and water services programmes to address these needs, taking into account the financial and economic implications of the desired water services;
- Determine the methods and mechanisms for delivering sustainable and affordable water services to communities and customers;
- Review and monitor water services provisioning systems on an ongoing basis and align such services with the municipality's broader social and economic development objectives, thereby facilitating job creation and promoting entrepreneurship; and
- In planning the water services development plans as a component of integrated development plans, consult with communities, officials, local businesses, water boards, community-based organisations, non-governmental organisations, ratepayers' associations, residents and other stakeholders.

Notwithstanding these duties, it is argued that the councillor's role is to drive change in WSAs as depicted in Table 3.7 below. Strategic leadership is important in the implementation of the Water Services Strategic Framework (2003) and control of various models of water services delivery. Strategic leadership can be defined as the ability to "anticipate, envision, maintain flexibility and to empower others to create strategic change as necessary" (Schwella, 2012). For councillors, strategic leadership involves influencing fellow councillors and officials to embrace change. The characteristics of strategic leaders' include the ability to create a vision and to communicate that vision to others, eloquence, commitment, the ability to empower, emotional intelligence, the willingness to delegate and to make courageous yet pragmatic decisions, and the ability to create organisational trust.



**Table 3.7: Councillors' oversight and specific roles**

Oversight role	Specific role	Example
Interpersonal	Role model Leader Liaison	Ethical guidance Motivation Ward committees, water services sector and spheres of government (section 40(1) of the Constitution, 1996)
Informational	Monitor Disseminator Spokesperson	Analysis of municipal challenges, constraints and environment Inform the public and private sectors, infrastructure cluster and ward committees, and households of progress about water services delivery Inform all on WSA's performance
Decisional	Disturbance handler Strategic thinker Negotiator Resource allocator	Take corrective actions to deal with unexpected water services problems Provide innovative solutions and explore new infrastructure scientific methods Handle diversity in the workplace and local government environment Allocate resources to ensure effective use in accordance with the theme: Making Services Work for the Poor

Source: Adopted from Khoza (2005).

Based on evidence from literature, it is doubtful that newly elected councillors within newly established local authorities have the necessary knowledge to comply with the rule of law as far as the following principles are concerned:

- The executive institutions should not be allowed to exercise discretionary powers that are too wide and unrestrained, nor should they be allowed to act in an arbitrary manner; that is, councillors should not exceed their powers under the law and whatever they do should be *intra vires* and not *ultra vires*.
- There should be a justifiable reason for any act or decision (which is above politics or party interests) in dealing with the public or water consumers; that is, *bona fide* rather than *mala fide*.
- *Audi alteram partem* (listen to other parties and the electorate's interests) should apply (Cloete, 1991: 74).

With reference to meaningful decision-making processes by councillors in local authorities, it has been found through the literature review in this study that:

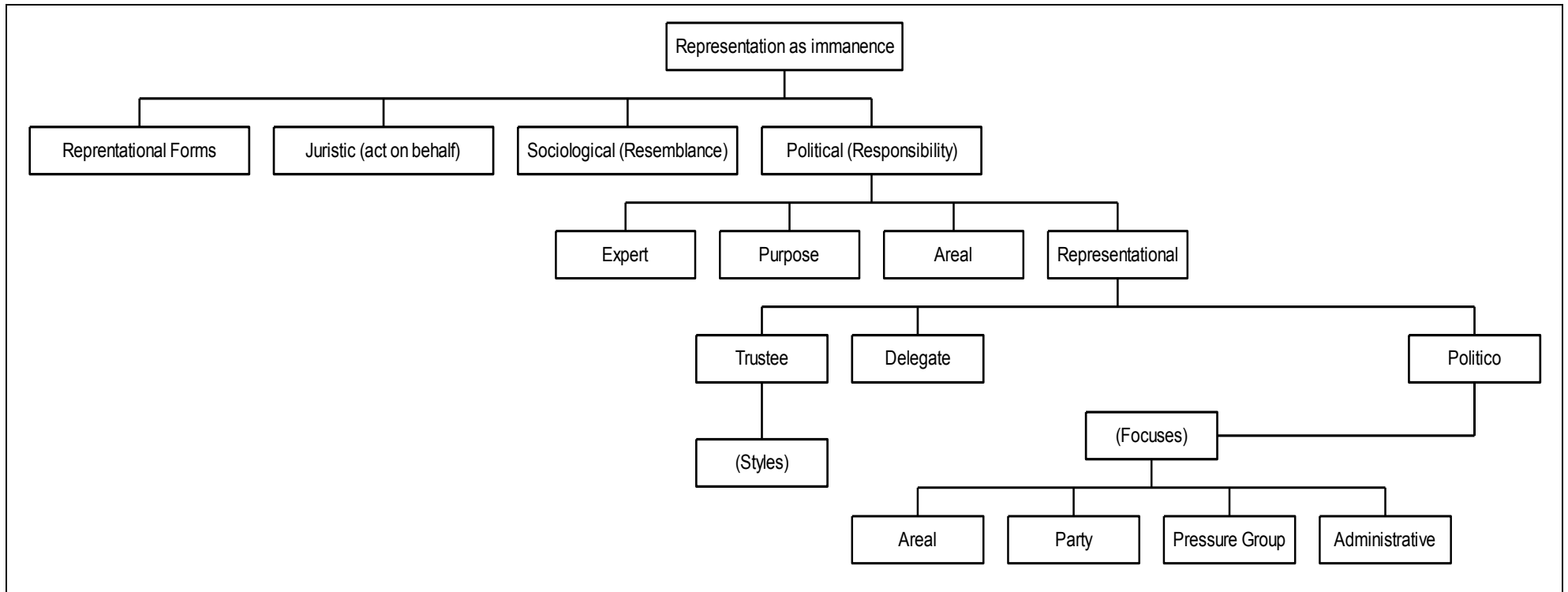
- there is a need for capacitating especially newly elected councillors in open democracy; and
- there is a need for the local government sector to develop a conceptual framework or model of inclusive participation of electorates and communities in meaningful decision-making processes to ensure accountability of councillors in their actions and decisions, if sustainable water services are to be realised. Accountability is an important tenet that has to be respected

by councillors when dealing with public matters such as basic water supply and sanitation facilities.

One of the paradoxes of good leadership is that shrewdness and calculation are necessary. The councillor, as server leader, may sometimes have to connive to promote harmony in situations of conflict and community well-being in a place of misery and poverty (which would apply in the case of the Northern Cape, as described in Chapter 5). In essence, good leaders are genuinely motivated by empathy, introspection, humility and compassion (Khoza, 2005: 57-59). Du Toit (1985: 23-25), supported by De Jager (1985: 36), adds the following:

- A councillor must be seen as a delegate who reflects the demands and wishes of all the people whom he or she represents. In terms of this interpretation, the representative is seen as an agent or messenger of his or her ward committee.
- A councillor must act on behalf of the voters by giving his or her attention to their demands and wishes, but not directly. He or she is instead permitted to use his or her own initiative to promote the interests of the ward committee or constituency. In this case, he or she is often seen as a trustee.
- A councillor must be seen as a “politico”, which means that as a politician, he or she fights for the approval of bread-and-butter legislation favoured by his or her ward committees.

Haynes (1980: 38), Hax and Majluf (1984: 72) and Horwitz (1988a: 5-7) argue that in their capacity as “trustees” and “politicos”, councillors are expected to manage LGDA developmental processes by creating a continuum between their WSA’s past, present and future. This representational role of councillors is further supported by Edmund Burke’s address to the electors of Bristol following his election as their member of Parliament in November 1774. In his address, cited in Hoffman and Levack (1970: 15), Burke argues that a representative or councillor is not a delegate mandated to obey his or her constituents’ expressed wishes, but rather is entrusted to pursue their interests as he or she sees fit, even if this involves steps contrary to their expressed opinions. The Burkean representative is a trustee, relying on “his/her unbiased opinion, his/her matured judgement, his/her enlightened conscience over his/her constituents and wishes” (Rao, 1998: 20-21). The representational role system and agenda are depicted in Figure 3.9 below.



**Figure 3.9: The representational role system under LGDA**

Source: Rao, 1998:31.

This Burkean model of representation assumes that councillors are expected to be sensitive to the needs, wishes, expectations and demands of their constituents (Gumbi, Maleka & Mchunu, 1995), read with section 18 (4) of the Municipal Structures Act, 1998; sections 117, 167, 173 (4) & (5) of the Municipal Finance Management Act, 2003; and the Municipal Supply Chain Management Regulations. It is further assumed that councillors need to be adaptive and flexible in order to accommodate the influences and effects of the various dimensions prevailing in their environment so as to satisfy the needs of their constituents. Ballard (1991: 11-20) adds that councillor performance and reasonable decision cases should be evaluated against three identified and defined normative criteria with their associated sub-criteria, which include, though are not limited to, the following:

- The maintenance of the philosophy of democracy embedded in the humanistic paradigm and Ubuntu philosophy;
- The effective achievement of the purpose of local government, namely to improve the general well-being of communities; and
- Councillors' decisions being based on informed decisions.

As may be seen in Table 3.8, multi-disciplinary skills or “meta-skills” are considered to include self-knowledge and adaptability, which would enhance an individual councillor’s ability to assume an identity suitable for any environment. The term “meta-skills” includes relevant skills that have been identified in the literature and are considered essential for councillor career path development in pursuance of section 53 of the Municipal Systems Act, 2000, Chapter 7 of the Municipal Finance Management Act, 2003, read with the Code of Conduct set out in Schedule 5 of the Municipal Structures Act, 1998. The researcher has constructed an overview of the ideal profile and competencies of councillors, depicted in Table 3.8 below.

**Table 3.8: Ideal councillor profile and competencies in a WSA**

SUSTAINABLE DEVELOPMENT	LEADING AND LEARNING	DEMOCRACY AND COMMUNITY ENGAGEMENT	PERFORMANCE AND RESOURCE MANAGEMENT
<p>Understanding the developmental challenges</p> <p>Developing an accurate picture of the developmental challenges in the municipal area, taking into account the ongoing movement of people from rural and urban areas</p>	<p>Innovative leadership</p> <p>Through strong leadership, both political and administrative, engendering confidence in the Council and building good relations with citizens and stakeholders in pursuance of the Municipal System Act</p> <p>Providing strategic direction and guidance for LGDA values</p>	<p>Deepening democracy</p> <p>Building relationships with the public and all sections of the community via Ward Committees and/or Water-related Portfolio Committees or Forums with ongoing, two-way communication flows</p> <p>Ensuring community participation in the business of local government (Chapter 7 of RSA Constitution)</p>	<p>People management</p> <p>Effectively managing staff to meet the Council's objectives, vision, policies and programmes</p>
<p>Vision, water services strategy and the WSDP as a chapter of IDP</p> <p>Developing a vision and strategy, concretised in the WSDP as a chapter of IDP and a longer-term water services and water resource management and development strategy</p> <p>Ensuring community and Ward Committee Sectors participate actively in project identification, prioritisation and planning via WSDPs, Water Master Plan and IDP</p>	<p>Change management</p> <p>Seeing that change is well managed for continuous water services improvement and customer- and citizen-focused outcomes</p> <p>Making sure that new socioeconomic developments for infrastructure, such as dams, new sewerage plants and agricultural projects, are accommodated in water allocation by CMAs and WSAs</p>	<p>Customer and resident focus</p> <p>Focusing on customer and citizen needs with the necessary resources, systems and processes in place to achieve this</p> <p>Developing and rolling out customer surveys and customer care strategy to communities, consumers and citizens in order to address operation and maintenance and sustainability issues in developmental water services</p>	<p>Systems and processes</p> <p>Seeing to continual review, redesign and simplification of systems to support the overall vision and improve performance</p> <p>Ensuring that the administrative role of WSAs is well-resourced and that retention strategies and human resource development plans to address critical and scarce skills are systematic processes and established within the WSA's departments</p>
<p>Providing basic water services</p> <p>Providing water services to households in terms of infrastructure, community infrastructure and services to improve the lives of residents</p>	<p>Motivation</p> <p>Generating commitment and enthusiasm among councillors and staff, thus contributing to the success of the municipality. For instance, encouraging project managers to participate in various water competitions and awards like Vuna Award for best projects</p>	<p>Communication</p> <p>Ensuring good and accessible communication with residents and customers, including feedback mechanisms</p> <p>Creating linkages and synergy between programmes and encouraging knowledge-sharing and lesson-learning programmes</p>	<p>Financial management and control</p> <p>Actively managing all financial resources to ensure maximum benefit and minimum risk to the authority in pursuance of Treasury regulations and upholding "for the public good" philosophy</p>
<p>Maximising social development and community empowerment</p> <p>Providing amenities and services to support the development of communities, especially in poor areas</p>	<p>Innovation and creativity</p> <p>Inspiring councillors and senior officials to think and operate "outside the box" Repositioning the council to create or take advantage of opportunities provided by the LGDA framework and anticipate problems for implementing water services within the context of LGDA and financial and human resource implications thereof</p>	<p>Consultation and participation</p> <p>Creating specific and meaningful opportunities to listen to the views of communities, stakeholders and partners</p> <p>Ensuring that Joint Programmes under Intergovernmental Relations Act, 2005, are implemented in pursuance of marketing and code of good conduct by local leaders</p> <p>Participating in SALGA programmes</p>	<p>Monitoring, evaluation and reporting (ME&amp;R)</p> <p>Monitoring, evaluating and developing a water services performance management system in line with the requirements of the Municipal Systems Act, Water Services Act, National Water Act and other pieces of legislation</p>
<p>Stimulating economic development</p> <p>Overseeing planning and policies to encourage LED in delivery mechanisms of water services, thereby providing local citizens with economic opportunities</p>	<p>Partnership and alliance-building</p> <p>Working with civil society, business and other spheres of government to enhance water service delivery and governance</p>	<p>Procurement systems and model contracts</p> <p>Attending to WSA procurement systems, tendering requirements and specifications with a benchmark of 30% value for community participation formalised in all tenders</p>	<p>Community approach</p> <p>Making sure that all water services are community-driven, with 30% of the project value left in the community for poverty alleviation and job creation</p> <p>Participating in meaningful decision-making processes, policies and strategies to eradicate poverty</p>
<p>Focusing on vulnerable groups</p> <p>Ensuring that pro-poor and other policies of the municipality are responsive to the needs of vulnerable groups</p>	<p>Empowering programme for poorest of the poor and vulnerable groups</p> <p>Overseeing WSA leaderships, Ward Committees and other forums established to focus on programmes and projects to target this section of the community</p>	<p>Equity as democratic right</p> <p>Upholding creative and innovative opportunities prioritised in the WSDP as a chapter of IDP and Water and Sanitation as a Human Right</p> <p>(which means that households and citizens are provided with minimum basic services)</p>	<p>Pro-poor and vulnerable policies and guidelines</p> <p>Ensuring that projects are geared to address the poorest of the poor and vulnerable groups within communities</p> <p>Making sure that indigent policies and database are developed as part of Customer Services or a Charter</p>

In view of Table 3.8 above read with Figure 3.8, it can be argued that “councillor competencies” mean the ability of the councillors to develop creative and flexible solutions to the water delivery chain of the LGDA in terms of the Burkean model of representation and open democracy (Rao, 1998: 31), read with section 195(1) (f & g) of the Constitution that deals with public accountability and the Batho Pele White Paper, 1997, which is embedded in the customer or relationship capital of councillors (Ungerer et al., 2006: 57-9; Du Toit & Van der Walldt, 1997: 21).

### **3.7 SUMMARY OF THE CHAPTER**

Becoming a councillor in a water portfolio under the LGDA framework means, inter alia, taking part in a caring and passionate government, helping to administer its water business, and in general learning the political trade in order to attain the highest public good for the people in the water sector as depicted in Figure 3.5 and explicitly expressed in Section 17 of the RSA Constitution. Accordingly, citizens have constitutional rights to safe drinking water and adequate sanitation services. In other words, water governance and water security are closely linked to multiple use of water for public good. Using LGDA model presented in Figure 3.6. can also be understood in terms of governance structures by focussing on the institutional framework. Governance processes can be thought of as management instruments and the enabling environment under NGP, NDP and AU’s 2063 African city agenda targets. Achieving a balance between water for livelihoods and water as a resource seems requires, inter alia, innovative hydropolitical leaders for water governance and hydrohegemonic leadership to water users. This must lead to all units and components of LGDA working in a coherent manner for public good.

It is argued that this supply chain approach requires councillors to be skilled and competent with regard to the LGDA environment, as opposed to the current traditional training, which is “over-academicised” and unfortunately inappropriate for councillors under the LGDA framework (Schon, 1987; Talbot, 1997). Having explained LGDA concepts, values, principles, requirements and performance areas in terms of policy, the decentralisation of water governance, and councillor profiles were presented in Tables 3.3. to 3.8 as complemented by Figure 3.2. These competences as summarised in Table 3.8. has been contextualised and operationalised in the adult education theories in the next Chapter (see Table 4.3). The latter is due to the fact that the researcher has found that there is currently no guiding framework for the development of appropriate education and training programmes for councillors. For this reasons including inappropriate water governance training initiatives, LGDA theories and requirements to hydropolitical leaders are further applied in education and training theories in South Africa to develop councillor profiles as depicted in Table 3.8 read with Table 4.3 of Chapter 4.

## **CHAPTER 4**

### **EDUCATION AND TRAINING THEORIES FOR COUNCILLORS IN LOCAL AUTHORITIES**

#### **4.1 INTRODUCTION**

The purpose of this chapter is to

- briefly define and distinguish between the concepts of training, education and development;
- explain various factors which may or not lead to competencies when one uses a councillor education and training model;
- define the possible scope for a councillor education programme in line with the requirements of the LGDA as a public administration and management system in democratic South Africa (see Tables 3.7 to 3.8); and
- briefly explain an appropriate councillor-training programme as a guide for acceleration of sustainable water services, and growth and development.

The chapter describes competencies and meta-skills required by councillors using a competency-based water councillor education and training (CBWCE&T) model that is based on outcomes-based education (OBE) philosophy. The analysis of the OBE paradigm linked to the interconnectedness and inter-linkages of micro-variables or values of LGDA enables the researcher to highlight guideline principles for an authentic and appropriate CBWCE&T model. With this in mind, it becomes evident that the CBWCE&T model as a well-rounded, need-based training programme for councillors would prepare its participants to apply integrated knowledge in a particular and job-related manner.

#### **4.2 DEFINITION OF CONCEPTS IN EDUCATION, TRAINING AND DEVELOPMENT**

Like most conceptual constructions, “education”, “training” and “development” have divergent scholarly definitions. The education and training concepts will be defined to ensure that the complex nature of LGDA is incorporated in the CBWCET&T model for implementation in the water sector and local government in accordance with paragraph 1.5 of Chapter 1.

##### **4.2.1 Training**

Statt (1991: 154) defines training as

an area of management concerned with making the best use of the human resources [councillors] in an organization [WSA] by providing them with appropriate instruction [or CBWCE&T model] to acquire the necessary skills for their jobs.

According to Bennett (1992: 60), training can be defined as

instruction on how to use knowledge as opposed to education, which concerns the intrinsic value of knowledge itself. Training is utilitarian and instrumental and has direct practical objectives.

#### **4.2.2 Education**

Lowe (1982: 25) describes education as “organised communication designed to bring about learning”. Dewey (1959: 31), supported by Lowe (1982: 26), defines education

as a process of living and not a preparation for future living. All education proceeds by the participation of the individual in the social consciousness of the race. The process begins unconsciously almost at birth, and is continually shaping the individual’s powers, saturating his consciousness, forming his habits, training his ideas, and arousing his feelings and emotions. Through this unconscious education, the individual gradually comes to share in the intellectual and moral resources which humanity has succeeded in getting together.

Dewey (1959: 32) adds that education is the

fundamental method of social progress and reform and may be defined as a process of continuous reconstruction of experience, with the purpose of widening and deepening its social content, while, at the same time, the individual gains control of the methods involved.

In a similar vein, Rowntree (1981) defines education

as the process of successful learning of knowledge, skills and attitudes, where what is learned is worthwhile to the learners and usually where it is learned in such a way that the learner can express his own individuality through what he learns and can subsequently apply it, and adapt it flexibly, to situations and problems other than those he considered in learning it.

The terms “lifelong learning” and “lifelong education” are embedded in the definitions of education above. The Department of Education’s Multi-Year Implementation Plan for Adult Education and Training and other guidelines provide comprehensive definitions of these two concepts (DoE, 1997b: 12; DoE, 1997c: 8; Lowe, 1982: 29; Jarvis, 1990: 6). Accordingly, lifelong learning connotes a process by which an individual acquires formal and informal education continually throughout adulthood for necessary career development and valuable personal enrichment. The National Institute for Lifelong Learning Development (DoE, 1997c: 8) defines lifelong learning in a context similar to that of local government councillors in the Northern Cape as follows:

Lifelong learning is the development of human potential in all roles, circumstances and environments, through a continuously supportive process, which stimulates and empowers individuals to acquire and apply all the knowledge, values, skills and critical understanding required to confidently and creatively attain their goals, from cradle to grave.



Similarly, lifelong education is

the realisation that each educational experience is one of a lifelong sequence of learning events (i.e. vertical articulation), and it is situated in a context of other events determined by the surrounding society. The other events (i.e. horizontal articulation) may have no formal relation to education but nonetheless influence its effects (Husen & Postlethwaite, 1994: 3419).

This means that lifelong education depends to a degree on the political and philosophical perceptions of an individual councillor and is subject to selective interpretation in terms of formal, informal and non-formal education. Lowe (1982: 24-25), Rowntree (1981: 153) and Husen and Postlethwaite (1994: 3418) all provide very detailed and comprehensive definitions of these related yet different concepts that do not need to be repeated here.

#### **4.2.3 Curriculum theory and human development**

Development is defined by Fox & Meyer (1994: 36) as

the process of improving the quality of human lives. Three equally important aspects of development are: raising people's living levels, i.e. their income and consumption levels of food, medical service, education etc., through relevant economic growth processes, creating conditions conducive to the growth of people's self-esteem through the establishment of social, political and economic systems and institutions which promote human dignity and respect, and increasing people's freedom to choose by enlarging the range of choice variables [such as] increasing varieties of consumer goods and [developmental water] services.

Calhoun (1967: 129) defines development as

a continuing process, which proceeds or should proceed throughout a man's career with an organization ... development is concerned with more general growth.

According to the definition given by the *Concise Oxford Dictionary* (1990: 318), development is

the act or an instance of developing; the process of being developed; a stage of growth or advancement; a thing that has developed especially an event or circumstance; a full-grown state.

The concept of "councillor development", as coined by the researcher in this study, refers to the knowledge, skills and attitudes that councillors as innovative and strategic leaders need to acquire to successfully lead the LGDA as a system (Alexander, 1974: 3-5). Since learning is a natural process that occurs in the daily life of councillors from the perspective of psychoanalytical theory, "councillor development" makes use of a planned and appropriate training programme aimed at enabling councillors to fulfil their roles and responsibilities in accordance with high (H) and basic (B) competencies as depicted in Table 2.7 in Chapter 2 and Table 4.1 below.

In academic studies, the concept of planned development is referred to as “curriculum”. Curriculum stems from the Latin verb *currere*, which means, “to run” and is linked to a “race course”, and refers in the case of this study to the course of action and experience through which learners or councillors grow by acquiring knowledge in water governance and becoming mature learners. Kelly (1999: 10), supported by Huggett, Smith, & Conrad (2001: 1), defines curriculum as all the learning that is planned and guided by an accredited professional training provider, whether it is carried on in groups or individually, inside or outside the training provider’s premises.

In the context of this study, the “curriculum” is defined as the body of knowledge content and/or subjects. Education, training and development of water councillors is the process by which the knowledge content relating to water governance, bulk water infrastructure, and developmental water supply and sanitation services is transferred or delivered to the learners using South African Qualifications Authority (SAQA) assessment criteria, principles of assessment and moderation. From an OBE paradigm perspective, the knowledge content transfer is aimed at bringing about significant changes in the learners’ or councillors’ pattern of behaviour (Tyler, 1949: 44; Posner, 2004: 749).

In this learning context, the curriculum is an attempt to communicate the essential principles and features of the water councillor development programme under LGDA values in such a manner that it is open to internal and external moderation using SAQA assessment criteria based on the exit outcomes agreed with the LGSETA or EWSETA ETQA. Stephouse (1975: 4-5) and Grundy (1987: 11) agree that a curriculum is a competency-based programme of activities designed so that the learners attain, as far as possible, certain education, training and development exit outcomes as approved in South Africa by SAQA. Such exit outcomes must be linked to what Posner (1992: 4) calls “socio-economic, sociological, developmental, political and ethical implications”. Admittedly, Posner’s conceptualisation of “curriculum” fits the objectives of this study as it appears that curriculum definitions are not philosophically, sociologically or politically neutral, given that there are five concurrent curricula factors to consider: the official SAQA framework, the operational programmes as provided by sectoral department and training agencies since 1994, the “hidden curriculum”, the “null curriculum” (what is not taught or mentioned) and the “extra curriculum” (Walmsley, 1997: 510; Grundy, 1987: 11; Van Rooy, 1996: 107; Oliva, 1998: 23). Posner (1992: 14), supported by Wilson (2005: 1-7), concludes that curriculum development and planning is an activity in which the planner objectively and scientifically develops the means necessary to produce the desired learning outcomes and assessments of portfolios of evidence using principles of SAQA, and quality assurance by the relevant ETQA.

It is also significant that the proposed CBWCE&T curriculum or programme rejects the current technical rationality, i.e. the notion that there is a fixed body of councillor knowledge and techniques that merely have to be learned and then applied by councillors. It has been argued

throughout this study that councillors and water decision-makers in DWA, DEA, CoGTA, DBSA and SALGA are more than morally neutral champions as water allocation, water distribution and water investment scheme programmes have also never been neutral.

Roberts (1996: 55) added that the [CBWCE&T] curriculum programme is based on “developmental artistry” involving “tacit knowledge” and intuition. Roberts (1996) suggested that learners [or councillors] can learn this “developmental artistry” by developing the ability to engage in “reflection-in-action”. From the perspective of social anthropology, councillors reflect their society and they have been developed both informally and formally in their environment and communities. The CBWCE&T programme must allow them to reflect critically on their own experience and knowledge with regard to issues and content of the curriculum on water governance and leadership.

Using the OBE paradigm rather than the highly academic, codified and technical rationality model of DWA, SALGA and universities addresses the need for a “reflexive education”, that is, to bring to awareness and then reflect on councillors’ experience, to encourage them to examine “what they thought they knew”. In short, the OBE approach adopted for the CBWCE&T model is based on principles of self-development leading to critical problem-solving learning (PSL) and critical self-understanding (Roberts, 1996: 67). As one of the councillors at a councillor induction workshop in Upington has informally argued,

It is probably difficult for you as the researcher to compile a list of competencies for municipal leaders as municipalities have different departments, different circumstances, unique conditions, and diverse groups of people and human settlement conditions (NDHS 2012).

Therefore, the CBWCE&T curriculum, training and facilitation techniques, and assessment criteria must take into account the complex role of councillors in complex WSAs in the Northern Cape. As active participants in terms of the OBE paradigm, councillors as learners must be given the opportunity to reflect so that they can apply theory to their continuous practices and the knowledge they have gained in local government leadership. Instead of engaging in expert-led training activities, councillors will be expected to participate with other councillors in individual, peer and group exercises and assignments that encourage critical reflection on their water businesses or interventions in dealing with water crises (Talbot, 1997: 119-46; Roberts, 1996: 55-67). A major conclusion drawn by the researcher is that the CBWCE&T model should not rely on an orthodox competency approach for councillors. Instead, it would be more appropriate to use the concept of capacity as a description of the ability of water portfolio councillors to hold many interconnected, dynamic and paradoxical dimensions in their WSAs.

Notwithstanding the point made above, the good news about curriculum development for councillors is that it can address the identified gaps in order to achieve the NPM or LGDA requirements or goals. According to Gibbons (1998: 59), there are opportunities for curriculum development through the changing of knowledge modes. Mode 2 is a term from the sociology of

science that refers to the way (scientific) knowledge is produced. In Mode 2, multidisciplinary teams are brought together for short periods of time to work on specific problems in the real world for knowledge production (Gibbons, 1999: 13). This “mode” can be explained by the way research funds are distributed among scientists and scientists’ focus on obtaining these funds. In contrast, Mode 1 is knowledge production which is driven by the pursuit of scientific knowledge alone (fundamental research) and which is not bothered by the applicability of its findings. It is also founded on a conceptualisation of the scientific domain as separated in discrete disciplines. The knowledge production Mode 2 is more relevant in this study as it is context-driven, problem-focussed, and inter-disciplinary theory whereby LGDA processes, systems and values can be incorporated in the water governance, water security and leadership innovation curriculum.

In this context, the Northern Cape Water and Energy Institute, the 33 WSAs, the Sol Plaatje University in the Northern Cape, and accredited training providers will be provided with a learner guide, a facilitator guide, and a learner assessment guide to produce learning on the exit outcomes of the proposed Competency-based Water Councillor Education and Training Programme (CBWCE&T), as discussed in Chapter 7 (Barr & Tagg, 2007: 1-2). Unlike the current traditional methods of training based on workshop-type learning, the curriculum-driven approach will ensure that learners are active participants. Current scientific research findings by the WRC, CSIR, HSRC, LGSETA, EWSETA, DPSA, DBSA, CoGTA and the NDHS, as well as DWA policies, strategies, plans and need assessment reports, have incrementally managed to bridge the gap between the water industry’s current and future needs, and education and training needs in the water sector (Gibbons, 1999: 11; O’Banion, 1996: 22; Barr & Tagg, 1995: 15-17). Most of the above-mentioned findings and recommendations on the water sector skills plans tend to focus on the OBE paradigm and/or problem-based learning (PBL). Accordingly, a learner-centred approach must be adopted whereby teachers and lecturers are facilitators of learning and the learner is actively involved in problem solving. PBL is used more in the engineering, technical and medical disciplines, especially by universities of technology and technical schools. However, although there is an academic difference between PBL and OBE, it is argued in this study that such a difference is insignificant as problem solving is indeed key in the OBE paradigm. For this reason, PBL and OBE are used interchangeably.

With the experience of the researcher in community and water services training programmes since 1994 with DWA and WSAs, the adopted assessment criteria has the following advantages in accordance with SAQA requirements. These include:-

- **Relevance:** Outcomes-based education (OBE) focuses curriculum planning on the practice of a particular field. While many technical skills have long been part of water governance or civil engineering training, expertise in areas such as communication skills, informatics and multicultural awareness has often been neglected or overlooked. A focus on practice also

requires that the level of student mastery extend beyond the simple recall of facts to more complex levels of learning, including higher-level clinical problem-solving skills.

- **Clarity:** Individual course objectives are tied to curriculum goals and the programme mission. Instructional objectives and assessment strategies integrate the individual classroom experience into the larger learning experience in local authorities and water services initiatives.
- **Accountability:** Outcomes provide a standard by which to judge whether or not the goals have been met. The learners are expected to meet the requirements of both formative and summative assessment processes.
- **Self-directed learning:** By articulating a clear road map of the educational process, outcomes allow learners to have a metacognitive understanding of the educational programme and their role in that process. It also encourages active discussion of those goals and the values they embrace.
- **Flexibility:** OBE allows each programme to dictate its own course of completion. The context of learning can change, based on the needs of the programme driven by learner mastery and achievement. The result is a fluid and dynamic educational model that is also responsive to societal changes in the context of water governance and security under the LGDA framework.
- **Assessment guidelines:** OBE places a priority on performance-based assessment that measures learner mastery of higher-level knowledge, skills and attitudes of practice, leading to clinical competency.
- **Collaboration in planning:** Specified outcomes encourage participation from multiple disciplines and interest groups. Outcomes provide a common goal that often requires the input of various local government disciplines. Interdisciplinary curriculum planning and education, which foster collaborative learning across various professions and areas of public administration and management practice, are perceived as a valuable addition to the educational process. Input from constituencies like the community, graduates, etc..is raised to a new level of importance in defining outcome mastery.
- **Programme evaluation:** While all evaluations are designed to answer different questions and serve different needs, they all provide critical data that informs decision making through all steps of the development and implementation of the CBWCE&T programme.

### 4.3 COMPETENCY AND CAPACITY

#### 4.3.1 Competency

In assessing the developmental state and decentralisation of water services prerequisites (Siddle & Koelble, 2012: 32-38; Doornbos, 2003: 4-7), one can conclude that the CBWCE&T model is not yet institutionalised in the LGDA framework in South Africa, especially as far as the importance of competencies for councillors in bulk water infrastructure planning and development portfolios is concerned, as depicted in Table 2.4 in Chapter 2. The CBWCE&T model is still a “bandwagon in

search of definition” in terms of new public management (NPM) for the LGDA (Erasmus & Van Dyk, 2003: 180-183). Competence refers to “the ability to meet or surpass prevailing standards of adequacy for a particular activity” (Butler, 1978: 7). The CBWCE&T model outlines the role of a councillor and the attributes, skills and knowledge needed to be effective in developmental water services (Tsibani, 2005). According to Tsibani (2004, 2005), some of the competencies required of councillors include the following:

- Water sector strategic leadership to promote and facilitate the establishment of shared water management within and outside the Northern Cape;
- Advancement of sustainable, equitable and reasonable allocation of water resources for socioeconomic growth and promotion of decent jobs;
- Promotion and harmonisation of water policies, strategies and guidelines for betterment of communities;
- Provision of a strategic oversight role with regard to water and wastewater revenue collection and water tariffs as part of compliance with Treasury regulations and the requirements of the Auditor-General (AG);
- Promotion and consolidation of good governance and ethics in delivering water services and infrastructure initiatives. Good governance in local government requires councillors who work towards a greater milieu of public participation, consensus, accountability, transparency, responsiveness, efficiency, equity, and legal compliance in terms of Treasury regulations. Good water governance is critical to forming and maintaining both internal and external relationships that are positive for all parties; and
- Consolidation of optimal use of land for addressing household food security in line with the industrial policy of South Africa.

In view of the context described above, it is argued that LGDA required competencies have included an individual councillor’s values, critical thinking patterns, judgment and processes of attitude formation. Along similar lines, Hayenga and Isaacsen (1980: 46) concluded that

[i]n competency-based education and training programmes, the functions of public officials [and councillors] are much broader than merely imparting knowledge. The task facing those who wish to revamp training programmes in order to emphasise competencies are ... to provide a basis for understanding the challenges and constraints with which public officials [and councillors] in municipalities [as local authorities] must cope in performing [their water services functions and] jobs.

From Hayenga and Isaacsen (1980: 39-46), it is clear that there is a direct link between occupational competence and functions that are associated with councillors in local government. Occupational competence can be defined more specifically as the ability of councillors to perform their activities and tasks within the water sector to the standards expected by various pieces of

legislation and performance indicators in terms of relevant provisions of various Acts pertaining to the internal administration system of councillors. This coincides with the assumption that “competency” refers to an individual’s demonstrated “knowledge, skills and abilities” performed to a specific standard (Fraser, 1996: 76; Saunders, 2000: 37; Spady, 1994: 55). Stuart (1990: 16), supported by Tomlinson (1995: 181), adds that a competent person [or councillor] is capable of certain sorts of actions required to achieve the kind of intended outcome. In this study, the CBWCE&T model attempts to identify, interpret, analyse and bridge the gap on the necessary link between water knowledge and competencies of councillors to apply it in the context of the LGDA system and its values.

It becomes reasonable to assume that the standards envisaged by the CBWCE&T model are competency-based criteria and references, or explicit and transparent statements that define the expected achievement and/or learning outcomes (Fraser, 1995: 10). Accordingly, standards can be operationalised in terms of concrete qualities and assessable levels of expectation (Fraser, 1995: 80; DoE, 2000: 9-34). Standards specify and prescribe the boundaries of the performance indicators and qualify and quantify the range of statements in accordance with the OBE paradigm. This allows the CBWCE&T model to be linked to OBE thinking. In general, the CBWCE&T model serves as a nucleus for an integrated human resources approach to councillors’ needs in the water sector and provides a common frame of reference in the local government domain on how to design a programme for councillors. Accordingly, the following key principles characterise the CBWCE&T model:

- Promotion of in-depth learning using both high and basic competencies to deal with the complex local government and globalised water business;
- Content and process objectives of the training in real water business vis-à-vis the socioeconomic and development needs under the LGDA framework and New Growth Path Framework (NGP);
- Holistic performances in the increasingly challenging local government environment and water sector; and
- Connection of the content and process of the water sector competencies to the councillors’ experience and background in accordance with clusters of dimensions containing a range of related capacities, as shown in Table 4.3.

The required competencies for councillors as depicted in Table 4.2 and Table 4.3 can be divided into high and basic competencies (H-competencies and B-competencies). In Table 4.1 below, H- and B-competencies are reflected and compared. B-competencies are basic building blocks to strategic leadership tasks. All councillors should be able to perform all basic tasks competently. Failure to do so or sub-standard performance of these tasks will have negative performance results for councillors. Changing customer needs and the complexity of local government as a political

system have rendered fixed planning and many procedures obsolete. In such environments, H-competencies become critical as councillors are required to “hold” many interlinked and paradoxical dimensions of the LGDA. H-competencies are defined as a relatively stable set of behaviours that produces significantly superior workgroup performance in more complex organisational environments (Khoza, 2005).

**Table 4.1: High and basic competencies for CBWCE&T model**

HIGH-PERFORMANCE COMPETENCIES (H-COMPETENCIES)				
COGNITIVE	MOTIVATING	DIRECTING	ACHIEVING	
Information search	Interpersonal search within Inter-Governmental Relations (IGR) Act, 2005. Industry- specific information on water resources management and developmental water services	Self-esteem, self-confidence and self-consciousness Leading, collaborating, contributing, proud and politically mature	Dynamic, proactive, innovative, strategic and pragmatic orientation	
Concept formation and reformulation	Managing, leading and directing symbolic interaction and actions Rewarding and appraisal of officials and champions	Presentation	Achievement orientation and results-based orientation	
Conceptual flexibility	Developmental orientation	Formative and summative impact of developmental water services on LED, EPWP, NGP, IPAP and NGP	Outcomes and career path development and portable knowledge, skills and reflections	
BASIC COMPETENCIES (B-COMPETENCIES)				
PLANNING AND FINANCIAL MANAGEMENT OVERSIGHT	ORGANISING	CONTROLLING	DEVELOPING	INTERACTING
The ability to understand and use monitoring systems for accounting, financial, marketing and customer information on water resources management and developmental water services. The ability to understand the legal, political and social environment, as well as other strategic features of the environment Access to development finance	Organisational structure, job design, people planning; resource allocation (budgeting, cost accounting, managerial accounting, controlling resources); coordination with other councillors, and political parties within the three spheres of government	Functional and dysfunctional effects of controls; systems for controlling expenditures, inventory, quality project and community monitoring, evaluation and reporting (ME&R) (feedback) on progress and new initiatives	Measurement of performance at the organisational, unit, project and product (service) and individual level; ensuring that political and administration systems and processes of LGDA are interconnected and have linkages to reinforce each other	Giving directions to communities, constituencies, employees and other councillors (re: roles, duties, rules, procedures); giving feedback (positive and negative aspects of own and others' performance); giving support (positive expectations of people in the group)

From Table 2.7. to Table 4.3, it may be argued that councillors' competencies can be based on skills and knowledge, their attitudes as a reflection of their motivational level within WSAs, and their intellectual agility to be innovative and able to adapt to the ever-changing metaphysical world. Performance has become a critical issue for councillors amid the requirements for competitiveness of the global WSA (Figure 3.6). The golden thread of performance and its appropriate measurement is also visible in all the policy documents of the South African public sector, especially the Local Government: Municipal Systems Act 32 of 2000 (sub-sections 41-46). In line with the ideal roles and responsibilities of councillors as developed in this study (Tables, 2.7, 3.3., 3.8., 4.1., and 4.2), the performance requirements in the various Acts require certain key performance areas and tasks to be performed by councillors. These, in turn, lead to certain



minimum requirements of knowledge, skills and attributes of councillors in developmental water services as identified by CoGTA (2007: 61-64), supported by the LGSETA Councillor Report (2012) with a sample of 40% (4 037) respondents out a total of 8 398 South African Local Government Association (SALGA) councillors that attended a councillor induction programme. These requirements are depicted in Table 4.2 and Table 4.3 including Figure 4.1.

#### **4.3.2 Capacity needed by councillors under value-driven LGDA framework**

Using behavioural (psychoanalytic) and development theories, the researcher deduced that the councillor's competency approach must include capacity. From Table 2.4 to Table 4.3, it is clear that the word 'competency' is used to mean capacity. Capacity as a concept originated in psychoanalytic theory. Its etymology includes the Latin words *capere* (hold) and *capacitas* (able to hold much). The relevance of this concept can be seen from the capacity areas identified in Table 4.3. According to a dictionary definition, capacity is "the power of containing, receiving, experiencing, or producing" (*Concise Oxford Dictionary*). This has several implications when one relates the concept of capacity to demanding leadership roles such as those of councillors in an ever-changing metaphysical world and in a local government environment under the LGDA framework. The implications include being able to hold or deal with complexity, ambiguity and paradox in order to give effect to the constitutional and legislative mandate of councillors in pursuance of developmental state objectives and other declarations of the globalised LGDA values and water business (Khoza, 2005: 57-59).

Thus, to work successfully in this over-politicised local sphere of government and its political dimensions under the LGDA framework means having the capacity to reflect on the challenges, difficulties and irresolvable relationships and being able to read intuitively the constantly changing political dynamic among a council membership. It suggests that a councillor must have the capability, as opposed to a competency, to learn from experience and to reflect critically on his or her practice.

Consequently, the researcher resolved this problem of making use of 'competency', 'capability' and 'capacity' as separate semantic concepts or using them interchangeably. Given the conceptual clarity and differentiation between 'competency' and 'capacity', the researcher concluded that the following *capacity* needs are required for councillors in the context of the multidimensional, complex and value-driven LGDA framework:

- The capacity to work within the political dimension;
- The capacity to lead, change and develop the organisation into 3Es (Economy, Efficiency and Effectiveness) in the water sector;
- The capacity for keeping abreast of an ever-changing metaphysical world and globalised [water] services and maintaining self-knowledge in terms of 3Hs (Head, Heart and Hands-on involvement);

- The capacity to develop effective internal and external relationships;
- The capacity to plan and implement bulk infrastructure programmes and projects; and
- The capacity for maintaining [developmental local government] focus on strategic and long-term [water business] issues (Stapley, 1996: 178; Broussine, 2000: 500-506).

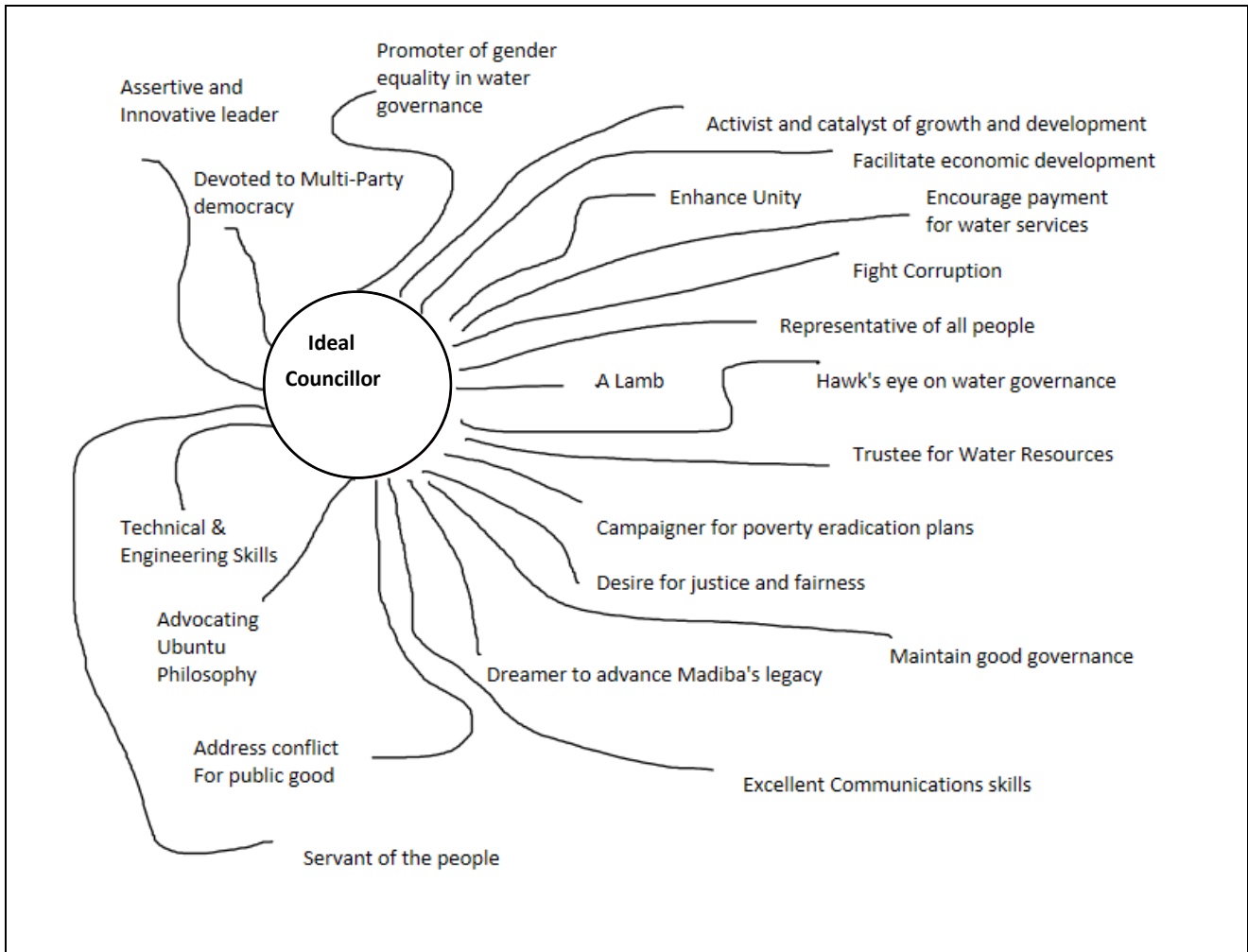
Each capacity area is accompanied by the detailed thinking that lies behind each category, as depicted in Table 4.3 below, read with the CBWE&T framework in Chapter 7.

**Table 4.2: Councillors' roles and competencies required for developmental water services under LGDA**

Responsibilities		Competencies		
Key performance indicators (KFI)	Tasks	Knowledge	Skills	Attributes
Social upliftment at a WSA level	<p>Ensure integrated development planning (WSDP and IDP )</p> <p>Promote and undertake water services and infrastructure development (e.g. construction of more dams and reservoirs )</p> <p>Build trust between members of the council, ward committees and community</p> <p>Foster relationships between council, stakeholders, role players and communities</p> <p>Assist and support community aids and outreach programmes</p> <p>Secure the well-being of the people of the community</p> <p>Promote bulk infrastructural development &amp; developmental water services for the WSA as a whole</p>	<p>Repeal of Local Government Laws Act (Act 42 of 1997)</p> <p>Municipal Systems Act, Act 32 of 2000</p> <p>Housing Act, Act 107 of 1997</p> <p>Water Services Act, Act 108 of 1998</p> <p>National Water Act, Act 32 of 1998</p> <p>Traditional Leadership and Governance Act of 2005</p> <p>Integrated Sustainable Rural Development Programme Framework</p> <p>Urban Renewal Programme Framework</p> <p>Water Sector Strategic Framework, September 2003</p> <p>DWA-Water Sector Capacity Building Framework, 2005-2011</p> <p>COGTA-National Capacity Building Framework, 2005-2014</p> <p>SALGA National Capacity Building Framework</p> <p>COGTA-Public Participation Policy Framework</p>	<p>Managing interaction within local government domain</p> <p>Water-related information search</p> <p>Concept formation</p> <p>Conceptual flexibility</p> <p>Interpersonal search in the water and related services sector</p> <p>Presentation</p> <p>Planning</p> <p>Organising</p> <p>Developing</p> <p>Interacting</p> <p>Business acumen</p> <p>Financial acumen</p> <p>Financial management</p> <p>Interpersonal and inter-sectoral collaboration</p>	<p>Water sector and local government collaboration</p> <p>Motivational</p> <p>Empowers others</p> <p>Relationship builder</p> <p>Self-confidence</p> <p>Assertiveness</p> <p>Impact</p> <p>Self-motivated</p> <p>Critical reasoning</p> <p>Sound judgment</p> <p>Continuous improvement driven</p> <p>Achievement orientation</p> <p>Proactive orientation</p> <p>Responsive</p> <p>Self-discipline</p> <p>Emotional maturity</p> <p>Stress handling and coping capability</p> <p>Effective self- and time management skills</p> <p>Integrative thinking</p>

Responsibilities		Competencies		
Key performance indicators (KFI)	Tasks	Knowledge	Skills	Attributes
Economic upliftment at a WSA level	<p>Ensure integrated planning (WSDP &amp; IDP)</p> <p>Build WSA's capacity to perform in terms of MSA, sub-sections 41-46</p> <p>Ensure equitable distribution of financial resources</p>	<p>Organised Local Government Act, Act 52 of 1997</p> <p>National House of Traditional Leaders Act, Act 10 of 1997</p> <p>Municipal Finance Management Act</p> <p>LED Policy Framework</p> <p>Northern Cape Provincial Growth and Strategy</p> <p>National and Provincial Spatial Plans</p> <p>SADC and NEPAD strategic objectives</p>	ditto	<p>Attentive</p> <p>Flexible</p> <p>Take accountability</p> <p>Collaborative</p> <p>Resilient</p> <p>Rigorous</p>
Community participation and public participation	<p>Establish relationships and alliances</p> <p>Facilitate cooperation and communication between council and local communities</p> <p>Encourage community-based planning via ward committees and ward-based sectors</p> <p>Involve communities in municipal monthly, quarterly and annual meetings</p>	<p>Ward committees, community forums and representatives from civil society forums</p>	ditto	ditto
Provide universal access to essential services such as water and sanitation as per national targets	<p>Ensure that municipal [water] services are provided in a sustainable manner</p> <p>Manage and monitor provision of developmental water services and water resources programmes such as potable water, supply systems, bulk supply of water, domestic waste, water and sewage disposal systems and solid waste disposal sites</p> <p>Monitor service providers' effectiveness</p>	<p>Dublin Principles and World Sustainable Development Action Plans</p> <p>National and provincial targets</p> <p>Water Services Strategic Framework, 2003</p> <p>Water Services Act, 1997</p> <p>National Water Act, 1998</p>	ditto	ditto

Responsibilities		Competencies		
Key performance indicators (KFI)	Tasks	Knowledge	Skills	Attributes
Provide affordable essential services such as water and sanitation as per national targets	<p>Strive to ensure that developmental water services and/or municipal services are provided to the local community in a financially and environmentally sustainable manner</p> <p>Recommend and determine best methods and partnerships to deliver sustainable water services in order to maximise community benefits and best values of LGDA</p> <p>Provide communities with equitable access to developmental water services, to which they are entitled</p> <p>Enhance cooperation, mutual assistance and sharing of resources among municipalities</p> <p>Evaluate progress against the key performance indicators</p>	ditto	ditto	ditto
Financial and budget management in accordance with Generally Recognised Accounting Practices (GRAP)	<p>Plan, prepare, approve and implement council and municipal budgets</p> <p>Draft annual budget and finance reports</p> <p>Determine estimates of revenue and expenditure</p> <p>Impose and recover rates, taxes, levies, duties, service fees and surcharges on fees and collect debt from customers</p> <p>Monitor and review the financial impact, performance and effectiveness of developmental water services vis-à-vis other municipal services</p>	<p>Municipal Systems Act, 2000 (section 4)</p> <p>Municipal Finance Management Act</p> <p>Local Government Property Rates Act</p> <p>Municipal Accountants Act, Act 21 of 1988</p>	ditto	ditto



**Figure 4.1: Ideal councillor using mental mapping**

Figure 4.1. is an example of use of mental models which refer to the potential beliefs, interpretation, representations, or schemes of how councillors can be perceived to be like in LGDA (Foster & Kaplan, 2001:63-76). Like all models, mental models are abstractions of reality. The model is less complex than the real world. A mental model changes with time and even during the flow of a single conversation. The human mind assembles a few relationships to fit the context of a discussion in terms of water governance. Figure 4.1. indicates that councillors are expected to be adaptive to the ever-changing local government environment as implicitly and explicitly explained in Figure 5.10 in accordance with sustainable community development models in Figure 5.11. By using mental mapping exercise, the researcher is able to bring to the surface inner thinking and 'mental reflections' of councillors guided by community sustainable models in Figure 5.11, and leadership paradigms in Table 2.5. It appears that mental mapping exercise helped the researcher to reflect on the intellectual, emotional, physical, social, occupational, environmental, financial, cultural, and spiritual domains in the minds of councillors as was depicted in Table 2.7. Accordingly, the mental models are able to make complex system like LGDA simplified into manageable statements thereby able to allow the researcher to summarise ideal councillor as in Figure 4.1. and Table 4.3 ( see also Sterman, 1994:194; Foster and Kaplan, 2001:63-76).

**Table 4.3: Ideal capacities of councillors in the water sector**

Capacity cluster	Knowledge	Activity-driven: competency and skills
1. The capacity to work in the hydropolitical and socio-political dimensions within the three spheres of government and in the case of Northern Cape to have internal and external relationships	1.1 Working at the boundary of hydropolitics in terms of water allocation, role of CMAs and management of water resource management	<p><b>1.1 Boundary and hydropolitics</b></p> <p>Knowing where the Ward Committee, ordinary councillor, nominated councillor, mayor, speaker, chairpersons of various forums within the three spheres of government, MEC, NCOP, Water and Forestry Committee, organised local government (SALGA), organised labour (e.g. COSATU), IGR forums and heads of departments and other accounting officers represented by various clusters and sector departments fit into the picture;</p> <p>Mixing innovative and pragmatic ideas with LGDA values and other councillors' work realities; and</p> <p>Balancing what is a technical, rational or administrative matter and what is political, to ensure good governance and public accountability</p>
	1.2 Developing water resources and water services strategies	<p><b>1.2 Water resource and developmental water services strategies</b></p> <p>Turning the water sector and political leaders' ideas into SMART water resources management and developmental water services strategies and plans</p> <p>Facilitating council and ward committees' understanding of water demands and availability for domestic use, socioeconomic and developmental needs in pursuance of infrastructure investment and NGP</p> <p>Providing water strategic planning sessions, workshops, conferences and summits in order to ensure that future needs are achieved in the WSDPs, Water Plans and IDPs</p>
	1.3 Maintaining effective political and administrative relationships with spheres of government political leaders and accounting officers	<p><b>1.3 Excellent relationships with peers and officials</b></p> <p>Creative and innovative, influencing Northern Cape hydropolitics and local leaders to address water scarcity within the context of NGP and the notion that water is for economic growth</p> <p>Dealing with households, citizens, consumers, customers and councillors' changing water expectations in terms of Maslow's hierarchy and others</p> <p>Building and maintaining appropriate and sound relationships with political leadership within the spheres of government, civil society and NGOs in pursuance of good governance and public accountability</p> <p>Spotting political trouble regarding developmental water services and water resource demands, water infrastructure and asset operation and maintenance, water tariffs, water policies and regulations and required resources to satisfy householders and customers by using open-door policy, informal discussions and correspondence with a high degree of confidentiality and trust.</p>
Capacity cluster	Knowledge	Activity-driven: competency and skills
2. The capacity to lead, change and develop the WSA	2.1 Maintaining consistency with underlying LGDA values embedded in Ubuntu philosophy	<p><b>2.1 LGDA values embedded in Ubuntu philosophy</b></p> <p>Championing the vision and values of the LGDA and developmental state strategic goals and interventions</p> <p>Championing and upholding the Ubuntu values of cohabitation, coexistence and fundamental oneness of humanity embedded in the LGDA values and WSAs' cultures</p> <p>Promoting tolerance of diversity and equitable use of resources</p> <p>Reminding other councillors and political leaders that leadership makes persons in positions of authority ever conscious of their role as servers rather than commanders</p> <p>Maintaining focus on continuous water business improvement</p> <p>Developing and reviewing WSA departments or units in terms of Section 78 of the Municipal Structures Act to be geared to deliver on water resource demands, developmental water services, and forums under Water Committees, sanitation task teams, CMAs, WSUAs and Water and Forestry Portfolio Committee strategic objectives informed by annual Cabinet Lekgotla and</p>

Capacity cluster	Knowledge	Activity-driven: competency and skills
		<p>SONA Developing ethos of being an open, community-oriented water sector, results-based approach to the globalised water business Like LGDA values, water portfolio leadership requires empathy and compassion, based on the human condition and values of Ubuntu philosophy under the overarching humanistic paradigm</p>
	2.2 Working with uncertainty, ambiguity and the inevitability of local government metaphysical change and globalised water business	<p><b>2.2 Uncertainty, ambiguity and the inevitability of globalisation</b> Contradiction between good water governance and accelerated water services delivery is a key feature of all leadership in modernisation of towns and cities and globalised water business, as well as modern political representativeness – thus, developing the ability to work with continuous change Developing ethos on the necessity for new water resource demands and water services expectations as part of continuous change Recognising that change threatens political parties, leaders, officials, stakeholders, role-players, citizens, customers and communities Being sensitive to opposition parties or councillors, as well as municipal officials and water sector representatives, is a prerequisite to address uncertainty, ambiguity and inevitability caused by hydro-politics, water demands and required developmental water services in the Northern Cape</p>
	2.3 Developing collective leadership with both politicians and technical officials	<p><b>2.3 Collective leadership</b> Building relationships that support collectivism, result-based approaches and teamwork Empowering, encouraging and affirming new ideas and innovation in water business and technological expertise as far as possible Regarding oneself as interdependent with other councillors and officials as technical arm of one's vision and strategic plans to meet the community and investors' needs in the water sector Establishing and enhancing a collective and inclusive partnership forum Delegating without bullying Handling personalities and hydro-politics within the law</p>
3. The capacity to develop effective internal and external relationships	3.1 Being a champion of local democracy and developmental water services	<p><b>3.1 Champion of local democracy</b> Being an advocate, trustee and politico representative of the WSA and government entities Defending and promoting the water works of the WSA Emphasising local government's positive role in the community and Northern Cape Society Being able to reach compromises across and between classes in terms of a common vision of a mutually caring and socially equitable society Making LGDA a pilot project to be locally driven in pursuance of cooperative governance Presiding over the nearly collapsed or collapsed LGDA pilot project promoting fair salaries for councillors and officials (<i>Business Day</i>, 4 September 2006) Creating space for municipal and water officials to bloom Minimising red tape, too much emphasis on protocols Promoting and enhancing openness, transparency, responsiveness, good governance and accountability (<i>Mail &amp; Guardian</i>, 3 September 2006; <i>Financial Mail</i>, 21 April 2006) as opposed to dealership and corruption (<i>Financial Mail</i>, 23 February 2007)</p>
	3.2 Working with communities and	<b>3.2 Working with communities and water sector</b>



Capacity cluster	Knowledge	Activity-driven: competency and skills
	water sector role-players and stakeholders	<p>Need to maintain a balance between councillor vis-à-vis party political role</p> <p>Need to maintain a balance between political party role vis-à-vis municipal public representation role</p> <p>Handling conflicts within WSA or council and between political parties, communities and different water stakeholders with their different interests and agendas</p> <p>Being a facilitator, honest broker, arbitrator between water stakeholders and role-players</p> <p>Co-delivering socioeconomic and water infrastructure</p> <p>Promoting centres of excellence in Ward Committees and communities</p> <p>Promoting broad-based economic growth, job creation in water projects and programmes, cooperation, integration and prosperity in pursuance of PGDs</p> <p>Encouraging ethos of listening to the public, citizens' voices, ward committees, private sector and investors, donor community, CBOs, SMMEs and cooperatives, NGOs, training providers, organised local government (SALGA), organised labour (e.g. COSATU), and professional bodies and associations (e.g. SAICE, WISA) and peer groups</p>
Capacity cluster	Knowledge	Activity-driven: competency and skills
4. The capacity for maintaining focus on water-strategic and long-term issues in line with IPAP, NGP, DWA NWRS 2, NDP 2030 vision and beyond, SADC Water Protocol Performance targets, and NEPAD strategic objectives	4.1 Developing and holding a vision and strategic overview of the WSA or LGDA	<p><b>4.1 Vision and strategic overview</b></p> <p>To have a vision beyond what the WSA is doing now by driving developmental impact in all constituencies under the jurisdiction of the WSA by aligning the WSA strategy, structure, culture and operational processes</p> <p>Expanding access to WRM and Development WS, developmental finance and effectively integrating</p> <p>Implementing sustainable community-driven water and sanitation projects in pursuance of EPWP, NGP, IPAP, DWA NWRS 2 and NGP</p> <p>Promoting twinning methods between the WSA and other international cities in pursuance of SADC and NEPAD strategic goals</p> <p>Communicating and marketing ideas of water technological options and delivery models within and outside WSA</p> <p>Keeping and focusing on the debates, initiatives, and projects on the broad LGDA values and strategic objectives of the SA Cabinet in pursuance of SADC and NEPAD targets</p> <p>Being the 'trustee, advocator, attorney, arbitrator, lawyer, mediator, facilitator, politico representative, analysis, specialist and holder' of LGDA values as explicitly and implicitly expressed in the White Paper on Local Government, March 1998, and the WSA vision</p>
	4.2 Holding an awareness of the WSA's strategic role, capacity and capability	<p><b>4.2 Strategic role, capacity and capability</b></p> <p>Being aware of the potential of the WSA</p> <p>Being aware of the WSA's strengths and weaknesses</p> <p>Being empowered to institutionalise the local government capacity as embedded in the municipal institutional arrangements and administrative affairs, political practices and ideas to safeguard local government against negative connotations</p>
5. The capacity for maintaining personal perspective and self-knowledge	5.1 Maintaining self-knowledge	<p><b>5.1 Self-knowledge</b></p> <p>Having a sense of water learning needs in order to perform water portfolio tasks with a balanced technical and political leadership role</p> <p>Understanding effects of own strengths and weaknesses on political parties, peer group and officials</p> <p>Rewarding collaboration and knowledge-sharing between politicians and officials</p> <p>Developing ways of maintaining self-awareness</p> <p>Having a sense of how one is seen in the water portfolio role by political parties, spheres of government, mayors, speakers,</p>

Capacity cluster	Knowledge	Activity-driven: competency and skills
		MEC, NCOP, Water and Forestry Portfolio, organised labour and local government (SALGA), including heads of departments and accounting officers
	5.2 Maintaining belief or faith in self	<p><b>5.2 Belief or faith in self</b></p> <p>Developing self-directing, symbolic or model role for next generation</p> <p>Developing self-confidence, self-consciousness and self-belief</p> <p>Keeping faith in one's own water business judgement</p> <p>Promoting hope to the masses, citizens and water sector role-players in the current acute state of degeneration, severely demotivated councillors and lack of investment in big water infrastructure dams for economic growth and attraction of possible investment</p>
	5.3 Developing personal resilience	<p><b>5.3 Personal resilience</b></p> <p>Handling water leaking and losses, developing perspective on causes of water leaking and losses, poor operation and maintenance, non-payment of water services, etc.</p> <p>Being able to keep going and keep abreast of new developments and technology within the water sector and local government democratic role for delivering sustainable services</p> <p>Working through adversity by promoting internal and external sustainability</p> <p>Getting life balance right in pursuance of the Code of Good Conduct</p> <p>Providing strategic leadership and innovative solutions through ups and downs of a WSA</p> <p>Promoting the WSA's reputation by displaying the following qualities: a sense of urgency, solution-orientation, effective risk leader, wise, attentive, flexible, accountable, collaborative, resilient and rigorous</p> <p>Maintaining a sense of humour with colleagues and officials alike</p>

#### **4.4 ADULT EDUCATION AND TRAINING AND CBWCE&T MODEL**

Spady (1998: 24) defines Outcomes Based Education (OBE) under adult education theories as being systemic in nature in that it is about

focusing and organizing an education system around what is essential for all students to be able to succeed in at the end of the learning experience. This means starting with a clear picture of what is important for students to be able to do, then organizing the curriculum, teaching, and assessment to make sure that this learning ultimately happens.

Accordingly, an outcome refers to more than content, theoretical skill and the achievement of registered learnerships and qualifications in terms of SAQA. An outcome includes an actual demonstration or application of the content in an authentic context. It can be argued that OBE is a systematic application of a number of educational theories and ideas to the probability of a councillor's development, if all other variables are controlled (SAQA, 2000c: 10-11; Spady, 1004: 192-193; SAQA, 2000a: 11). Knowles (1990: 126), supported by Gotz (1996: 10); argues that

merely having mechanisms for mutual planning will not suffice. People must be treated in good faith, with real delegation of responsibility and real influence in decision-making or they will backfire.

Clearly, this will necessitate a radical paradigm shift in the content, methods and outcomes of what councillors learn in order to narrow the existing training gaps in the water portfolio.

#### **4.5 CAPACITY THEORETICAL FRAMEWORK FOR COUNCILLORS**

##### **4.5.1 The new councillor-focused training paradigm**

In sharp contrast to various negative perceptions about the LGDA as a concept described in Chapter 3, the LGDA can be seen as taking what is there at the local level, anchored in the socioeconomic and daily life of Northern Cape people, and improving upon this existing system of life or governance so as to make it more efficient, more productive, more hospitable, and more elegant; thereby able to meet organic, participatory, grass-roots or bottom-up water needs. This means a new paradigm, a new vision of developmental water services and LGDA, which should include a fundamental inward individual change in terms of the thoughts, perceptions and values of councillors (Capra, 1988: xviii). The paradigm includes the new aim to maximise councillor potential through a developmental water-training programme, whereby councillors are continually challenged with regard to the LGDA and developmental water services problems in the Northern Cape. This new inside-out paradigm according to which a councillor's potential has to come out is the complete opposite of the current training system offered to councillors by DWA, NDHS, CoGTA, SAAWU, SALGA, CoGTA, LGSETA, EWSETA and other development agencies, which is

an 'outside-in' paradigm (whereby water governance and water business knowledge is imparted to councillors from the outside).

#### **4.5.2 Inward councillor consciousness key to implementing CBWCT&E model**

The views of Csikszentmihalyi (1991: 24) and Harman (1992: 1-12) support the need for this inward learning by councillors in water services. It is further explicated by Shanon (1990: 138-140) when he describes states of consciousness that would be applicable to councillors on three levels:

- The consciousness that is characterised by perceiving and interacting with the local government environment, or a "sense of being in the metaphysical world";
- The mental awareness of various water business dimensions within the LGDA; and
- The LGDA requirements for councillors to be competent to reflect on developmental water services processes and water business dynamics, and to engage in conscious mentation to guide or govern thoughts, feelings and processes.

From Shanon's (1990) findings on modern psychology, supported by Harman (1988: 85), it appears that the current training initiatives in the water sector are limited in their ability to enhance the inward consciousness to councillors. Feuerstein (1990: 89) succinctly expresses this required CBWE&T renaissance or rebirth when he argues that

clearly, this renaissance must begin in the chambers of our own hearts .... We cannot wait for society to change or for institutions and organizations to be renewed. We, as individuals, must assume responsibility for our own personal transformation.

But it remains

the individual [councillor] becoming acutely aware of his/her own separate reality *vis-à-vis* the community [or skills and competencies the LGDA requires from him[/her]; his[/her] claim to express his[/her] personality by thinking and doing for himself[/herself], exploring new lands, new realisms of thought, new ways of looking for truth, new means of expressing it, it is the individual's [councillor's] firm claim to live his/her own life (Acland 1963: 64).

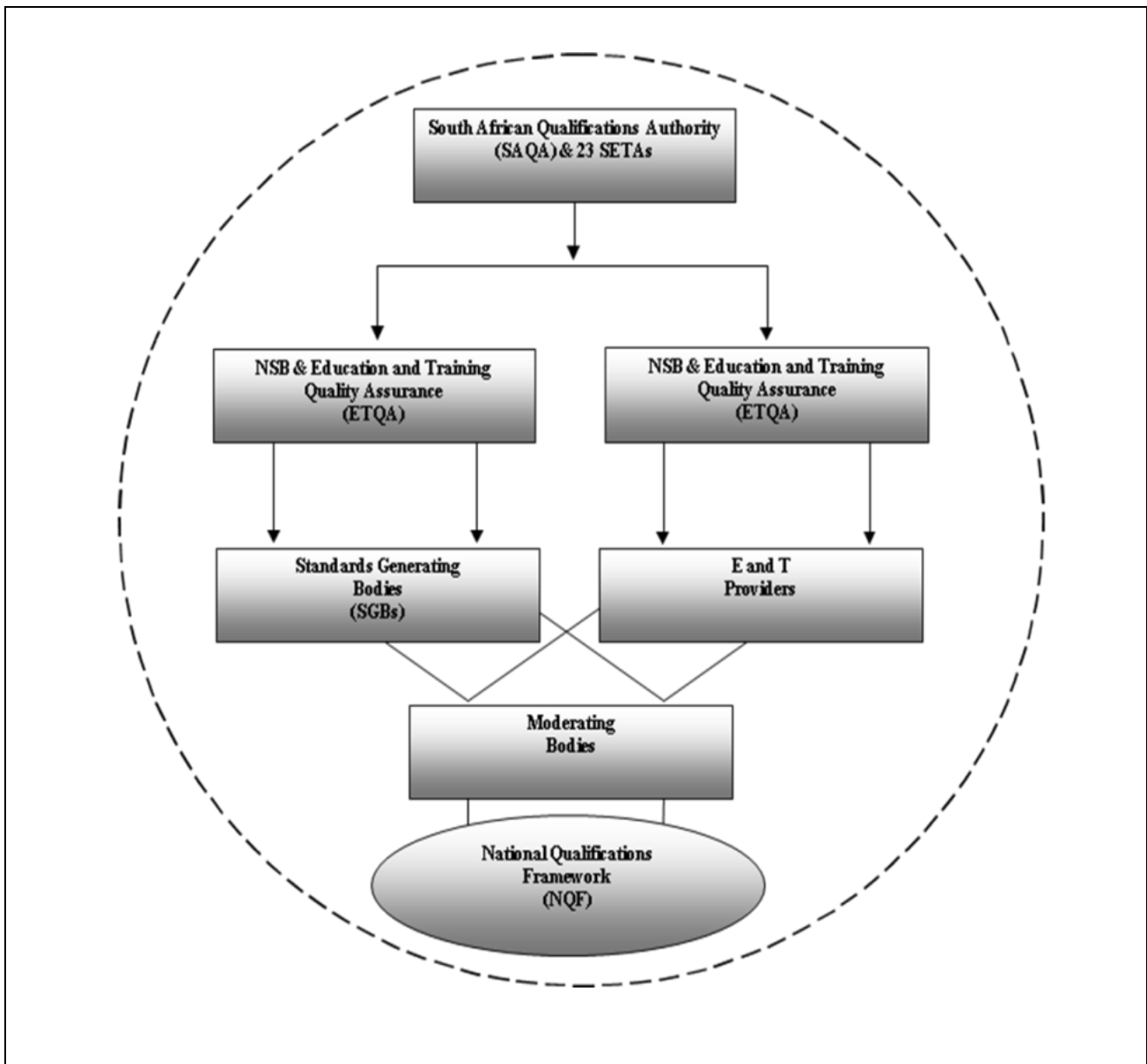
In view of the statement above, it can be argued that the "inner-knowing" paradigm (discussed by Harman 1992: 1-12) assumes that councillor education and training learning materials, activities, councillor-supporters (such as peer-facilitators, politicians and experts), learner-facilitators, learner manuals and guides, learner assessment guides or portfolios of evidence, interaction values, and the processes as well as the curriculum exit outcomes are taken care of. It appears, therefore, that the "inner-knowledge" paradigm from Carr and Kemmis, cited in Waghid (2000: 27) ultimately resides in social anthropology (Babbie & Mouton 2001: 28) and behavioural theories such as Maslow's theory of the hierarchy of needs (1970); the achievement-power affiliation theory of McClelland (1987); the existence relatedness-growth theory of Vygotsky (1978)); the specific goals

theory of Locke and Latham (1990); the expectancy theory of Vroom (1964), and the equity theory for social comparison by Adams (1965). These theories, in line with Table 4.3, are concerned with the “mental metaphor”, i.e. the centrality of human [councillor] consciousness, albeit emphasising different areas of the human being (Babbie & Mouton, 2001: 28).

#### **4.6 A NEED FOR A CBWCE&T MODEL**

The elements of Kuhn’s theory on scientific revolutions and their applicability to social anthropology and the hydropolitical domain also promote explanations of skills revolutions in post-Apartheid South Africa. In this regard, changes in local government and the need for skills to address economic growth and development in pursuance of the EPWP, NGP, IPAP and NDP have to be viewed as inexplicable (Kuhn, 1970: 10). These developments represent an opportunity to explain a national skills strategy to ensure that councillors are competent and skilled to deal with their world of work under the LGDA framework as depicted in Figure 4.1. The andragogic approach (the adult learning approach, as opposed to the pedagogic approach) will support participants to understand continuous water adaptive strategies and plans in line with water policies and poverty eradication strategies under the local government development agenda in South Africa. Evolving and complex water governance problems demand difficult choices by those empowered to make them. Developments in the water sector in recent years such as decentralisation, the increasing involvement of the private sector, and greater environmental and community awareness have led to many hydropolitical stakeholders influencing policy development.

With the introduction of the Sector Education and Training Authorities (SETAs) in accordance with the SAQA Act of 1995, municipalities are required “to develop and implement programmes for the education, training and development of their human resources and make budgetary provisions for the development of education and training programmes in addition to the levy payable in terms of the 1999 Skills Development Levy Act” (Morgenrood, 2000: 35-6) in pursuance of section 153 (a) of the RSA Constitution. This implies that a local authority must submit its training initiatives to the relevant SETA for approval in accordance with the Department of Labour’s Skills Development Act of 1998 and SAQA norms and standards.



**Figure 4.2: An accreditation framework by the Department of Higher Education in South Africa**

The Skills Development Act is not only about new skills and knowledge. It also recognises that millions of people already have skills and experience that they have developed in helping to reconstruct their immediate environment to suit their needs (Langerman & Smith, 1979: 141). Langerman and Smith (1979: 141) contend that “every person finds himself/herself in specific situations with respect to their work, recreation, family life, community life-situations which call for adjustments”. The Competency-based Water Councillor Education and Training (CBWCE&T) Model, as part of Adult Education and Training (ABET), begins at this point. This view is shared by Knowles, cited in Kowalski (1988: 16), who formulated the following primary assumptions about adult education and training relevant to the basic premises of this study, as outlined in Chapter 1:

- The concepts of adults are those of independent, self-directed persons;
- They possess a reservoir of experience;
- They are prompted to learn according to their developmental tasks and socioeconomic [and political] roles; and
- They can apply knowledge immediately as they are more performance-centred than subject-oriented (Phares, 1991: 367; Louw, 1993: 117; Mott, 1994: 151-158).

The challenges of LGDA mean that a councillor-training programme is a necessity to interlock with the micro-, meso- and macro-economic development initiatives embedded in the LGDA (Erasmus & Van Wyk, 2004: 114). This councillor training must be complemented by a municipally integrated education and training programme in order to self-reinforce and interlock LGDA sub-systems to work in harmony. It can be argued that training is more task-oriented and often of a short-term nature, while development is more related to the expansion of individual councillors' potential within a long-term mission and vision of a municipality (Rabies, 1987: 137). Rabie, (1987: 137), as supported by Berge (1992: 6-8), argues the opportunity for the trainee (or councillor) to discuss the aims and objectives of the course with the executive council committee of a local authority, and preferably their mayoral committees and municipal councils as decision-making bodies within local authorities. Finally, the work situation can usefully be conceived of as a field containing forces both inhibiting and facilitating the introduction and application of new LGDA competencies.

From Figure 4.3, the CBWCE&T programme must take the following factors into account:

- There are extreme weather conditions, water scarcity, an economic recession, a high rate of unemployment, a shortage of critical skills, and skills mismatches especially in engineering and technical disciplines (National Treasury, 2011);
- Skills shortages have been recognised as a critical constraint since at least the 1970s in South Africa;
- The skills programmes and learnerships have had many implementation problems and could not mature to deliver the intended results; and
- The current programmes and initiatives are not aligned to NSDS III, the Public Skills Accord (July 2011), and required political leadership skills and competencies to implement well-documented policies, strategies and plans under the IPAP, NGP, DWA NWRS 2 and NDP vision 2030 (Pillay *et al.*, 2013: 422-445; Delbecq & Vande Ven, 1975: 466-491).

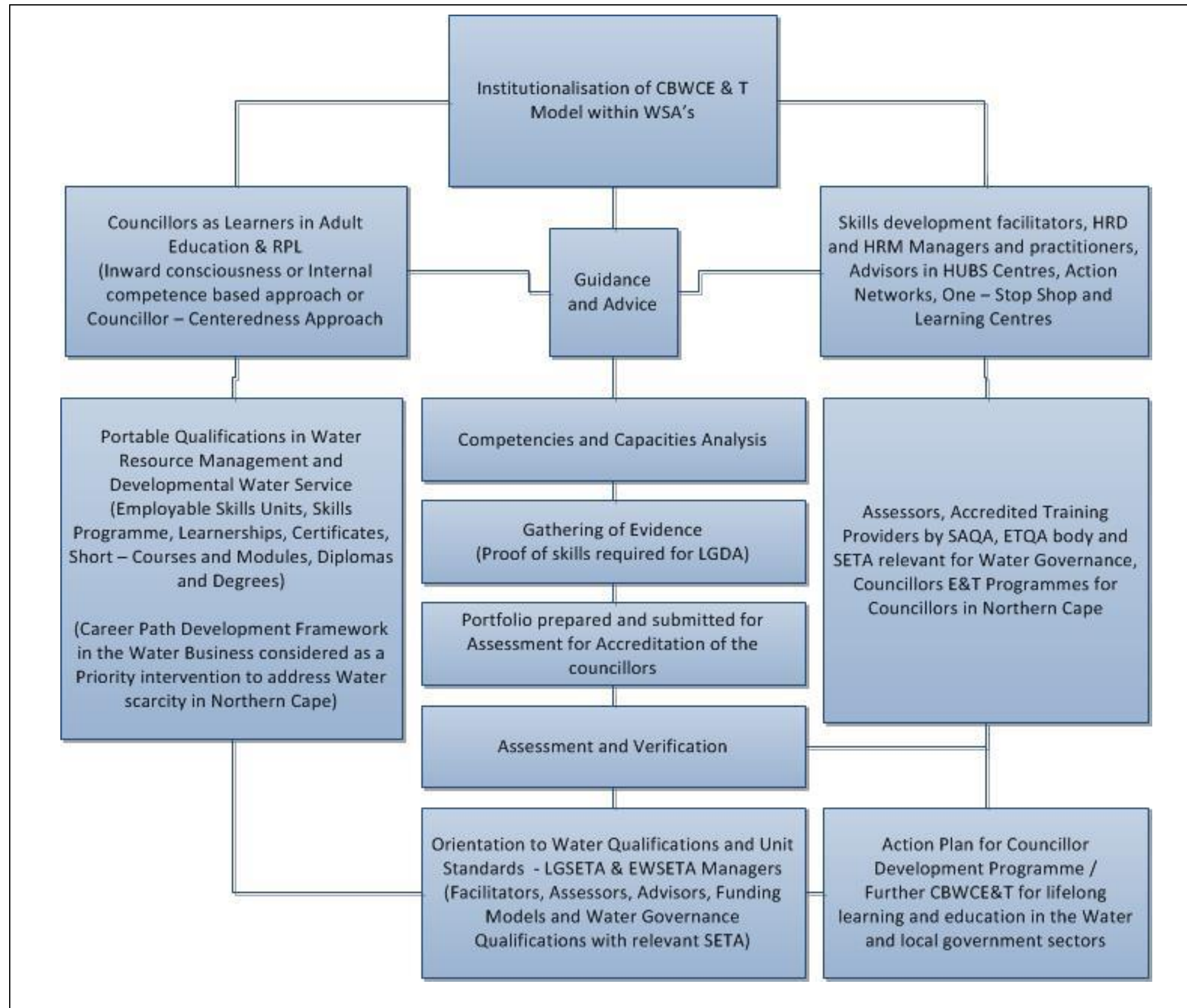


Figure 4.3: CBCWE&T training model for Northern Cape



#### 4.7 CONCLUDING ASSESSMENT OF CBWE&T

It appears that training is an investment and water sector stakeholders and hydropolitical stakeholders should invest in the proposed CBWCE&T Model (Ghosh & Kumar, 1991: 162). This approach to the performance of local authorities may enhance quality improvement, with the philosophy of best practice as the catalyst for water governance and developmental water services performance improvement. However, the process of ensuring Total Quality Management (TQM) is dependent on the councillors' and the entire municipal leadership's willingness and commitment to the process of benchmarking. It should be driven from within to succeed, with the leadership role of councillors as 'trustees' and 'politicos' being optimally utilised (Mott, 1994: 155). This systematic CBWCE&T approach can be defined

as a simplified representation of reality by identifying patterns and regularities among internal and external (variables) factors in a project or programme implementation (Mouton, 1996: 195-98).

In this study the term "model" means identifying, discovering and learning about the current education and training needs, gaps and competencies of councillors in order to make some practical attempts to solve some problems and fill some gaps by designing and developing an appropriate programme (intervention) for councillors in the water sector. In other words, a model sets the norm, establishes the framework, and is typical (Harding, Kaewsonthi, Roe, & Stevens, 1981: 59; Mouton, 1996: 98).

A CBWCE&T model should therefore reflect the norms and standards according to which the implementation activities of water services systems and CBWCE&T programmes are distinguished. According to Harding et al. (1981: 59-61), supported by authors such as Grandori (1997: 29-47), Mott (1994: 155) and Bowers (1993: 217), the policy and strategy of any local authority may contain elements from several models. These authors argued that a human resource development policy or strategy may continually be modified by a changing legislative framework, experience, socioeconomic and political pressures, and new water services demands confronting local authorities and their leadership at a particular point in time. Harding et al. (1981: 59-61), supported by Grandori (1997: 29), Hammar and Stanton (1995: 14-33) and Riggs and Felix (1983: 34), provide a multidimensional model as explained in Chapter 7 and Appendix B. In other words, SETAs such as LGSETA and EWSETA must register water governance and leadership qualifications and Schools of Public Leadership under various universities in South Africa must design, develop and implement a Water and Energy Governance and Leadership Innovation and Change Management short courses in their NQF 6-8 qualifications to give effect to IPAP, DWA NWRS2, NGP and NDP beyond 2030 vision.

## CHAPTER 5

### NORTHERN CAPE SETTING AND NATURAL ENVIRONMENT

*He who watches the wind shall not sow;  
and he who pays attention to the clouds shall not reap.*

Ecclesiastes 11: 4

#### 5.1 INTRODUCTION AND BACKGROUND

This chapter provides an overview of the Northern Cape Province and its water capacity strengths and weaknesses. As ideal profile competencies, skills and responsibilities of councillors in LGDA have been formulated in Tables 2.7 to 4.3 complemented by Figures 3.2 to 3.9 in previous Chapters, it is necessary to understand the Northern Cape as a setting or socioeconomic and physical environment where the total councillor population of 370 and the province's population of 1 162 600 people live. From a social anthropology perspective, local government and its 370 councillors can be studied within their society and the different types of human settlements in the Northern Cape. These include personal traits of councillors as depicted in Tables 3.5 to 3.7. From public administration and management perspectives as depicted in Figure 3.2 in Chapter 3, the 33 water services authorities (WSAs) are part of a national system of public administration and management, which means that they are part of a complex system of a developmental state as determined by the Demarcation Board with the rich history of establishment in Figure 3.3.

From a Demarcation Board perspective, the municipalities are possibly part of the local politics and power dynamics of a national hydropolitical system under regional water utilities as depicted in Figure 5.8. From a water governance perspective in Figure 3.2 read with Figure 3.6, a WSA is a miniature hydropolitical and water governance administrative system to be linked to catchment management agencies (CMAs) and hydropolitical networks in the Northern Cape in accordance with the water governance decentralisation administration system in Figure 3.1. In both social anthropology and political sociology, WSAs or municipalities are seen as sociological and legal entities with various administrative functions and mandates to ensure socioeconomic growth and development of the Northern Cape society. From this social anthropology and political sociology perspective, the assessing of the LGDA and its requirements for councillors is therefore a complex process covering a wide range of issues that affect water governance and water for growth and development in the Northern Cape. This approach allows the researcher to view councillors within the social and cultural setting of their own areas and sub-regional areas of the Northern Cape. It further allows the researcher to draw lessons from the natural setting of the Northern Cape and the long-term quantity of water available to the province for hydropolitical analysis and a need for a social adaptive capacity strategy (Ashton & Haasbroek, 2002). Drawing from the expertise of Turton (2002) and Ashton and Haasbroek (2002: 187-204), this chapter assists the researcher in

contextualising the empirical findings on councillors' perceptions of their training needs that are discussed in the next chapter.

With this understanding, the aims of this chapter are twofold:

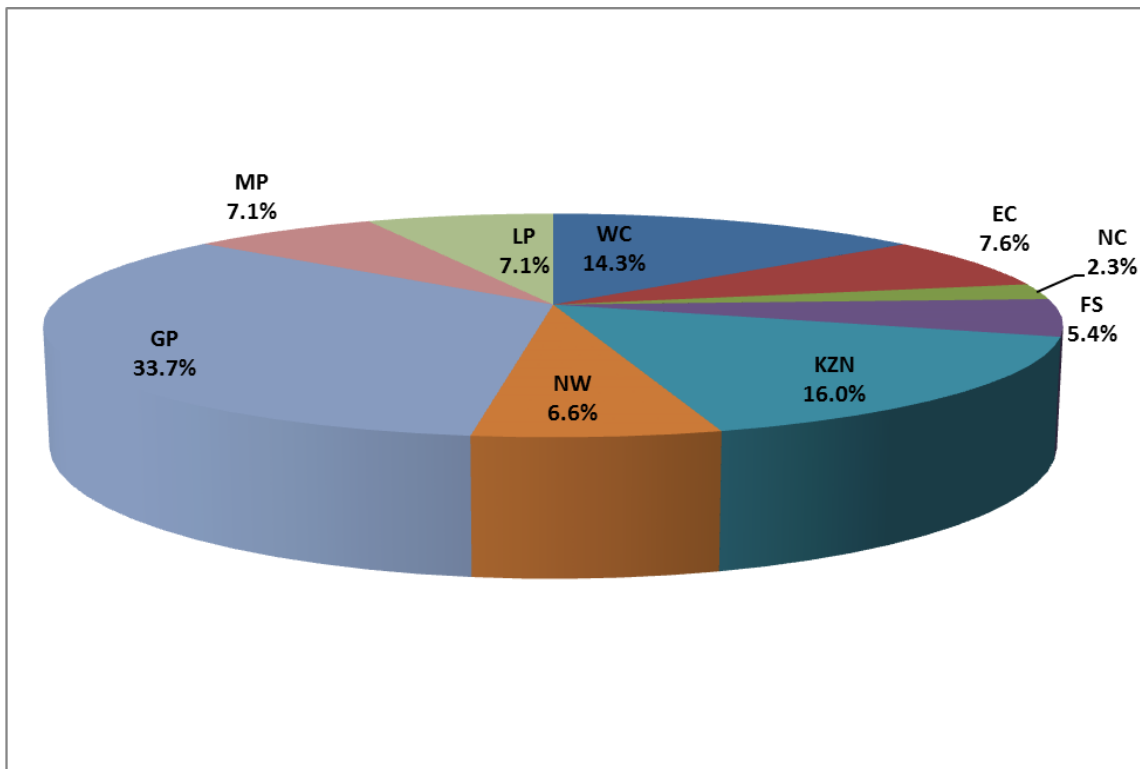
- It will provide information with regard to the Northern Cape Province's profile that covers, inter alia, population and development, the municipal demarcation of boundaries and territories, socioeconomic, developmental and public services, and natural and environmental dimensions using social anthropology perspectives; and
- It offers social anthropological and sociological perspectives on the natural setting of the Northern Cape and its related phenomena whereby readers are strategically introduced to a rich sociohistorical presupposition of the Northern Cape from which possibly to infer the key findings in this study.

It is argued that the current poverty drivers of the Northern Cape as outlined in this chapter requires, inter alia, a combination of integrated programmes with councillors being seen as the local political operators of such investment. The effectiveness of local leaders is crucial for sustaining developmental interventions in the Northern Cape as they are expected to focus on the best use of scarce means to meet the province's socioeconomic ends (Robbins, 1935: 40-70).

## **5.2 NATIONAL ECONOMIC STATUS**

### **5.2.1 Economic recession and Northern Cape economy**

South Africa suffers from chronic official unemployment of around 25%, which is creating socioeconomic problems, including crime and poverty. With regard to sustainable water services delivery as part of the solutions to reverse this situation, a combination of visionary councillor leadership, a steadfast focus on the vision, hard work and commitment to the Dublin Principles and the Constitution is required to provide the water sector with extraordinary water performance. In post-Apartheid South Africa, the earlier era of the Community Water Supply and Sanitation Project (CWSSP) and the BoTT (build, operate, train and transfer) programme was marked by a combination of engineering, technical and social development experts, initiatives clearly aimed at rejecting mediocrity by political leaders and technocrats alike. Unlike the current democratic system where the government has National Growth Path (NGP) and National Development Plan (NDP) frameworks, as well as sector department plans characterised by a multiplicity of targets, there was one road map in the early 1990s under the Reconstruction and Development Programme (RDP), which was embedded in Ubuntu philosophy. Paradoxically, the period from the 2008/2009 financial year onwards is often referred to as an era of economic recession and low growth of 0.9% in South Africa (HSRC, 2012) with Northern Cape having the lowest gross regional domestic product (GDP) of 2.3% as depicted in Figure 5.1.



**Figure 5.1: FY2008/9 Provincial contributions to annual GDP in South Africa**

Source: *Stats SA, 2011:31*

In Figures 5.1., it is significant that there was consensus in economic forecasting analysis of the Reserve Bank and commercial banks that the currency weakness would not compensate fully for the adverse impact of patchy global demand, lower international commodity prices, moderating domestic demand, high and rising production costs, fading productivity, and continued threat of disruption due to renewed labour unrest [and violent public protests for service delivery. It was argued that

domestic costs remain high, due to bunched-up administered price increases and wage increases, which have not been matched by productivity gains. Supply constraints have been driven by steel shortages, power outages, water scarcity, the emergency shutdown of a liquefied petroleum gas refinery, and shortage of tin plates, ... high grade coal, insufficient inbound and outbound railway services, outbound harbour capacity and service delivery constraints, and inadequate foundry capacity (*The Star*, 29 May 2013: 17).

It is also significant that the poor performance of the farming and agricultural sectors was partly related to weather conditions and water scarcity, given the dry weather in the central part of the country, which is one of the main grain-growing areas and also popular for breeding livestock . As these challenges and constraints are even worse in the Northern Cape, it appears that there is increased public expectation for councillors to provide visionary leadership by developing

economic water models aimed at addressing the effects of extreme weather conditions and stimulating alternative business sectors in the current mining-based Northern Cape economy.

### **5.2.2 Demand for effective leadership under economic decline**

Undoubtedly, rallying against mediocrity is one of the challenges South Africa faces in WSAs and the selection of councillors in water portfolios. South Africans have shown many times and in many ways, that team efforts and working together can resolve seemingly intractable problems. The country has managed to have transformative, innovative and creative leaders and managers in both the private and public sectors that can bring about responsible and accountable initiatives to address the current and chronic poor performance of councillors in WSAs to guide WSAs towards operationalising LGDA values. Such initiatives, informed by equitable use of water in the Northern Cape or the New Northern Cape Water for Growth and Development Strategy, will ensure, *inter alia*, that councillors who occupy water portfolios not only have relevant basic engineering and technical skills and qualifications, but also advanced communication, marketing, cooperative governance, entrepreneurship, business management, and leadership skills and competencies to drive the WSAs' water business to address poverty eradication and attract investors in the Northern Cape (Pyatt, 188:327-352). In short, the new, modern councillors should be recruited, selected and deployed based on relevant skills and competence if they are to make a significant contribution to improving the economic status of the Northern Cape.

## **5.3 GEOLOGICAL NATURE OF THE SETTING**

### **5.3.1 Geological context**

The Northern Cape represents a rich history through which the world's oldest continental fragments and other parts of the Southern African region record country-to-country collisions through billions of years of Earth history. The Northern Cape's unique geology and its associated mineral riches have had a fundamental impact on South Africa's economic development since the late 1800s, when the first diamonds were discovered around Kimberley, which is now the capital town of the province. The prospecting rushes triggered by this event led in time to the establishment and development of, firstly, the modern South African mining industry, and, secondly, the mining-based economic model which is declining at an alarming rate today. Besides its geological formations that reflect traces of the Earth's formation from cosmos debris consolidation (Norman & Whitfield, 2006: 13), the Northern Cape represents a legacy established through "the painstaking chipping of bones, skulls, and teeth from the protecting rock" that "Africa [the SADC region and South Africa in particular] is widely regarded as the cradle of humankind":

First, there were the ape-men, *australopithecus*, then *homo habilis*, the first toolmakers, later came *Homo Erectus*, Hunters and Fire-users, and finally *Homo Sapiens*, our own ancestral beginnings – all creatures of the African Savannah (Norman & Whitfield, 2006: 12).

The pre-colonial history of the province has left a rich archaeological heritage, mainly Stone Age, which is reflected, inter alia, in cave sites and rock art. In pre-colonial times, the borders were dictated by rivers and by the need to hunt and survive, not by political and administration boundaries.

The sparsely populated Northern Cape, which is often referred to as South Africa's crown jewel, is the country's biggest province in terms of land area but has the smallest population in South Africa. The geological beauty of the Northern Cape is explicitly described as offering a huge potential for tourism in the southern Kalahari, characterised by deep sediments near the Kaapvaal Craton, and around Olifantshoek with high-grade metamorphic rocks or biotite gneisses with pegmatite veins cutting them towards the Namaqua metamorphic district. Moving towards Springbok, there are big manganese deposits giving rise to the massive Sishen iron ore mine, the Asbestos Hills with metal mines near Aggeneys, and a copper mine just outside Springbok and untapped zinc near Gamsberg. Interestingly, near the Augrabies area, rocks have changed to ridges of black-weathering amphibolite, on the one hand. On the other hand, the Augrabies Falls demonstrate the natural erosive power of the Orange River, which has carved out the most spectacular gorges in southern Africa in Augrabies granite (Norman & Whitfield, 2006: 252-273).

From this geological description, it is clear that the Northern Cape stretches from the Namaqualand seaboard in the west to the Kimberley diamond fields in the north-central part of the country. It comprises 363 389 km<sup>2</sup> (29,7%) of the total South African landmass of 1 219 090 km<sup>2</sup>, with a population of only 1 162 900 out of a national total of 52 982 000 (Stats SA, 2013). The province has little arable land, with only 2% of the total land area under cultivation. Of this, 74% is dryland; nearly equal proportions are irrigated adjacent to the Orange River. Natural pasture comprises 86% of the total land area, while 13% is utilised for nature conservation. Northwards, up the Namaqualand coastal districts, the climate becomes even drier and hotter and the area is characterised by the unique waterless tracts of the Namib Desert. Much of the entire Northern Cape terrain is covered by the dry sands of the Karoo, and in the far north, by the Kalahari desert. On the Northern Cape's border with Botswana is the John Taolo Gaetsewe Transfrontier Park, a vast and arid wilderness of Kalahari sand, scrub and ephemeral grassland that transcends national boundaries.

### **5.3.2 Demographical context**

According to the latest estimates from Stats SA (2011), of the 1 162 900 people living in the Northern Cape, the majority (approximately 70%) speak Afrikaans as a home language, followed by Setswana (20,1%), IsiXhosa (6,5%), and English (2,3%). Unlike most of the other provinces, the dominant race group is coloureds (51,7%), followed by blacks (33,9%), whites (14,2%) and Asians (0,3%).

On average, the Northern Cape has had the lowest national population growth rate, measured at 1,3% per annum between 1997 and 2013, which is slightly below the average of 1,5% for South Africa as a whole over the same period. Blacks are the fastest-growing group (1,6%), followed by coloureds (1,4%), Asians (0,8%) and whites (0,2%).

It is also significant that despite having a relatively small population and a poor economy, on average, the state of human development in the Northern Cape is rated as the third highest in South Africa. According to the Wharton Economic Forecasting Association (WEFA), the average Human Development Index (HDI) calculated for the Northern Cape is 0.555, ranging from 0.846 for whites to 0.462 for blacks.

In terms of urbanisation, the Northern Cape is the third most urbanised province in South Africa with 70,4% of the total population living in towns or cities. In terms of race, 89,6% of Asians, 77% of blacks, 72,6% of whites and 63,7% of coloureds in the Northern Cape have lived in urban areas since 1999.

## **5.4 SOCIOECONOMIC AND DEVELOPMENTAL MILIEU**

### **5.4.1 Climate change and adaptable strategy**

Climate change poses major threats to South Africa in general and the Northern Cape in particular (Schulze, 2012: 4-196). Schulze (2012: 4-5), supported by Turton (2013: 1), argues that South Africa depends heavily on surface water and its water resources are already under stress. Historically, water use was focused primarily on agriculture and mining at the start of the 20<sup>th</sup> century. In the 21<sup>st</sup> to 22<sup>nd</sup> centuries, water use has expanded rapidly as the economy diversified into a broader mix of agricultural, industrial and mining activities. Ecosystem-based adaptation (EbA) is a relatively new concept, which capitalises on the ability of healthy ecosystems to assist in human adaptation to climate change. EbA has been defined as the use of biodiversity and ecosystem services as part of an overall adaptation strategy to help Northern Cape households and leaders to adapt to the adverse effects of climate change (Schulze, 2012).

In the 1960s and 1970s, there was a growing realisation that the unequal geographical distribution of scarce water resources did not match the locations of water demand centres. Indeed, the growing need to meet demands for water could not continue to be satisfied from the original, mainly run-of-river abstraction systems. New water supply systems were constructed and linked into a highly developed system of complex inter-catchment water transfer systems combined with varying degrees of effluent recycling (Turton, 1999a: 24-27). Reports (1999-2012) of the WRC and the CSIR, as research think tanks in the water sector, have indicated that the new democratic South Africa may require a water adaptive strategy. The recent study by Schulze (2012) and various papers and reports by Turton (2002), including the concept of a “water business unusual paradigm”, all point to the argument that the current water crisis is a governance crisis. A water

business unusual paradigm is urgently required within the context of weak water institutions and the continued escalation of population, combined with rapid urbanisation and industrialisation, the decline in water quality, and polluted water in the Vaal and Orange rivers caused by the mining sector, which may mean that water purification will be more expensive in future.

South Africa has undergone comprehensive political and economic reforms since the end of Apartheid in 1994. The Constitution, based on the Bill of Rights and the Dublin Principles, guarantees every person the right of access to safe drinking water and adequate sanitation services. The political reforms including the White Paper on Local Government (March 1998), and the Local Government Turnaround Strategy (LGTAS) (CoGTA, 2009b), however, failed to appreciate the water deficit and the need for a water flux or water governance strategy for a dry province like the Northern Cape.

What is even worse is the realisation that while climate change is likely to have an effect on all South Africa's provinces, it is anticipated that the Northern Cape could be the most severely impacted. In particular, it is predicted that the Northern Cape will get hotter and drier in the decades to come. Yet, with strong policies to protect water resources and ensure their efficient and equitable use, DWA as the custodian and trustee of water resources management and water governance has the potential to lead the SADC countries and Africa in adapting to climate change. In a nutshell, with South Africa's democracy and the LGDA being in its infancy, the extreme weather conditions and climate change present a need for an adaptive water governance strategy to consolidate what Turton (2013: 1), supported by Schulze (2013: 5), calls

a hydrological foundation to our national, local and regional economy. Like it or not, we have grown that economy on a simple model of developing a high assurance of supply by trapping streamflow in the form of dams. This has been very successful, but like it or not, we cannot simply continue to do the same – my Business as Usual Paradigm – if we want to sustain our national economy and retain our social cohesion.

According to Dr Turton (2013), the country needs a “business unusual” paradigm, as climate change is one more layer of concern that has been added to the existing LGDA complex capacity constraints (3Cs). This highlights the need for appropriately deployed councillors (Head) who can make reasonable decisions and commitments for the public good (Heart) by properly managing the limited water resources to consolidate the hydropolitical foundation already established in South Africa (Hands) in the Northern Cape (3Hs). The impact of climate change is potentially disastrous in the province, with the knock-on effects possibly having serious implications for the national economy and vulnerable communities likely to be most seriously affected. It appears that the Northern Cape water governance strategy must be complemented with good enough governance, which refers to competent and skilled councillors who, as local political operators and controllers, must drive adaptive water strategies for the Northern Cape (Turton, 2013: 1; Schulze, 2012: 5).



Given the rate at which development has taken place in South Africa from 1994 onwards, it was always inevitable that the growing demand for water would eventually exceed the capacity of the available supply systems (Ashton & Haasbroek, 2002: 203; Turton, 2013: 1; Schulze, 2012: 4-196). Unfortunately, while the inevitability of demand exceeding supply was foreseen and regularly reported by the WRC, CSIR and HSRC, this was not acted upon by politicians until the 2011 COP17 United Nations Climate Change Conference in Durban.

#### **5.4.2 Structural poverty of the Northern Cape**

The above-mentioned extreme weather conditions and climate changes are naturally happening in a province, which is already stressed in terms of human, and natural resources. Poverty is a tremendous problem with a high number of households living below the poverty line. Covering 30,5% of South Africa's land surface, the sparsely populated Northern Cape Province is the largest of the country's nine provinces in size, yet its contribution to the Gross Domestic Product (GDP) is the lowest, at a mere 2.3%. Poverty, as defined by the *Concise Oxford Dictionary*,

is the state of lacking adequate means to live comfortably and the want of things or needs indispensable to life (Govender, Barnes, & Pieper, 2011:4-9).

A welfare indicator, usually either income or expenditure, is used to rank individuals or households. Chambers (1988) claims that there are five dimensions of poverty, namely:

- "Poverty proper", where a lack of adequate income or assets for generation of income is identified;
- Physical weakness as a result of undernourishment, disability or sickness;
- Isolation, physical or social, because of location and a lack of access to goods and services;
- Vulnerability to becoming poorer and risk of crisis; and
- Powerlessness within the existing economic, political, cultural and social sphere.

There is an ongoing debate about the impact of levels of poverty, unemployment and inequality and the current performance of the WSAs and leaders in the Northern Cape. In Chapter 3, it has been inferred that LGDA values are implemented in countries where there is strong participation of citizens in the administration, management, water governance and good enough governance of municipalities or WSAs.

Under the sub-section *Necessary conditions for the LGDA implementation* in Chapter 3, it has been argued that good enough governance and stable democracy prevail in countries, provinces and municipalities with high levels of socioeconomic development and performance guided by innovative and effective leaders who are able to integrate current and future demands and needs within the context of globalised and technologically advanced developmental water services (Przeworski & Limongi, 1997: 157-159; Przeworski, Alvarez, Cheibub, & Limongi, 1996: 39-55). It appears that the current abject poverty, high unemployment and inequalities in the Northern Cape

in terms of race, culture and class are negative factors that promote poor governance and lack of citizens' participation in municipal administration and management. Given the current Poverty Unemployment Inequality (PUI) problem, (Terreblanche, 2012: 58), it is unlikely that democratic consolidation can be achieved or realised (Huntington, 1991: 148-9). Lipset (1959: 49-76), supported by Lamounier (1995: 135) and Przeworski *et al.* (1996: 42-3), contends that democratic consolidation and good enough governance are related to the state of economic development. Accordingly, the more affluent a nation is, the greater the chances that it will sustain democracy. Lipset (1959: 49) maintains that

only in a wealthy society in which relatively few citizens lived at the level of real poverty, could there be a situation in which the masses of the population intelligently participate in politics and develop their self-restraint necessary to avoid succumbing to the appeals of irresponsible demagogues [and replaces corrupt and ineffective leaders]

From the arguments advanced by Lipset (1959: 49) and more recently Lamounier (1995: 135), it appears that there is a combination of factors that may lead to the destabilisation of democracy and the compromise of LGDA values in the Northern Cape. These include, inter alia, poor governance, water crisis, water shortage, high unemployment of 27,4% in 2011, 15% of households without electricity and 4% of households still using the bucket system in 2011, as well as a provincial overdraft of R527 410 million in April 2013 characterised by cash-flow crises, and unauthorised expenditure of R203 125 million in the 2012/2013 financial year.

However, there have been signs of improvement in accountability and governance from a National Treasury perspective. For instance, the Auditor-General (29 July 2012) reported in 2012 that out of 20 (63%) municipalities in the Northern Cape,

Three (3) or 9,4% of municipalities received qualified audit reports, eleven (11) or 34,4% received unqualified audit reports while six (6) or 18,7% received disclaimer of audit opinions.

This improved reporting also resulted in an increase in the number of municipalities qualifying for Expanded Public Works Programme (EPWP) incentives. Although all 33 municipalities reported on their EPWP projects, 26 municipalities qualified for incentives. This is an improvement from 22 in the previous year and only eight the year before that. Collectively, these 26 municipalities received R32 million in infrastructure, environment and culture incentives in the 2012/2013 financial year with the Sol Plaatje Municipality receiving the biggest cut, namely R7,6 million. The intention is to have all 32 municipalities participating and creating work opportunities through EPWP, and taking advantage of the incentive grant scheme offered by the national Department of Public Works mainly between the Provincial Treasury and the Department of Co-operative Governance, Human Settlement and Traditional Affairs. This funding will ensure that the provincial government has resources to meet its commitments with regard to Operation Clean Audit 2014 within the municipal sphere.

Yet, the Northern Cape's high unemployment rate and lack of attractiveness to investors are major concerns from an economic development perspective. A study of comparative literature reveals that the current unstable state of affairs in the province, with increasing income inequalities and more gaps between the 'haves' and the 'have-nots', may lead to public protests, chaos, regime change and instability. This unbearable state of affairs is even worse at a WSA level, which may lead to negative perceptions about councillors as local political operators and decision-makers in the 33 WSAs. It has been established from the literature that there is a relationship between democratic consolidation, and economic growth and development in which all citizens benefit. In other words, socioeconomic inequalities, abject poverty, high unemployment, distribution of water resources along racial lines, unauthorised expenditure in both local and provincial spheres of government, corruption and ineffective leaders represent a weak base for good enough governance and democratic consolidation (Diamond, Linz & Lipset, 1995: 4).

## **5.5 ANTHROPOLOGICAL ANALYSIS OF COUNCILLORS**

### **5.5.1 Group of water portfolio councillors**

In this study of councillors, shared meanings (culture) with regard to water governance and developmental water services, transmitted through learning and communication, are of special interest. These include ideas about making a living, the supernatural, the body (such as sexuality or genetic differences between populations), and the behaviours associated with these patterns of meaning. Another important perspective that social anthropology takes is the study of the social life of people (society) in its varied forms of networks, families, organisations and nations.

This social anthropology approach is significant for contextualising councillors' engagement with the world of reality in the Northern Cape. It actually narrows the gap between theory and practice and enables the researcher to make linkages between the local government capacity and what has been implemented. Historically, this linkage between municipalities and services was based on the separate development paradigm. Indeed, the water services and characteristics of towns of the Northern Cape epitomise the Apartheid paradigm. This interrelationship will continue, and the goal of developmental water services in terms of *pro bono publico* (for the benefit of the people) or reconstruction and redevelopment of local government will depend, inter alia, on strategic and competent councillors in the water portfolio. In other words, strong, committed and strategic executive local leadership is the absolute *sine qua non* for bridging the gap created and constructed under the Apartheid local government system in pursuance of the new LGDA core values. Such an inclusive approach using a social anthropological perspective, which considers both councillors and municipal planning will also counter the reductionist, separating and divisive paradigm in terms of which the Northern Cape towns and municipalities were seen as conglomerations of separate functional areas, and of separated communities (Cameron, 1996a: 222-238).

## 5.5.2 International political alignment and developments

It appears from literature that the need for this social anthropology approach was echoed by Smith (1991: 10), when he suggested that reconstruction and redevelopment processes should become part of broader efforts to reconstruct South African cities in ways that give people improved access to opportunities. In comparative politics, democracy had triumphed by the end of the 1980s in practically all the countries of Latin America and the Caribbean. The closing years of the 1980s witnessed a dramatic fall of communist regimes in most countries of East and Central Europe and their replacement by fledgling democracies. It is in Africa and the Middle East that the democratic movement has made the slowest progress. In South Africa, the Marikana case and more than 600 public protests for services delivery demonstrated beyond reasonable doubt an

increasing dysfunction of the state machinery, maladministration and incompetence at national, provincial, and municipal levels because of the practice of appointing unqualified cronies to senior posts. Lack of leadership is starkly illustrated in such matters. Such scandals as the non-delivery of textbooks to schools, the wasteful expenditure ... are making South Africa look like a banana republic .... At present, the impoverished masses do not see any other hope on the horizon than the ruling party, though the ANC's ability to hold those allegiances is deteriorating (Kasrils, 2013: 33)

A good deal of the mushrooming literature on this subject tends to focus on the political dimensions of democracy – the multi-party system, free elections and civil rights. And few analysts are able to resist the tendency to transplant in its entirety to Africa the democratic model as it has emerged in the West over decades. One of the strengths of this is that democratic struggles are placed within the wider social and economic context and the analysis is rooted in the institutional and historical reality of the SADC region or a province, namely the Northern Cape in South Africa. The latter is due to the fact that the Northern Cape province shares its boundaries and resources with most provinces in South Africa and other countries in the SADC region, as discussed in the next section.

## 5.6 MUNICIPAL BOUNDARIES

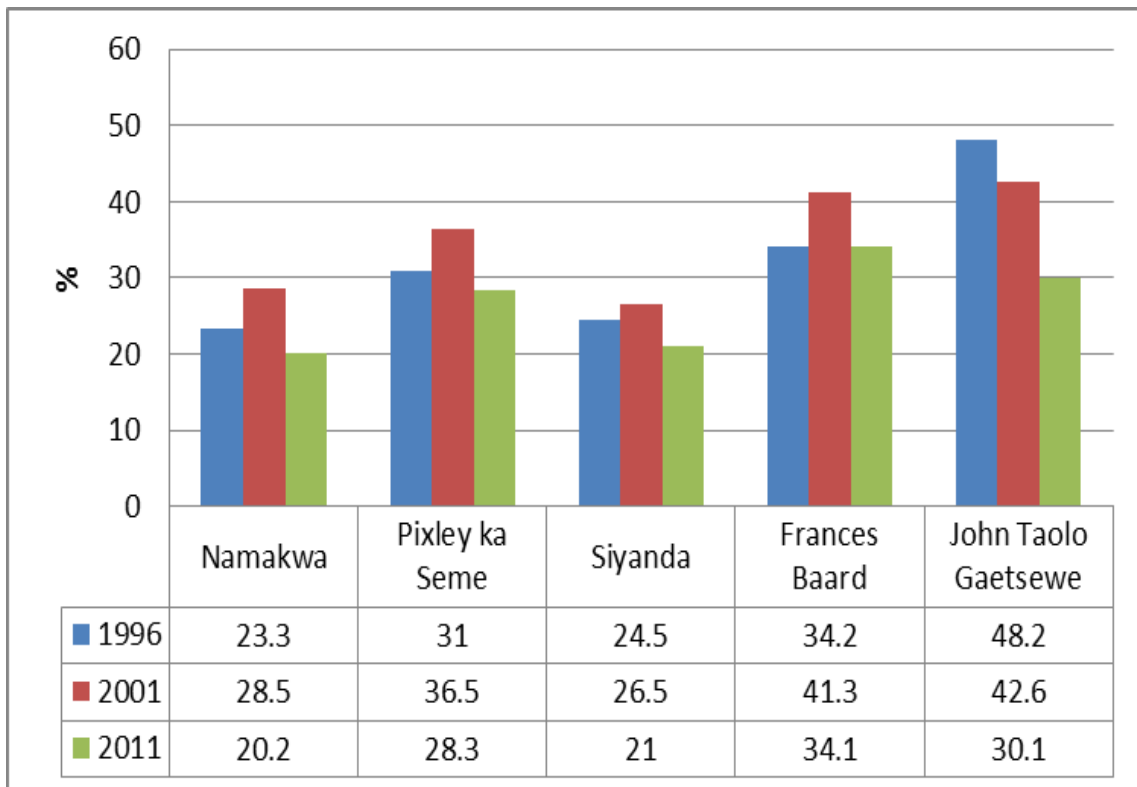
### 5.6.1 Administration system of the Northern Cape

The Northern Cape Province is administratively divided into five district municipalities, namely Namakwa, Pixley ka Seme, John Taolo Gaetsewe, Frances Baard and Siyanda. These, in turn, are split into 28 local municipalities. The population is estimated at 1 162 900 million with a population density of 31,5 square kilometres, of which 55% are women, 45% men, and 30% young people. The unemployment rate is estimated at 27% (Stats SA, 2011: 11).

Among the five district municipalities, the highest unemployment rate is in John Taolo Gaetsewe, followed by Frances Baard, Pixley ka Seme, Siyanda (ZF Mgcawu) and Namakwa, respectively as depicted in Figure 5.2. This could be attributed to the fact that Pixley ka Seme is one of the five

district municipalities in the province and is the second largest. Traffic flows through the region, linking the major industrial areas of the country. The area has a low rainfall, while the largest river in South Africa flows through it. Two of the major dams in South Africa, the Vanderkloof and Gariep dams, are situated on the borders of the district municipality.

While the Frances Baard District Municipality is the smallest district in the Northern Cape, it accommodates the largest proportion of the population. The municipality is located in the far eastern part of the province and shares its northern border with the North West Province and its eastern border with the Free State Province. Kimberley, which is where the district municipality is located, is less than 500 km away from Johannesburg in the north, and less than 1 000 km away from Cape Town in the south and the port of Durban in the east. Dr H. Abbott (2012) of the DWA concluded that people from the other three district municipalities are migrating to both Frances Baard and Pixley ka Seme in search of greener pastures, which would help to explain the unemployment rates in the various district municipalities, as shown in Figure 5.2 below.



**Figure 5.2: Unemployment rate by district municipality**

Source: Stats SA, 2011:16

The John Taolo Gaetsewe District Municipality was formerly known as Kgalagadi. It comprises the three local municipalities of Gamagara, Ga-Segonyana and Joe Morolong (formerly known as Moshaweng), and 186 towns and settlements, of which the majority (80%) are villages. The boundaries of this district were demarcated in 2006 to include the once north-western part of Joe Morolong and Olifantshoek and surrounds into the Gamagara Local Municipality. It has an

established rail network from Sishen South and between Black Rock and Dibeng. It is characterised by a mixture of land uses, of which agriculture and mining are dominant. The district holds potential as a viable tourism destination and has numerous growth opportunities in the industrial sector. Namakwa District is the biggest District Municipality geographically in South Africa. It has been dominated by Nama and Khoi-San, who have occupied this area for hundreds of years. However, their integration into the Northern Cape economy has not been prioritised by past and current administration systems. Native speakers of Afrikaans comprise a higher percentage of the population in the Northern Cape than in any other province. Unsurprisingly, the Northern Cape's four official languages are Afrikaans, Setswana, isiXhosa, and English. Minorities speak the other official languages of South Africa, and a few people speak Khoisan languages such as Nama and Khwe. Even though Nama is the most widespread language of southern Africa – containing many click sounds and spoken in Namibia, Botswana, Zambia, Angola and South Africa by three ethnic groups, the Nama, Damara and Haillom – it is significant that both the Nama and Khwe languages and the associated values of recognition, dignity and acceptance are compromised contrary to the spirit of the Constitution and Ubuntu philosophy. As language is associated with culture, values and norms for socioeconomic development, the exclusion of this recognised southern African language also means that the current administration system continued to exclude the indigenous knowledge and networks. Like SwaHili in Central Africa, it appears that Nama and Khwe languages are regional languages for most of the SADC. Similarly, Siyanda District Municipality is relatively poor partly because of poor management since implementation of Municipal Infrastructure Grants (MIGs).

With its landscape characterised mostly by vast arid plains, the province's most important asset is the Orange River, which lies in the south. Its other strength is the excellent road network, which makes its interior easily accessible from South Africa's major cities, harbours and airports. Its economy revolves around karakul sheep breeding, the dried-fruit industry and winemaking. The fast-diminishing subsistence diamond mining and the resultant growing unemployment have effectively turned small towns such as Ritchie and Windsorton – in the Sol Plaatje Municipality – into welfare neighbourhoods, with many people depending on state grants for survival.

## **5.6.2 Water availability and precipitation statistics**

### **5.6.2.1 Development and water availability**

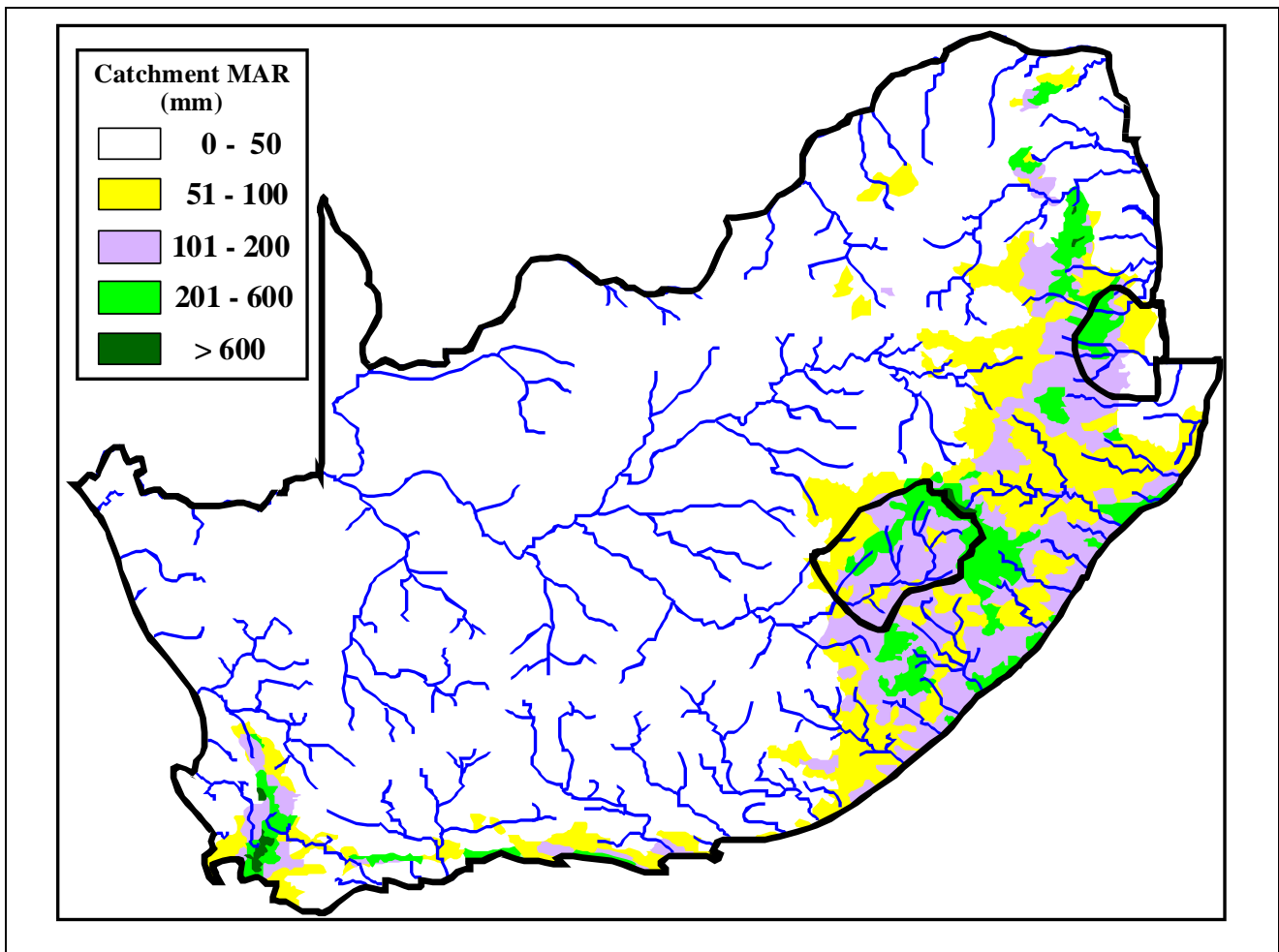
The Northern Cape is situated towards the west of South Africa. The province borders Namibia, Botswana and the North West on the northern side, the Free State to the east, the Western Cape and Eastern Cape to the south and the Atlantic Ocean to the west. The Northern Cape area is mostly covered by the arid or semi-arid Karoo and Kalahari systems. In comparison with the other provinces, this province has relatively little rain, with annual precipitation of only 414 mm in Kimberley (capital of the province). The Northern Cape is considered one of the driest provinces,

with an average rainfall below 200 mm in the west, while evaporation increases from 2 000 mm in the east to 3 000 mm in the west. Winters are short, cold and extremely dry with cold nights. Frost is fairly frequent and severe, and usually occurs between 15 April and 15 August. Heat is intense during summer and high temperatures (up to 37°C) are recorded in mid-summer.

These climatic conditions create huge water demands. Unsurprisingly, water demands are highest in the Kimberley supply area. Water demands from Kimberley alone are estimated to increase at an annual rate of 4,9% from 16,6 mm<sup>3</sup>/a in 2003 to 69,7 mm<sup>3</sup>/a in the year 2010. Currently water is pumped from the Vaal River below the Bloemhof Dam. An alternative supply from the Orange River via the Orange-Riet Canal Scheme is being considered as it could provide better quality water at a lower cost. It is noticeable, therefore, that the Northern Cape Province falls under two water management areas, namely the Lower Vaal and the Lower Orange.

Ashton and Haasbroek (2002: 188-191) argue that areas like the Northern Cape that receive the lowest rainfall also experience the greatest year-to-year variability in rainfall, together with high average temperatures and high rates of evaporation. Indeed, average annual evaporation across South Africa amounts to some 1 800 mm/year, and exceeds average annual rainfall by approximately 360%. The Northern Cape Province also experiences cyclical series of wet and dry periods, and is subject to prolonged droughts (where annual rainfall is less than 70% of the average).

As a direct result of these climatic features, the quantities of surface runoff that reach the river systems are also low and, though unevenly distributed across the country, match the patterns of annual rainfall (Figure 5.3). The total runoff to stream and river flows has been estimated at some 50,150 million m<sup>3</sup>/year, with over 60% of the runoff originating from less than 20% of the land area. Overall, some 70% of the country contributes less than 50 mm of runoff to stream and river flows each year. Predictably, large quantities of water are lost through evaporation from open water surfaces (Schulze, 2012: 9).



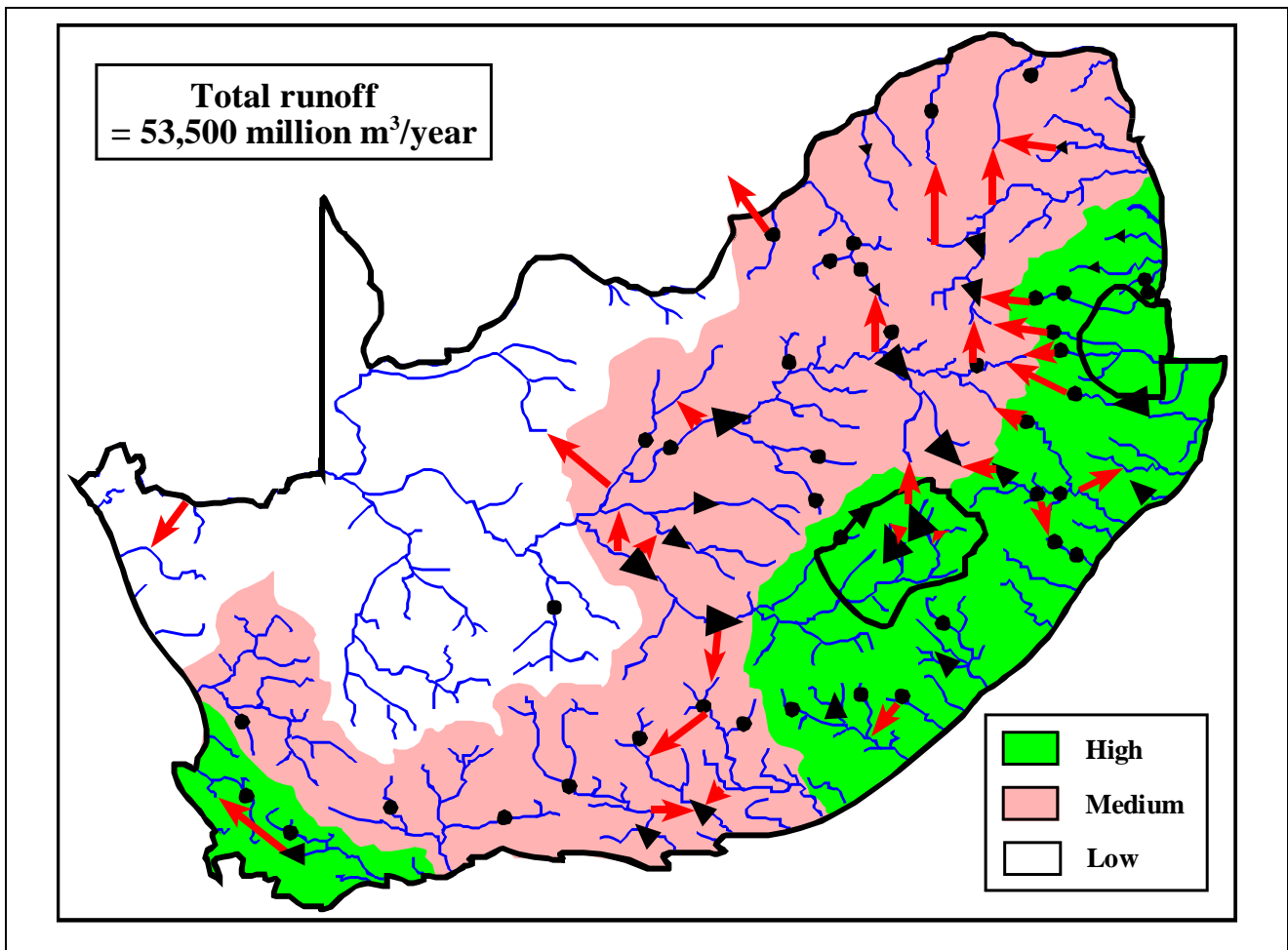
**Figure 5.3: Map of South Africa showing the distribution of mean annual runoff (MAR mm)**

Source: Adopted from Ashton and Haasbroek, 2002: 188.

According to Schulze (2012: 9), the mean annual precipitation (MAP) mm characterises the long-term quantity of water availability to a region for hydrological purposes. Not only is MAP important as a general statistic in its own right, but it is probably also the one climate variable best known to hydrologists, and to which they can relate many responses. It appears that the variable and low quantities of rainfall, combined with high average temperatures and rates of evaporation, also contribute to low rates of groundwater recharge: groundwater availability is thus problematic in the Northern Cape. The province has few primary aquifers or high-yielding geological formations, and most groundwater occurs in small, scattered amounts in secondary, fractured rock aquifers (Ashton & Haasbroek, 2002: 188).

Under the new democratic government, water demands increased as the number of water users increased. The distribution and extent of the major impoundments and the larger water transfer schemes are shown in Figure 5.4 below. The combined capacity of these major reservoirs amounts to some 27 000 million m<sup>3</sup>. In total, there are approximately 500 large and small water supply reservoirs in South Africa with a combined capacity of some 37 000 million m<sup>3</sup>; this is equivalent to almost 74 % of the annual average runoff (Ashton & Haasbroek, 2002: 188).





**Figure 5.4: Map of South Africa, showing locations of major impoundments and interbasin transfer systems (arrows)**

Source: Adopted from Ashton and Haasbroek, 2002: 189.

It is also significant that most of the larger reservoirs were built to meet the agricultural sector's growing demands for irrigation water (DWAf, 1986). Accordingly, water resources are approaching closure – there is very little left to allocate for off-channel uses, as 98% was allocated in 2004 (Turton, 2013). With IPAP, NGP and NDP, including the DWA NWRS 2 strategy, the emphasis has gradually shifted away from agriculture to the provision of ever-greater proportions of the water required for urban and industrial development (Ashton & Haasbroek, 2002: 188), informed by the Bill of Rights and DWA's National Water Resource Strategy II (DWA NWRS 2, 2012)

Ashton and Haasbroek (2002: 190) estimated that the demands for water in each sector of the economy would increase by between 28% (for the agricultural sector) and 219% (for domestic use) over the next 30 years. Water demand in several areas of the country has already exceeded the available supplies (Turton, 2012). To date, these demands have had to be met by progressively larger water transfers from those catchments where demands have not exceeded supplies and excess water is available as depicted in Figure 5.6.

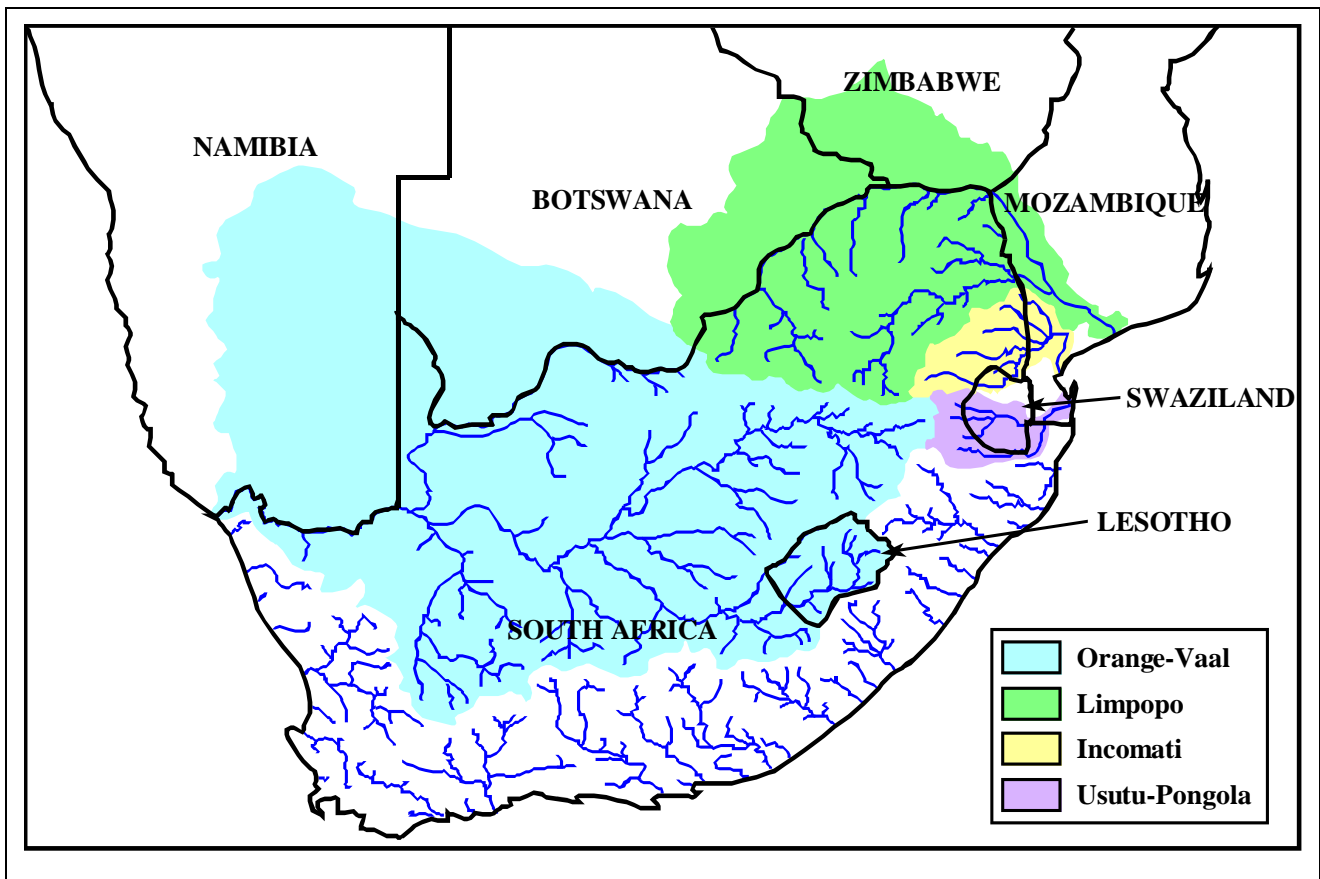
**Table 5.1: Estimated annual volume of water used by each sector of the South African economy during 1996, plus projected water requirements for 2030, with an indication of the percentage increase in each sector**

Water use sector	Water demand ( $10^6$ m <sup>3</sup> /year)				Overall percentage increase
	1996		2030		
Urban (domestic water use)	2 171	(10,8 %)	6 936	(22,8 %)	219,5 %
Mining, industrial and energy	1 598	(8,0 %)	3 380	(11,1 %)	111,5 %
Irrigation and afforestation	12 344	(61,6 %)	15 874	(52,2 %)	28,6 %
Environment (*)	3 932	(19,6 %)	4 225	(13,9%)	7,5 %
TOTAL	20 045		30 415		51,7 %

\* Environmental water use is relative to the total water use in different regions and does not reflect the size of the water resource available.

Source: Ashton and Haasbroek, 2002: 189.

It is also significant that South Africa shares its four largest river systems with neighbouring territories (Ashton & Haasbroek, 2002: 189) (Figure 5.5). Moreover, most of South Africa's urban, mining, energy and industrial development has become concentrated in the mineral-rich upper catchments of these four river systems. This area is considered to be South Africa's industrial and economic heartland and accounts for over 65% of the gross national product (GNP). Inevitably, this economic development has been accompanied by rapidly escalating demands for water, coupled with increasing quantities of effluent discharge (Basson, Van Niekerk, & Van Rooyen 1997). Significantly, it would appear that the water available in these international rivers has been over-allocated, thereby making it difficult for South Africa to meet her international obligations. The main problem in future will not simply be whether South Africa has enough water available, but whether the quality of the available water is acceptable. If all the poor quality mine-water in Gauteng is released into the Vaal and Orange system, after only cursory treatment to correct the pH, there will be massive amounts of water available downstream, but the poor quality will mean that it is not fit for a number of uses, and that the high cost of making it fit for use will stifle development (Abbott, 2012).



**Figure 5.5: Map of Southern Africa with four major river basins**

Source: Ashton and Haasbroek, 2002: 190.

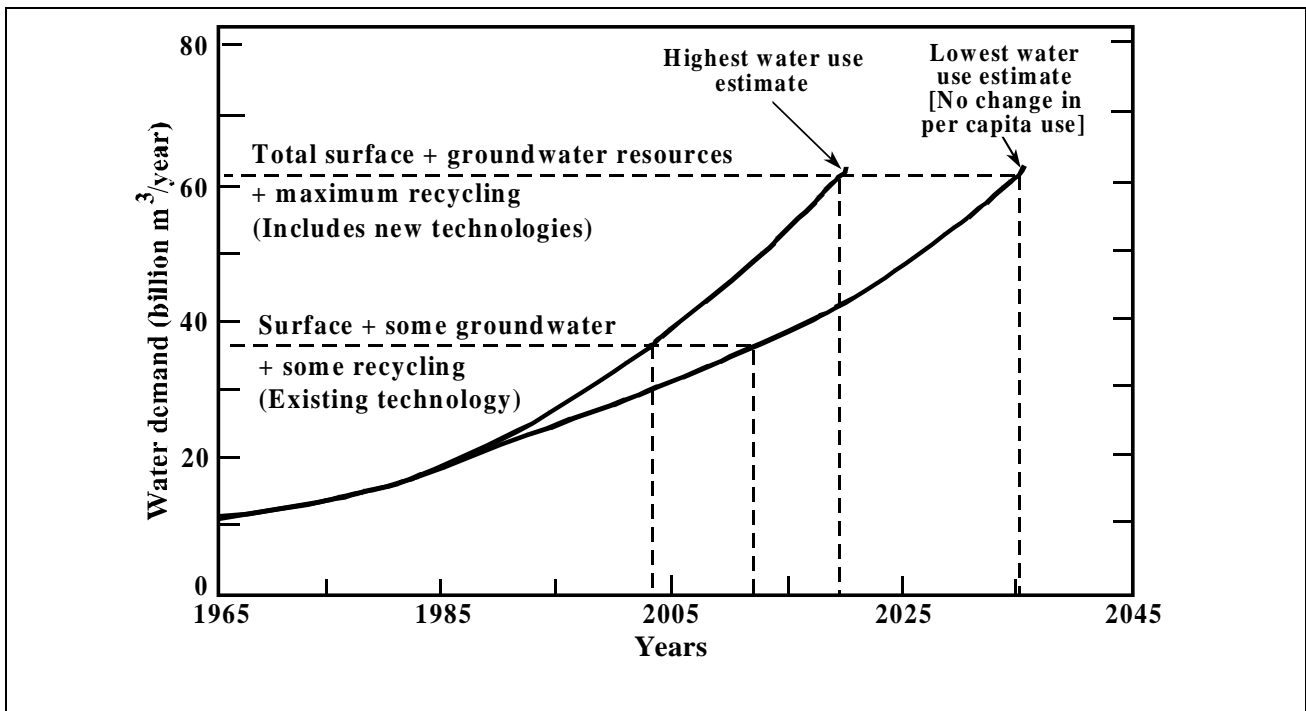
Over time, the seemingly inexorable increase in the demand for water has progressed to the point where the available and exploitable supplies of surface and groundwater, plus recycled water, are projected to be insufficient to meet the demand in the short- to medium-term (Ashton & Haasbroek, 2002: 190). This water demand requires that government be a regulator for water governance and developmental water services. Equally, given the fact that water has already been over-allocated since 2004, the country needs government to be an incentiviser for innovation. The latter is largely ignored in the Northern Cape; hence, the water crisis can be seen as a governance crisis. Turton (2013: 1) concluded that:

The state, even at local level, can create incentive structures for innovation, and from this emerges new thinking about the management of water-scarcity, while also creating jobs for local people.

Water flux often refers to an ideapreneurship approach to the use of greywater (Schwella, 2012; Turton, 2013). Greywater is untreated household effluent from baths, showers, kitchen and hand-wash basins, and laundry (i.e. all non-lavatory uses). More than half of indoor household water use is usually for these purposes – estimates range from approximately 50% to 80%. This percentage represents a large fraction of household wastewater that can potentially be intercepted by the householder and used for additional beneficial purposes. This means that water is managed as a

flux and not a stock. Managing water as a flux means, in essence, that policy-makers recognise that different qualities of water are still useful for different applications in a value chain. This means that water is recycled, with small quantities of high-quality water used for drinking, personal hygiene and food preparation, whereas water of lower quality is used for industrial processes, lavatory flushing and other such purposes. Accordingly, retrofitting houses, municipal offices and public buildings to accommodate greywater harvesting becomes an immediate short-term job creator. Given the 27% unemployment in the Northern Cape, the greywater can be used for agricultural products using relevant EWSETA, LGSETA and Agri-SETA qualifications and skills programmes. Since greywater also contains nitrogen and phosphorus, it is a potential source of nutrients for plant growth, particularly for those users who cannot afford fertiliser. In the same vein, the soapy nature of greywater means that it has some pest-repellent properties, which is again of particular significance to potential users who cannot afford pesticides. From Ashton and Haasbroek (2002: 190-192) and Turton (2013: 1), it appears that the beneficial use of greywater as part of a business unusual paradigm includes the following:

- For irrigation of food gardens at a household or communal level, where water and plant nutrient supplementation would not usually be available. This would improve food security in low-income and informal settlements;
- For irrigation of gardens where water and plant nutrient supplements would not usually be available. This would make it possible to establish gardens where it might otherwise not be possible and to improve the productivity of such gardens, thereby improving quality of life;
- For irrigation of gardens or small-scale crop cultivation in times of water shortage, e.g. drought. This would improve the sustainability of gardens and food production without placing limited water sources under further pressure; and
- For use in irrigation of gardens in place of the usual fresh water supplies. This would reduce water costs for the user and reduce pressure on fresh water sources on the level of local water authorities (WRC Report No. TT 469/10 2010: 2).



**Figure 5.6: Diagram showing highest and lowest projections of water demand in South Africa, compared with the quantities of surface water, groundwater, and recycled water that are available with existing technologies and with new technologies**

Source: Ashton and Haasbroek, 2002: 190.

The treatment and re-use of domestic and some industrial effluent has long been recognised as having the potential to extend the available water supplies for both domestic and industrial purposes. This methodology has proved very successful in the case of Namibia's capital city, Windhoek (Turton, 2002). Given the Northern Cape's cultural diversity, the researcher assumes that the use of greywater must be accompanied by household workshop and education initiatives. For example, the maximum estimated water use (which is the same for greywater as for conventional irrigation water) for a given crop or plant type over a given area may be demonstrated in a community to show cost implications and wise use of water by applying the following equation:

$$\text{EWU} = \text{E0} \times \text{CF} \times \text{HA} \text{ Equation 1}$$

EWU = estimated water use (measured in  $\ell/\text{day}$ )

E0 = reference evapotranspiration rates (location-specific and season-specific; a meteorologically derived measure (measured in  $\text{mm}/\text{day}$ ))

CF = crop factor, a measure of plant-specific water use (a unit less ratio)

HA = area to be irrigated (measured in  $\text{m}^2$ ) (WRC TT 469/10: 2010).

The equation above can be linked to the information given in Table 5.3 below and used to provide households and water users with an indication of their area that can be irrigated with the available greywater.

**Table 5.2: Estimated water use, EWU (hence maximum volume of greywater to be applied) for crops with low water use (crop factor, CF, 0.3), moderate water use (CF 0.5) and high water use (CF 0.8) for various climatic regions in South Africa in summer and for illustrative areas of land to be irrigated, ha. EWU calculated as per Equation 1 in the text**

Climatic region, province, representative weather station	Summer $E_0$	Crop factor (CF)	EWU in litres per day, Summer Applicable to irrigated area (ha) of:			EWU in litres per week, Summer Applicable to irrigated area (ha) of:		
			5 m <sup>2</sup>	10 m <sup>2</sup>	20 m <sup>2</sup>	5 m <sup>2</sup>	10 m <sup>2</sup>	20 m <sup>2</sup>
<b>Hot and arid</b>								
Northern Cape Upington	12.7	0.3	19	38	76	133	267	533
	12.7	0.5	32	64	127	222	445	889
	12.7	0.8	51	102	203	356	711	1422
Okiep	10.7	0.3	16	32	64	112	225	449
	10.7	0.5	27	54	107	187	375	749
	10.7	0.8	43	86	171	300	599	1198
Calvinia	6.2	0.3	9	19	37	65	130	260
	6.2	0.5	16	31	62	109	217	434
	6.2	0.8	25	50	99	174	347	694
North West Mafikeng	9.4	0.3	14	28	56	99	197	395
	9.4	0.5	24	47	94	165	329	658
	9.4	0.8	38	75	150	263	526	1053
<b>Hot and semi-arid</b>								
Limpopo Pietersburg (Polokwane)	8.0	0.3	12	24	48	84	168	336
	8.0	0.5	20	40	80	140	280	560
	8.0	0.8	32	64	128	224	448	896
<b>TEMPERATE AND SEMI-ARID</b>								
Western Cape Elgin	5.8	0.3	9	17	35	61	122	244
	5.8	0.5	15	29	58	102	203	406
	5.8	0.8	23	46	93	162	325	650
Oudtshoorn	8.1	0.3	12	24	49	85	170	340
	8.1	0.5	20	41	81	142	284	567
	8.1	0.8	32	65	130	227	454	907

Source: Rodda, Carden and Armitage, 2010: 33.

New perspectives and innovative approaches to water governance and the socioeconomic value of water are critical to address structural poverty, high unemployment, household food security and

inequalities in the Northern Cape. In this context, it is essential to examine the historical development of water resource management in South Africa, identify those approaches and techniques that have been most successful, and evaluate the possible future outcome of new insights that emerge (Turton, 2013: 1). By utilising greywater for agricultural development and household food security, the Northern Cape policy-makers will be able to utilise water optimally for projected future water demands.

#### **5.6.2.2 Comparisons between Vaal and Orange WMAs**

As has been noted, the largest part of the Northern Cape is characterised by an arid landscape with limited rainfall and high evaporation rates. This, in turn, results in low availability of surface water and about 90% of the dryland farming sector receives less than 200 mm of rainfall per annum, whereas successful dryland farming requires 500 mm of rainfall per annum. Additionally, the Lower Orange WMA that largely corresponds with the Northern Cape has the lowest mean rainfall in South Africa. This means that rainfall ranges between 200 mm at the coast and 400 mm on the eastern boundary, with a potential evaporation of 3 000 mm per annum (DWAf, 2004: 4).

This is further complicated by the fact that there are no inland reservoirs to stabilise flow regimes. This means that demand for water does not coincide with the spatial distribution of resources. Following the droughts of 1983-84 and the 1990s, agricultural production diminished significantly. Water scarcity in the Northern Cape is further exacerbated by typical pollutants of both surface water and groundwater such as agriculture runoff, domestic and commercial sewage, acid mine drainage and industrial effluents.

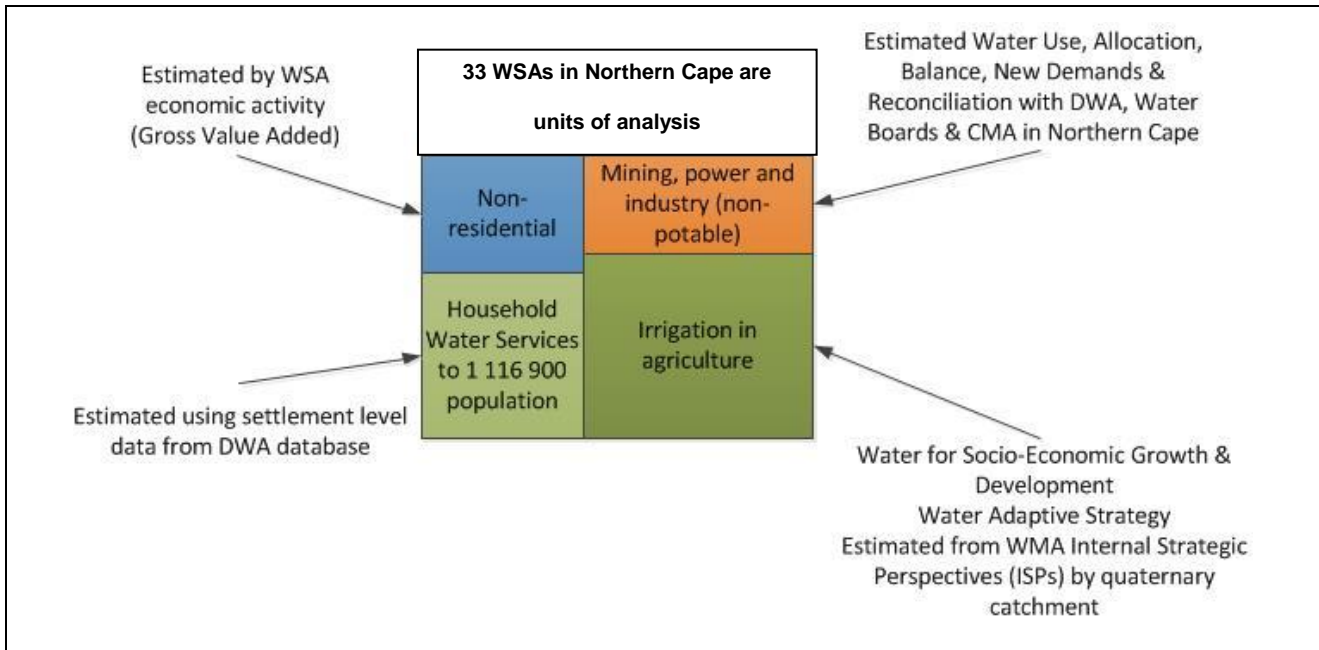
It may be argued that the nature of both Vaal and Orange WMAs and their development must be reviewed to ensure an equitable, people-centred, democratic and just society. This can be achieved through upholding human rights, facilitating the meeting of basic needs such as water services, building skills and competencies of councillors and officials, and enabling full participation of ward committees and water stakeholders in pursuance of the LGDA. The challenge facing the councillors as political leaders and WMA managers is to design this WMA and its water allocation to address the alienation and socioeconomic marginalisation of the population who are living in poverty.

#### **5.6.2.3 Water use and management patterns of the Northern Cape**

The patterns of water use and management issues in the Northern Cape in terms of access to water are embedded in South Africa's history (DBSA Infrastructure Barometer, 2006: 32-33). One of the principal focuses of the apartheid government was the bulk supply of water to the commercial farming sector and to various industries.

As has been mentioned before, the major deficiencies from the pre-1994 era relate to the notion that the bulk of the water available was distributed and consumed by the minority of the population,

or what is called in hydropolitical terminology “resource capture” (Turton, 1998a). An analysis of water use in the Northern Cape is provided in Figure 5.7 below.



**Figure 5.7: Northern Cape water use analysis**

Source: Adopted from Walsh, 2013: 10.

This historical legacy has a huge impact on and implications for the functioning of the LGDA. With regard to towns of the Northern Cape, the following are some of the consequences that emerge:

- It is a desperately inconvenient and disabling environment that results in citizens and workers spending many hours per day commuting to and from their places of employment. Some of the consequences include very low productivity, women being exposed to vulnerable situations given the high rate of crime and rape, and poor quality of social and family relationships.
- Skewed settlement patterns, which are inefficient and costly.
- Because of the Apartheid zoning governed by the racial regulation of urban space via the Group Areas Act, all major commercial and industrial areas were located in white areas of the Northern Cape (Swilling, 2001: 213).
- Backlog in [water] services and infrastructure in underdeveloped areas.
- Most people from outlying areas have to work in the central core areas and outside the Northern Cape, leaving the peripheral areas in the hands of old people, children, unemployed people and single females. Consequently, economic opportunities in these areas are severely low. As this, in turn, discourages economic investment, the communities are literally trapped in a situation where they are increasingly marginalised.
- The provision of public transport is an extremely expensive exercise and essentially uneconomical.



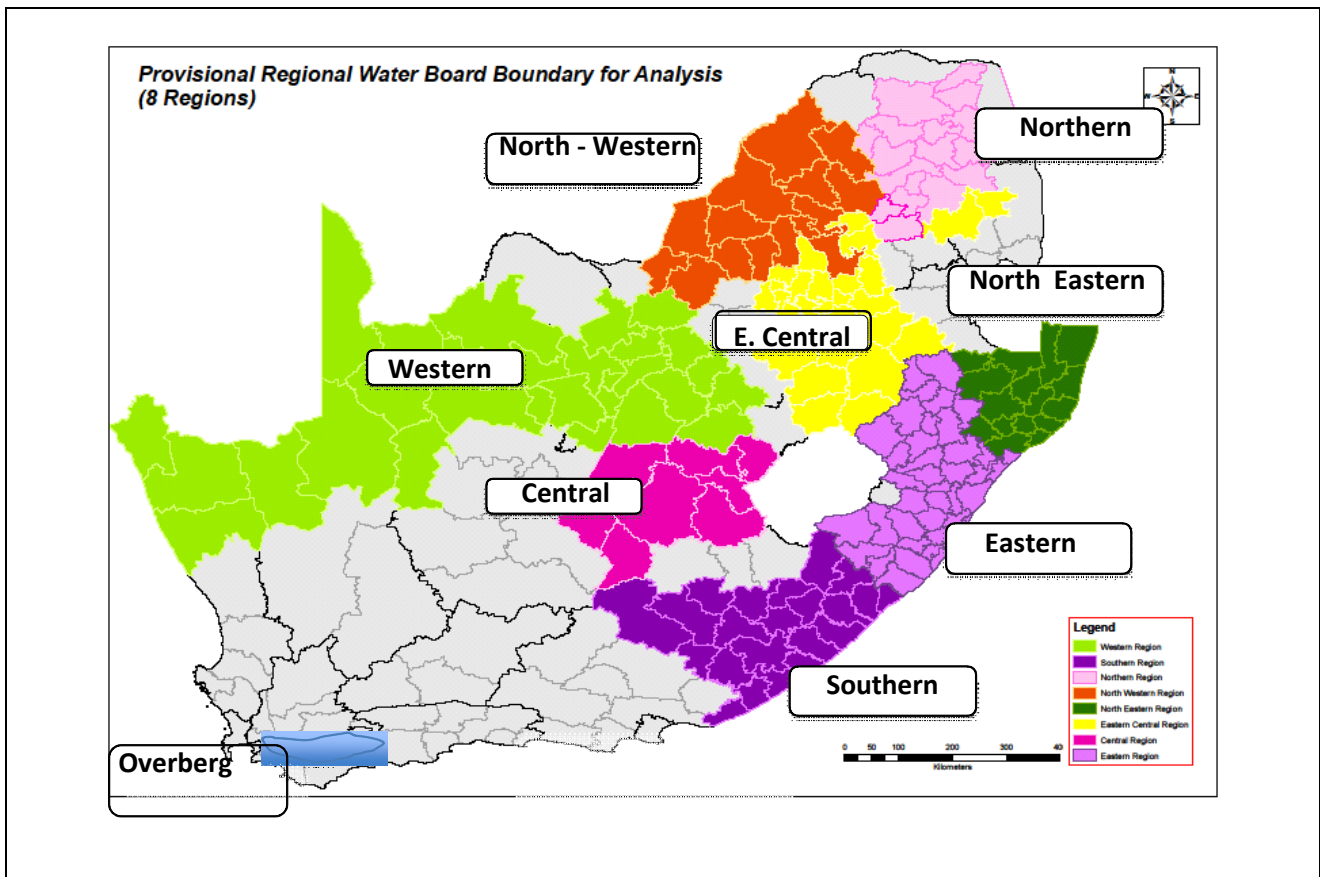
- Developmental water services become muddled and water consumers do not know who to hold accountable between the DWA, Water Boards and WSAs.
- Local government as a government closer to the people becomes insensitive and non-responsive to the yearnings and aspirations of the people.
- The cost of providing water infrastructure is disproportionately high because water services networks and roads have to stretch over vast distances to reach a relatively small number of people.

It can be argued that the local government system has been ineffective. It is characterised by years of neglect, including declining infrastructure, to an extent that not all WSAs can deliver developmental water services. From this literature evidence, it appears that the Northern Cape case study indicates that apartheid has left psychological and physical hallmarks or scars on human settlements and within municipalities. Transformation and democratisation of local government requires an understanding that the towns of the Northern Cape resemble the perpetuation of separation and inequality under the new LGDA system. Thus, the planners and experts must acknowledge that,

irrespective of the technical feasibility, economic profitability and social desirability of a project, it can happen only if effective political leaders can champion its cause in the right way at the right time (Biswas, 1978: 22).

Inductively, the major problem in the area of water use and management under the new LGDA system is not only one of the impending water scarcity in the Northern Cape, but also one of instituting more rational and better management practices to respond to the current water services needs without compromising the needs of future generations. In fact, the new LGDA as a public management system requires a shift to a comprehensive land, agriculture, mining and water planning approach, treating these services as integrated and interacting units rather than separate disciplines.

It is significant that water boards originated with the establishment of Rand Water in the early 1900s. Reasons for their establishment included the pragmatic need to serve large urban centres, mines and industries. It was only in the late 1990s that water boards were transformed to serve areas that are poor. Although water boards have no experience in working with weak and poor municipalities like those in the Northern Cape, the DWA's Strategic Framework for Institutional Water Reforms and the proposed expansion scenario are planned to consider restructuring water boards towards Regional Water Boards. These new water institutional reforms may mean that a Regional Water Board in the Northern Cape would be responsible for all regional infrastructure including regional water resource and water services infrastructure (potable and non-potable systems), as depicted in Figure 5.8.



**Figure 5.8: Expanded boundaries for water boards used in the case study models**

Source: Adopted from Walsh (2013: 15) with interim names of regional water utilities.

The establishment of Regional Water Boards in terms of the DWA's Strategic Framework for Water Institutional Reforms would mean that a Regional Water Board, if it has the capacity, can take over the WSA function. Walsh (2013: 15) argues that:

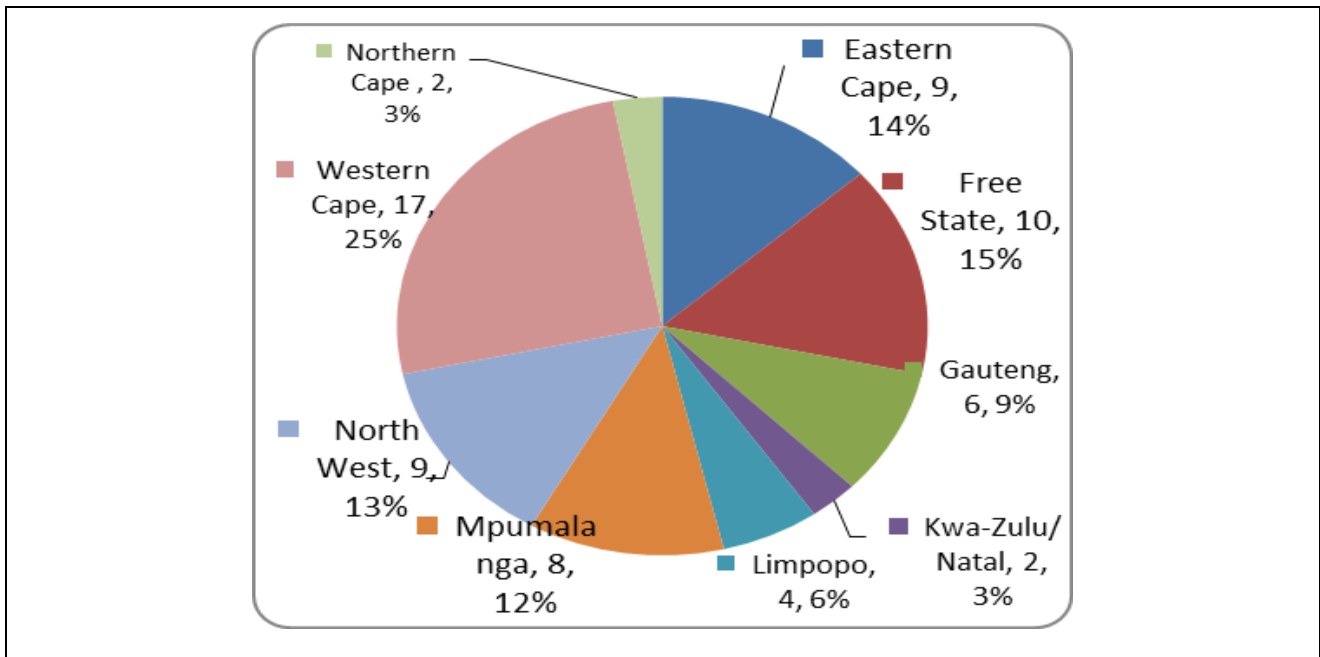
The policy provides for water resources of local significance to ultimately be transferred to Water Service Authorities (WSAs) or Water User Associations (WUAs). However, where Water Boards have the capacity to manage this infrastructure and WSAs or WUAs do not, the option for transfer to Water Boards is provided for.

This has a number of implications in terms of water governance and provisioning in South Africa. The first key implication is that the DWA as a custodian of water governance and water resources management does not understand the water decentralisation strategy, which was started in 1910 in terms of local government devolution of powers and functions as depicted in Figure 3.3. The Regional Water Model would also mean that DWA regional offices must be replaced by Regional Water Boards that are established by the minister of Water Affairs, and would unfortunately fall outside the three spheres of government. Walsh (2013: 15-18) adds that

[t]his would involve the transfer of water resources infrastructure of regional or local significance currently managed by DWA to the Water Boards. In some cases, this regionalisation scenario would also include the Water Board taking over the management. A second key implication is the inclusion of the management of water resources as a Water Board function. In some cases, this regionalisation scenario would also include the Water Board taking over the management of regional water services infrastructure currently managed by municipalities.

This has huge policy implications in terms of democratic consolidation with effective, efficient and economically viable WSAs under LGDA or NPM values. Other implications include the fact that access to safe drinking water and adequate sanitation services is a human rights issue. Delivering on water services is by law and according to the Constitution an obligation of government represented by the DWA, not of parastatals or any other entity established by a minister, unless current water policies and Acts of Parliament are replaced by new Acts that are founded on the basis that water resources management is an infrastructure issue and not related to socioeconomic, developmental and political values. It is doubtful whether the South African Cabinet and Parliament can approve such inhuman policies, as South Africa is a signatory to international declarations on water and sanitation.

From a human rights perspective, it is doubtful whether the proposed Regional Water Boards would be able to deal with public service delivery protests. According to a 2012 television discussion programme on the Auditor-General's findings on municipalities hosted by Vuyo Mvoko (SABC 1, July 2012), the first protests were against water and electricity cut-offs and evictions. These protests took place in Eldorado Park, Johannesburg, followed by Secunda (Mpumalanga) and Butterworth (former Transkei, Eastern Cape) in 1997. In 1998, there were protests in the townships of the East Rand (Gauteng), and in 1999 and 2000 in Cape Town (Western Cape), in 2002 in Durban and in 2005 in Johannesburg. From 2004 to 2012, the increasing service delivery protests countrywide focused on municipalities and their leaders. The free basic water and free basic sanitation policies have had unintended consequences; households and councillors literally interpret these policies to mean 'free water', as most indigenous languages do not have a word for 'basic'. Furthermore, these 'free basic' policies are used across political parties for scoring political points. In this context, there is a culture of non-payment for water services that water boards (and the proposed new Regional Water Boards) do not understand. This non-revenue context is experienced in smaller municipalities in the Northern Cape that have more than 70% of water users declared as indigent people. As water boards and, by extension, the proposed Regional Water Boards are established for making profits in bulk water distribution, their water tariffs as well as their mechanisms to deal with non-payment may lead to unprecedented public protests. Service delivery protests have already become a regular occurrence in South Africa, as can be seen in Figure 5.9 below that covers only the period from January 2012 to May 2012.



**Figure 5.9: Service delivery protests by province, January 2012-May 2012**

Source: Municipal IQ Municipal Hotspots Monitor, 2012.

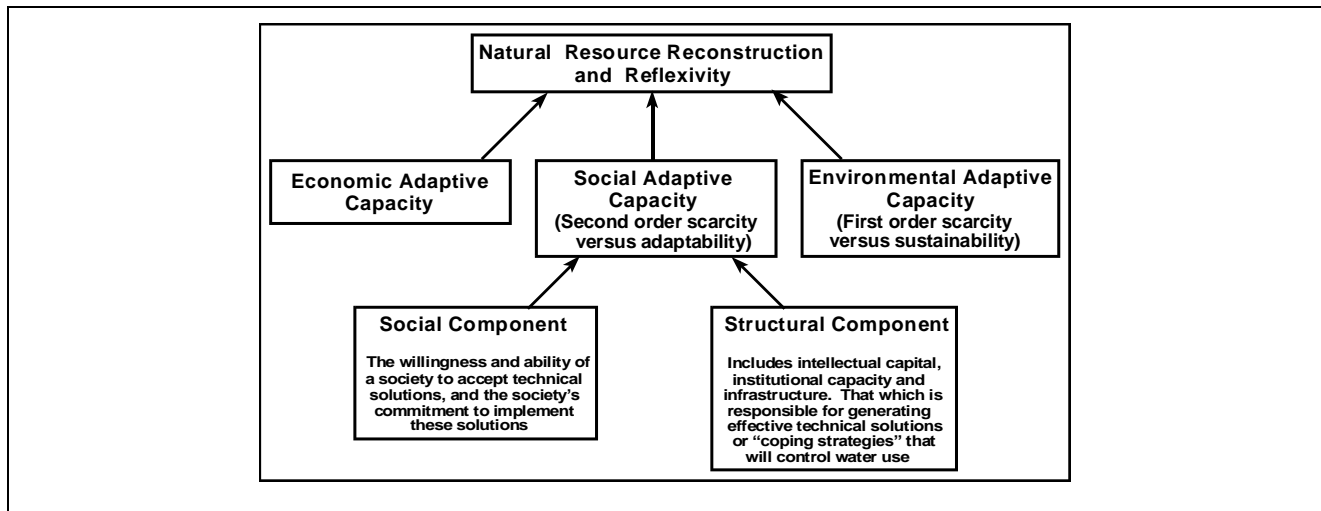
According to the Municipal IQ Barometer (January 2012 to May 2012), the protests are heavily influenced by events such as local and national government elections. Other events that trigger protests are more ad hoc or are once-off occurrences, such as the introduction of an unpopular and contested e-tolling system in Gauteng, and the hosting of the Rugby World Cup and the FIFA World Cup (an international soccer tournament held in South Africa from 11 June to 11 July 2010).

Under the new local government developmental agenda (LGDA), municipalities, despite their unhealthy functional status, are expected by households and citizens to be implementing agencies (PIAs, or programme implementing agents). In this context, it can be argued that the proposed Regional Water Boards should continue with the existing functions of water boards, thereby being able to support WSAs for cross-subsidisation under DWA stewardship and water tariffs regulations.

## 5.7 NORTHERN CAPE WATER ADAPTIVE CAPACITY (WAC)

Clearly, the Northern Cape profile is a typical example of politicised decision-making solutions with respect to agricultural production, food security and commercial use of water, but this has not yet filtered down to catchment and sub-catchment levels. It can be deduced that if the current water scarcity crisis is not resolved, the water demand for socioeconomic development of the Northern Cape society, including the capacity to produce food, will most likely be severely affected. It is clear that the key policy challenge in addressing the water scarcity in the Northern Cape is to have a pool of councillors in the water-related portfolios that are empowered to deal with these challenges

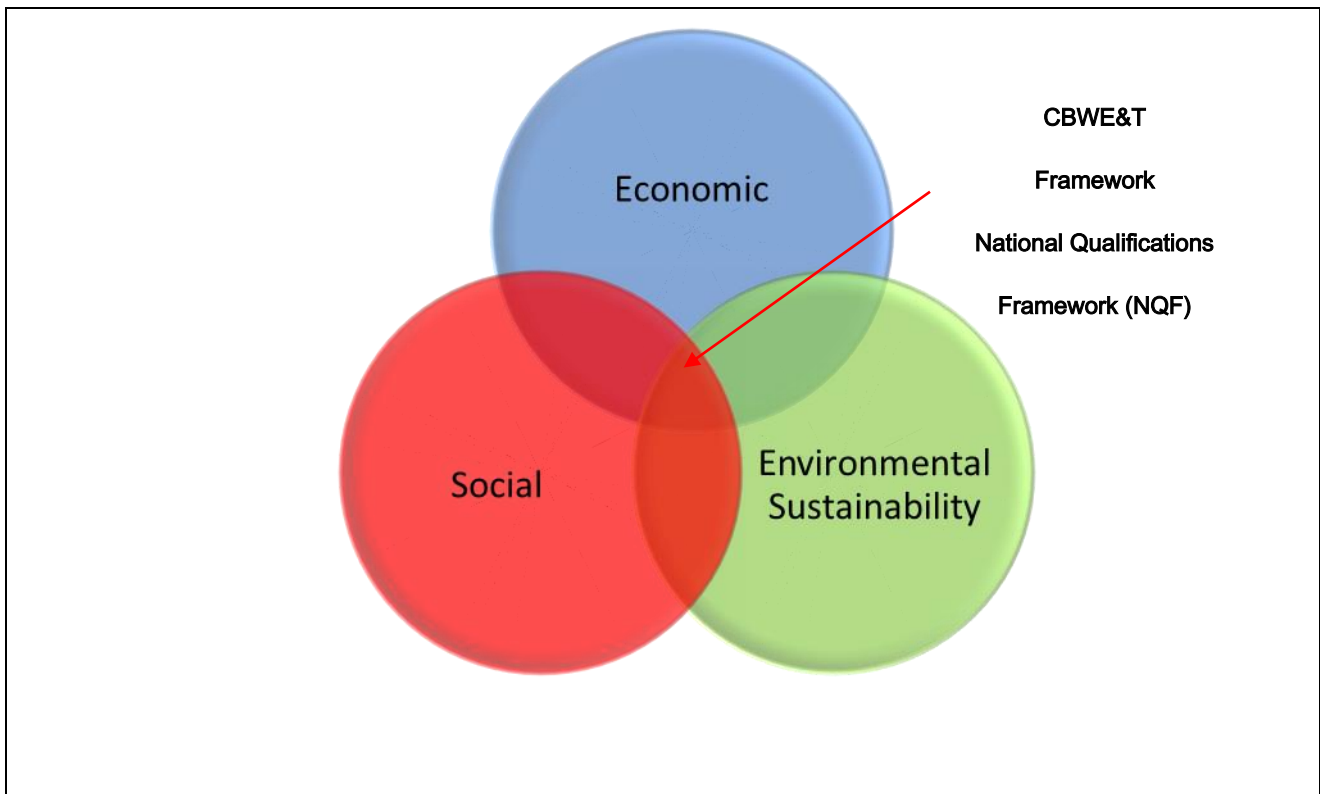
without comprising environmental protocols. This means that councillors within local authorities must attempt to understand the water scarcity of their constituencies and adapt their policies and strategies within the provisions of the national norms and standards of the central government. Ashton and Haasbroek (2002) have developed a water adaptive capacity (WAC) strategy that can be implemented in the Northern Cape, as depicted in Figure 5.10 below to reverse water scarcity in Northern Cape.



**Figure 5.10: Factors for reflexivity and water adaptive capacity strategy**

Source: Adopted from Ashton and Haasbroek, 2002.

From Figure 5.10 above, it may be seen that the WAC strategy is aligned to the 2006 White Paper entitled *Eliminating world poverty: Making governance work for the poor* of the British Department for International Development (DfID). Like the WAC strategy, the DfID White Paper (2006) emphasises that governance is central to development and sets out three requirements for good enough governance under the LGDA or NPM: state Capability, Accountability and Responsiveness (CAR). Like the LGDA or the modernisation agenda of water governance, the CAR model allows assessment of the various dimensions of governance that lead towards state capability, accountability and responsiveness. As a useful tool for a WAC strategy in the Northern Cape, the CAR model has allowed the researcher to monitor water governance performance and identify the gaps for achieving LGDA values (DfID 2006: 1-22; see also Figure 2.8) in terms of a sustainable development conceptual framework, as shown in Figure 5.11. read with Figures 3.5 to 3.6 in Chapter 3 and Figures 5.10 to 5.13 in Chapter 5.



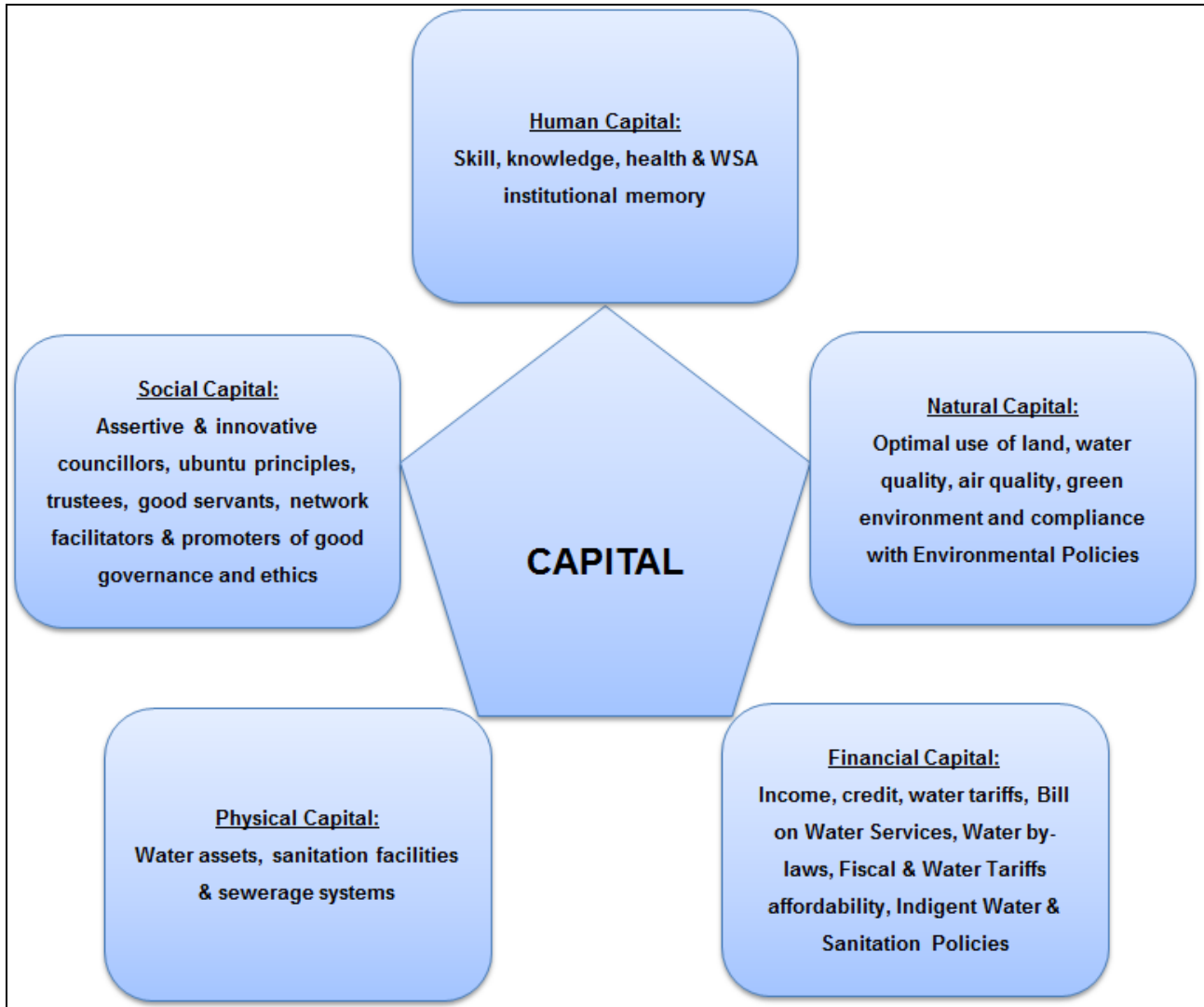
**Figure 5.11: Sustainable development conceptual framework**

Source: Adopted and modified from David (2009).

This simplified outline of the Northern Cape WAC principles may be expanded upon by looking at what is known as the sustainability livelihoods framework as depicted in Figure 5.11. The sustainable livelihoods approach (SLA) is a way to improve understanding of the livelihoods of Northern Cape households and citizens, especially poor people. It draws on the main factors that affect poor people's livelihoods and the typical relationships between these factors. It can be used in planning new Northern Cape WAC strategy, and WAC intervention activities to turn PUI problems around. The two key components of the SLA as part of CAR assessment in LGDA include a development of WAC Framework that helps in understanding the complexities of both PUI problems and LGDA values, and a set of principles to guide Northern Cape WAC to address and overcome water scarcity and structural PUI problems. A pertinent example of the different forms of 'capital' in society is drawn from DfID (1999-2005), as demonstrated in Figure 5.12. Despite the very large body of research on its effects, the definition of social capital has remained elusive. Different authors employ different definitions. Bourdieu (1980) identifies three dimensions of capital each with its own relationship to the concept of class: economic, cultural and social capital as applicable to Northern Cape. Bourdieu's idea of social capital puts the emphasis on class conflicts: social relations are used to increase the ability of a leader to advance community interests on water governance, and becomes a resource in social struggles: social capital is the sum of the resources, actual or virtual, that accrue to an individual or group by virtue of possessing a durable network of more or less institutionalised relationships of mutual acquaintance and

recognition (Bourdieu and Wacquant, 1986: 119, Bourdieu, 1980: 2). In Figure 5.12 read with projected water demands for 2030 in Table 5.1, social capital thus has two components:

- a resource that is connected with group membership and social networks; and
- quality produced by the totality of the relationships between leaders, rather than merely a common 'quality' of the group (Bourdieu 1980)

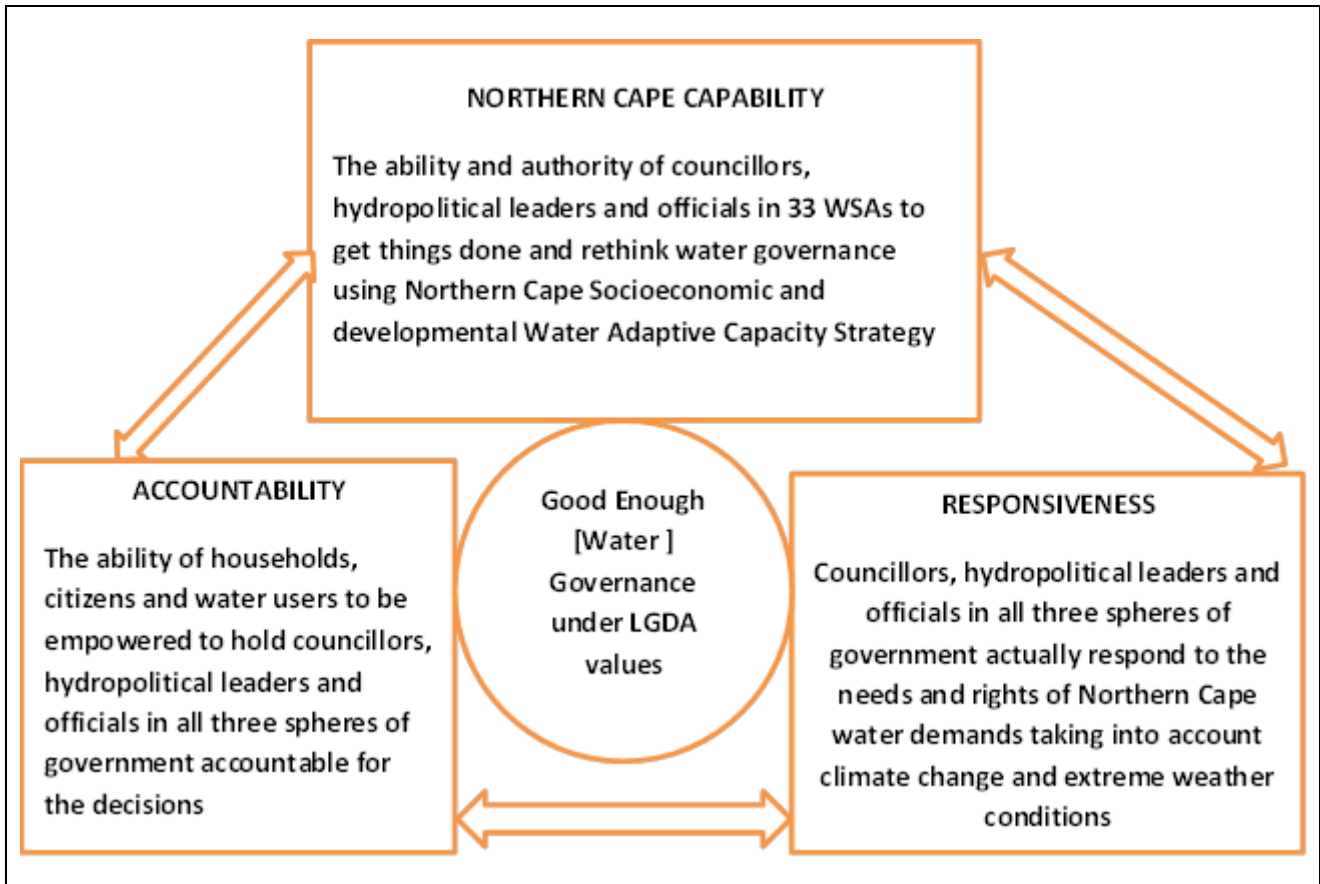


**Figure 5.12: The capitals pentagon**

Source: Adopted from Jacobs, 2009.

Through the facilitation of a curriculum-driven water governance and leadership innovation programme for councillors, it has been argued that each WSA will have a social capital. Social capital translates into three important dimensions: bonding capital, bridging capital (both emphasising horizontal relationships) and linking capital (emphasising vertical relationships) as depicted in Figure 5.12.. Like the LGDA values, social capital strategy depends on good enough governance, and water institutions must be structured in such a manner that there is 'reflexivity'

and creativity to address the water deficit (Turton, 2002). The elements of a social capital strategy for the Northern Cape must respond to CAR framework as depicted in Figure 5.13 below.



**Figure 5.13: Northern Cape CAR Model.**

Source: Adopted and Modified from DFID, 2006

The social and structural capability refers to the ability of leaders and officials to implement water flux solutions for economic and environmental adaptive capacity (Ashton & Haasbroek, 2002: 2000-204; DfID, 2006: 22-38). The councillors as local political operators are expected to institute radical reforms informed by modern technological solutions wherein water is administratively and technically managed by means of business models rather than being viewed as stock. According to Ashton and Haasbroek (2002), supported by Turton (2013), water adaptive capacity strategy refers to a form of “modernised water governance” based on the business unusual model in LGDA, whereby a network of processes with hydropolitical stakeholders and hydrohegemonic resources unlocks the maximum value from water and multiplies the initially perceived finite nature of the resource. The “water as a flux” model is the product of network thinking in which water is cascaded around the economy, with the number of new process cycles limited only by the ingenuity and technological capacity of Northern Cape water institutions.



In terms of the above-mentioned basic theoretical framework provided by Turton (1999b), Turton and Ohlsson (1999), Ashton and Haasbroek (2002), and more recently Turton (2009), it is argued that an effective socioeconomic water adaptive capacity is based on effective water demand management strategies and techniques, and rests on two core components:

- A structural component that includes intellectual capital, institutional capacity and infrastructure, and which is responsible for generating effective technical solutions or coping strategies that will control water use effectively and efficiently, and
- A social component that can be measured in terms of the willingness and ability of a society to accept the technical solutions as being both legitimate and reasonable, and the society's commitment to the process of implementing these solutions (Ashton & Haasbroek, 2002).

From Figures 5.10 to 5.10, it can be concluded that the water adaptive capacity (WAC) consists of the joint influences exerted by the economic and financial resources of a country to adapt to a new water governance model in the demand management phase. Equally, the WAC is dependent on the carrying capacity of the available water resources and the associated social and technical capacity and capability of both officials and leaders in local authorities. However, it is doubtful whether local authority councillors can adapt themselves without an appropriate intervention in the form of education and training with regard to water governance and developmental water services (Tsibani, 2013). The need for such an intervention can be explained by the proposition advanced by Turton *et al.* (2003: 14) that failure to adapt to natural capital water scarcity may have negative sustainability consequences for the future use of water resources. Yet, the complexity of the Northern Cape WAC strategy is not the same as chaos, as the councillors of the various WSAs would create an environment that is conducive to creativity and innovative initiatives (Ostrom, 2009: 412; Scarlett, 2009: 4-9). Sustaining the Northern Cape WAC strategy beyond 2030 depends on the drivers of change (innovative and effective leaders) seeing opportunities for rethinking the administration and management of water systems. These opportunities would include shifting from 'grey' to 'green' infrastructure for stormwater management as well as other rural and urban services. The WSAs, and CMAs as structural institutions must be re-organised to provide accountability, flexibility and inclusivity in collaboration with hydropolitical stakeholders under the stewardship of DWA, thereby being able to ensure that WSAs and councillors in the municipal councils will create a conducive environment for ongoing learning and networks aimed at realising good enough governance (Goldsmith & Eggers, 2004: 4-7; Ostrom, 1991: 27; Scarlett, 2012: 5-7).

Turton (2009) concluded that this special water flux programme as an innovative approach to the current Strategic Integrated Projects (SIPs) Investments may be expanded to transform the current economic landscape of the Northern Cape, where water is a constraining factor for growth and development as well as the emergence of an alternative economy to the declining mining-based

economy. As per the objectives of this study, the Northern Cape profile is documented with the primary purpose of justifying the need for a special infrastructure programme for poverty eradication under the LGDA framework.

## **5.8 CONCLUDING ASSESSMENT**

Communities in the Northern Cape face water challenges related to water supply, flows and quality; aging infrastructure, degraded watersheds and habitats; and a declining wildlife population partly owing to acid water from the mines that affect the Vaal and Orange Rivers. Among several trends, complicating water management in the Northern Cape is the fact that water is now used for socioeconomic growth and development, and that it is a scarce resource for attracting investment in the drier Northern Cape regions. Water management and governance are further complicated by the effects of a changing climate. These include changes in the amount and timing of precipitation, leading to shifts in traditional stream flows, a lengthening fire season, and changes in vegetation composition that can, in turn, affect water availability and demands; and many other landscape and watershed changes.

The assessment of the Northern Cape from a social anthropology perspective throws new light on the understanding of water as an economic good, and calls for a more sophisticated understanding of the urgency to implement the Northern Cape WAC as a rethinking water management strategy for advancing both the public good and economic investment models. Implementation of the strategy can address community well-being in the province, particularly by ameliorating the high levels of inequality. From a human rights perspective, poor communities of the Northern Cape are experiencing de facto water scarcity. Hence processes of increasing water use efficiency are required in order radically change the current structural poverty and unlock the untapped mineral and tourism opportunities of the Northern Cape.

This chapter outlined the profile of the Northern Cape Province and its municipalities based on a review of documents and literature. It provides the background against which the data discussed in the next chapter should be viewed. The next chapter focuses on the findings of the survey conducted by the researcher with regard to councillors' education and training needs in dealing with developmental water services and hydropolitics under the new LGDA.

## **CHAPTER 6**

### **EMPIRICAL FINDINGS AND DISCUSSIONS**

#### **6.1 INTRODUCTION**

As has been explained in the preceding chapters, the NPM and LGDA require the recruitment, selection and deployment of councillors with minimum engineering and technical qualifications as frontline political operators in the water portfolio. It has been argued that the councillor competency framework for water governance and hydropolitical development according to the LGDA was adopted from private sector competencies and transferred into the decentralisation, devolution and democratisation of local government. In essence, the idea of determining councillor competencies and skills in WSAs and compiling a cluster of water governance competencies aligned to the LGDA strategic vision and mission statement for the next ten years (2012-2022) helped the researcher to assess the individual councillors or group of councillors in terms of the water portfolio.

The aim of this chapter is to provide a 'snapshot' of councillors' education and training needs in the water governance and developmental water services sector in local authorities under five district municipalities in the Northern Cape Province. The primary data of 77 respondents (councillors) offers a snapshot of councillors' needs in the water sector; it does not test the extent of any causal link between organisational change, water governance effectiveness or improvement, and the best value regime in local government under the leadership of councillors. However, where a causal link or chain is explained, it demonstrates significant and substantiated evidence on a particular inference or proposition in this study. The results of this study offer a comprehensive picture of the education and training needs of councillors in local authorities in the Northern Cape by summarising qualitative data from comparative literature evidence before using the primary data from 77 respondents as depicted in Table 2.8. of Chapter 6 under paragraph 2.3.7.3: Sampling Strategy and Unit of Analysis.

From the results of the literature review and the practical understanding of 'competency' by participants, some common themes seemed to emerge. To demonstrate this, the characteristics that emerged from the information as transcribed and summarised from the workshop are listed in Table 6.1. below.

**Table 6.1: Categories of competencies**

CATEGORY	COMPETENCIES
Empowerment: personally, skills, attitudes, knowledge, socially, politically and governance	<p>Create problem-solving/personal and institutional capacity/human resource development/build knowledge among councillors on water services/ technical, financial and managerial skills of councillors</p> <p>Self-reliance of local authorities and councillors in delivering water services/move away from dependency on external resources and consultants to internal resources within municipalities in terms of workplace skills plans and use of the Skills Development Act and Skills Levy Act, respectively, for human resource development</p> <p>Participatory development/decision-making/collective efforts/information sharing and consultative process with customers, clients and communities in developing water services development plans and gazetting of bylaws, setting of tariffs, etc.</p> <p>Empower councillors, mayoral committees, portfolio committees and community champions or forums to take charge of their own development, with a bias towards “people- or community-driven” development processes</p>
Governance: with strong Intersectoral collaboration and networking, and partnership between spheres of government, and organs of civil society and other stakeholders	Decentralise water services powers and functions to local government through partnerships with various service providers in accordance with national policies and regulatory framework/networking among councillors and officials and between local authorities with other institutions in order to balance needed expertise and skills of individuals with local authorities
Need to understand new local government system and its dynamics by the practitioners and water sector institutions and clients	<p>Understand local government system and its dynamics through appropriate conceptualisation and operationalisation of its water services challenges and targets, as set out by national policies and guidelines</p> <p>Awareness of state of existence within municipalities</p>
Dependency on external support	Integrating external resources with internal resources of the municipalities for sustainable delivery of water services
Holistic: integrated process which includes all water sectors and multidisciplinary teams	<p>Holistic needs assessment of municipalities/integrated education, training and development process and programme</p> <p>Education, training and development of councillors should be simple and measured in terms of clearly defined competencies; that is, keep the process simple and straight (KISS)</p> <p>Councillors to have the ability to work with others, influence others with a constructive attitude, be flexible and trustworthy in working in a dynamic working environment with multidisciplinary teams</p> <p>To have capacity-building and training framework or strategy (umbrella model) impact on local and national developmental framework</p>
Dynamic process of change	<p>Dynamic process of change to meet current and future challenges of water services thereby ensuring sustainability of water services for future generations</p> <p>New councillors and practitioners who are kept abreast of new challenges and technical know-how</p>

CATEGORY	COMPETENCIES
Economic development	Creation of a better life for all through sustainable water services Just distribution of water services resources accurately informed decisions and policy decision-making processes Use of water as starting point for economic development of communities Councillors to be empowered to address socioeconomic realities and imbalances in communities
A water services project and programme level concept	Viable projects and programmes appropriately designed on feasibility and needs assessment studies Community and councillor development to be seen as programme by stakeholders
Sustainability	Water services programmes and initiatives to be environmentally sustainable through optimal utilisation of resources Ability of councillors to create preconditions for sustainable development of water services Ability of consumers to write business plans which are community-driven rather than a top-down approach Ensure that policies are implemented through regulations and guidelines
Planning	Ability of councillors to embark on strategic management planning as decision-makers in local authorities
Water services business is need- and demand-driven	Community and constituency development arises through identification of needs and problems Councillors able to differentiate between felt needs and outcome-based education needs by creating opportunities for community participation and options Ensure customer satisfaction through reliable water services and customer surveys, including metering

Source: Focus Group Report, 8 February 2012: Frances Baard District Municipality Conference Room, Kimberley.

From inputs from participants in the workshop and evidence from the literature, the following broad themes appear to be pertinent issues for this study:

- There appears to be a need for a shift in the conceptualisation of community development from approaching it at a project or programme level to a coherent, more standardised perspective of community development that approaches it at a community level, viewing community development as being a holistic, integrated process of the developmental agenda of local authorities.
- Like councillors' developmental needs, community development needs should focus more strongly on human development, which is aimed at providing a learning experience, empowering people and communities, and providing opportunities in the water sector for the socioeconomic development of communities in terms of knowledge and skills through which they would have greater control over the environment and their future. This includes the opportunity of participation in and ownership of water services development processes.
- As in the case of challenges facing councillors and local authorities, there is a need for the development of a more specific process for addressing water services needs and demands in an integrated process in which communities participate, as well as for more specific and appropriate indicators by which councillors and local authorities can monitor and evaluate community needs as part of strategic management planning on an ongoing basis.

It appears from the above that community development is about building the community and involves empowerment, capacity building and skills development. This process of a bottom-up approach to community development, in turn, would improve councillors' ways of dealing with communities, thereby ensuring what Mott (1994: 157) called a "self-diagnostic rating scale of competencies" on the part of individuals and councillors in their constituencies, ward committees and portfolio committees, respectively. From Knowles (1998), it appears that capacitated communities may lead to improved accountability and responsiveness of councillors as part of hydropolitical consolidation and democratic representation as explained in Chapter 3. As communities are able to ensure that their councillors are held accountable, councillors will be incrementally improved their performance and some level of proficiency to deal with community demands and needs. Accordingly, proficiency is usually composed of a combination of knowledge, understanding, skill, attitude and values.

The respondents in the workshop, though, did not use theoretical justifications; they indicated an understanding of the concept of community development. It was interesting to notice that the categories they provided (as shown in Table 6.1 above) did link to the literature and to the councillor education, training and development process in Chapters 2, 3 and 4. As a result of the participants' inputs in the workshop, it also became clear that an appropriate education, training

and development programme for councillors could be designed by using some of the categories as fundamentals of a skills programme (short-term) and a structured programme emerging from water experts and community practitioners. This can be structured to ensure that a bottom-up approach on water governance plays a central role in skills transfer and training of councillors. This will add more value on assessment and moderation of portfolios and applied research as discussed in Chapter 7, with detailed course options and outlines in Appendix B.

## **6.2 FOCUS GROUP PRIORITISATION OF TRAINING FROM 2012 TO 2022**

Two Focus groups were given a structured questionnaire with 20 functional areas, and were requested to identify five functional areas in which they thought their municipalities might have the greatest water education and training needs in the next ten years (that is, from 2012 to 2022). The 20 areas from which they could choose, as well as give their ranking of these areas in terms of priority, according to literature reviews, are shown in Figure 6.2 below.

**Table 6.2: Areas in which local authorities may have the greatest water services education and training needs in 2012, according to literature reviews**

Functional or competency area	Ranking in literature reviews (Chapter 3 – Results)
Budgeting	1
Computer literacy	2
Position classification/wage and salary	3
Cash management	4
Labour relations	5.1
Capital programme/capital financing	5.2
Grant proposal writing and administration	5.3
Maintenance and operational needs	5.4
Managing personnel performance	9
Policy and legislative framework	10
Statistics and data analysis	11.1
Accounting	11.2
Equal employment opportunities	13
Programme evaluation	14
Office and inter-office communication	15
Contract management	16
Local government documents and reports	17
Local government data bank	18
Writing and oral communication	19
Personnel staffing	20

The 20 functional areas were then clustered into five categories, as depicted in Table 6.3 to provide more data that are meaningful.

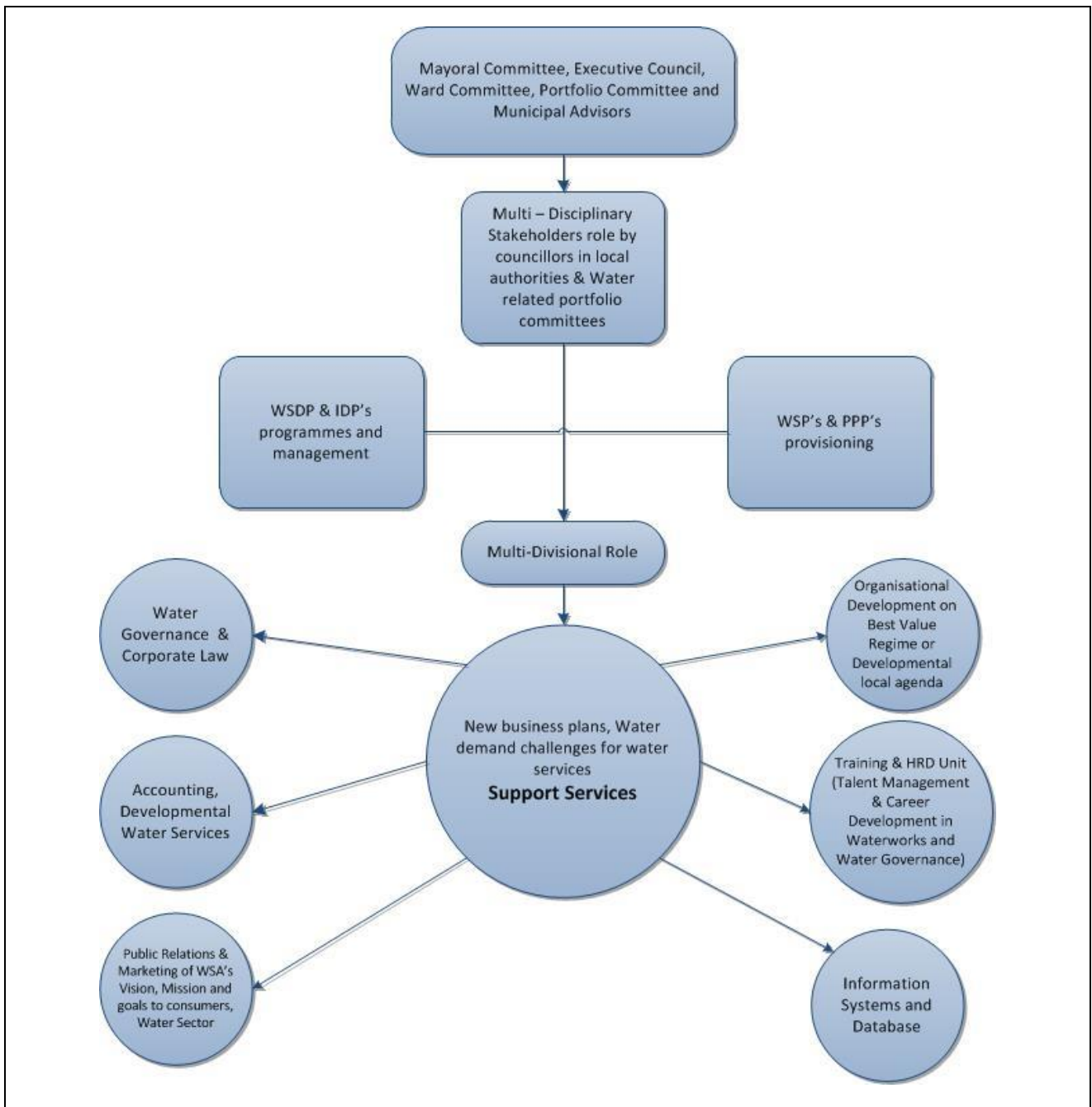


**Table 6.3: Areas in which local authorities may have greatest water services education and training needs in 2012 in five categories: ranking scale where 5 is the most needed competency area**

Functional area	Ranking (5-1) (Where 5 is the highest priority and 1 the LOWEST priority)
1. Maintenance and operational assessment needs Programme evaluation Contract management Statistics and data analysis Capital finance Computer literacy Grant proposal writing and administration Maintenance functions	5
2. Fiscal concerns and financial management Budgeting Accounting Cash management	4
3. Human resource development and management Equal employment opportunities Writing and oral communication Labour relations Personnel staffing Office and inter-office communication	3
4. Inter-personal relations Position classification/Wages and salaries Managing personnel performance	2
5. Information and resource centres Local government data bank Local government documents/reports	1

Source: Focus Group: 18 February 2012.

If there is recruitment, selection and appointment of appropriate and suitably qualified and experienced candidates, complemented by an experienced councillor with minimum basic engineering and technical qualifications as portfolio head: Infrastructure Planning and Development, it seems that good communication, water networks, water best practices, and reports on municipal business to hydro-political stakeholders and water users will be part of the municipality's feedback norm, as depicted in Figure 6.1 below.



**Figure 6.1: Northern Cape WAC public consultation is multidimensional process in municipality**

To ensure that reliability and validity is achieved, the researcher then divided the participants into two groups to identify possible current education and training needs of councillors. The groups were further instructed to rank such identified needs where 1 = highest priority and 5 = lowest priority. The results of the two groups are depicted in Table 6.4.

**Table 6.4: Identified current education and training needs of councillors, ranked in order of priority by two groups**

Group 1	Group 2
1.Planning and regulation	1.Planning
2.Financial management	2.Financial management
3.Business plan or work plan	3.Community participation and development processes
4.Community participation	4.Regulations
5. Development	5. Business plan or work plan

It can be seen in Table 6.4 that planning and financial management are core priorities for the municipalities from the focus groups' perspective. Group 1 felt the need to develop a proper business plan with the active participation of communities to ensure sustainable development. With Group 2, it appears that community participation and development processes are critical for water governance and responsiveness to new water resources management for growth and development. In both groups, it appears that an innovative councillor should be working, planning and developing business plans with ward committees and relevant community structures to ensure proper monitoring and evaluation and water governance and regulation in terms of DWA National Drinking Water Standards. From the focus group, it appears that suitable powers would include the ability of local councillors to negotiate, cooperate and make decisions over the use and distribution of water services resources to meet the developmental goals of local government.

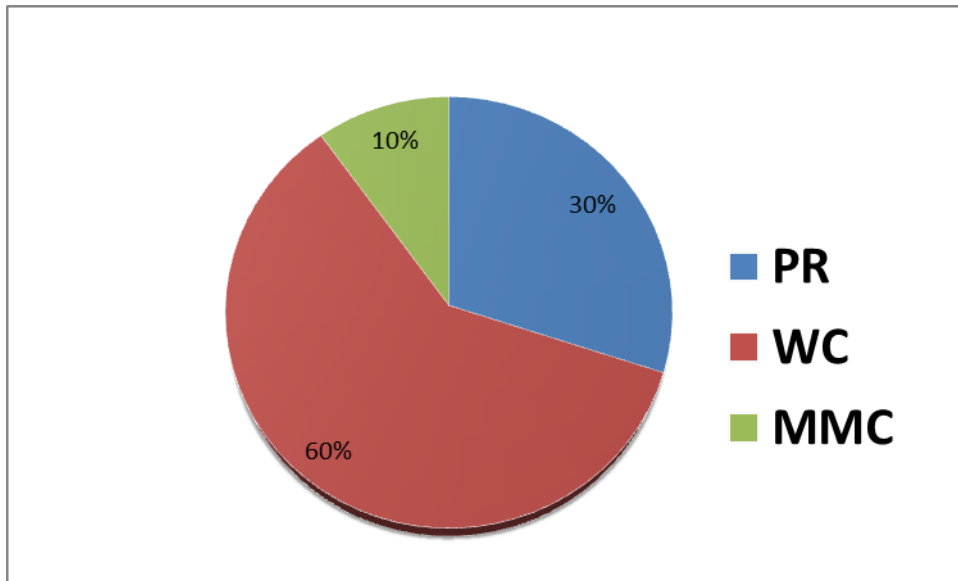
### **6.3 QUANTITATIVE SURVEY**

#### **6.3.1 Brief field challenges**

Having described qualitative findings from literature and the focus group, it is imperative to complement the qualitative data with quantitative data, as discussed in detail in Chapter 2. For this reason, a structured questionnaire was distributed to 370 councillors in the Northern Cape. This was done after the failure to receive completed questionnaires during SALGA Conference, held at the Durban ICC on 28 August 2011 to 1 September 2011. As a follow up, the researcher participated in the National Department of Human Settlement Councillor Induction Workshop held on 23-25 April 2012 in Upington, and this was completed by town-to-town site research, which yielded responses from 77 out of 370 councillors in the Northern Cape.

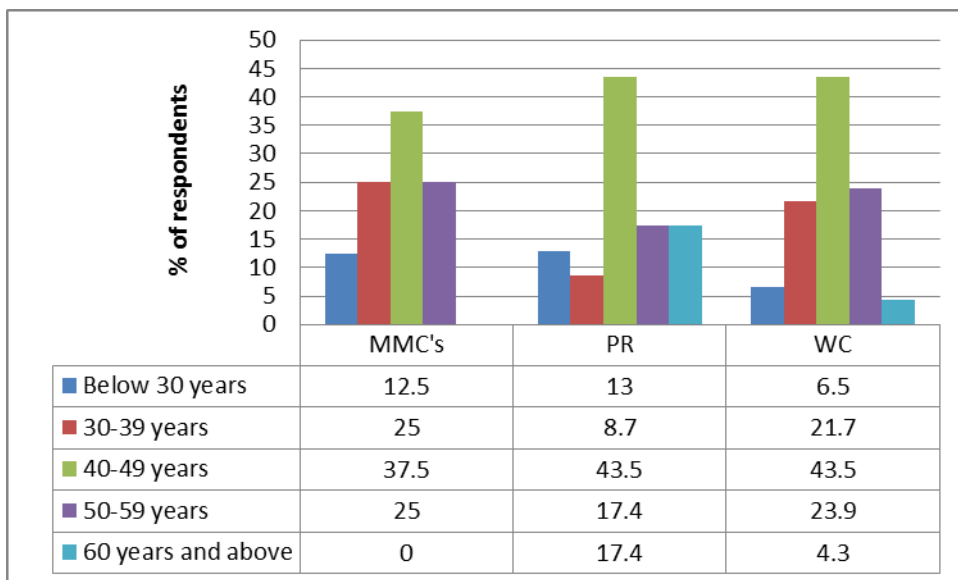
#### **6.3.2 Composition of respondent councillors**

The survey obtained data on various types of councillors that included proportional representation councillors (PR), ward councillors (WC) and members of the mayoral committee or executive committee (MMC), as shown in Figure 6.2.



**Figure 6.2: Composition of sample per type of councillor**

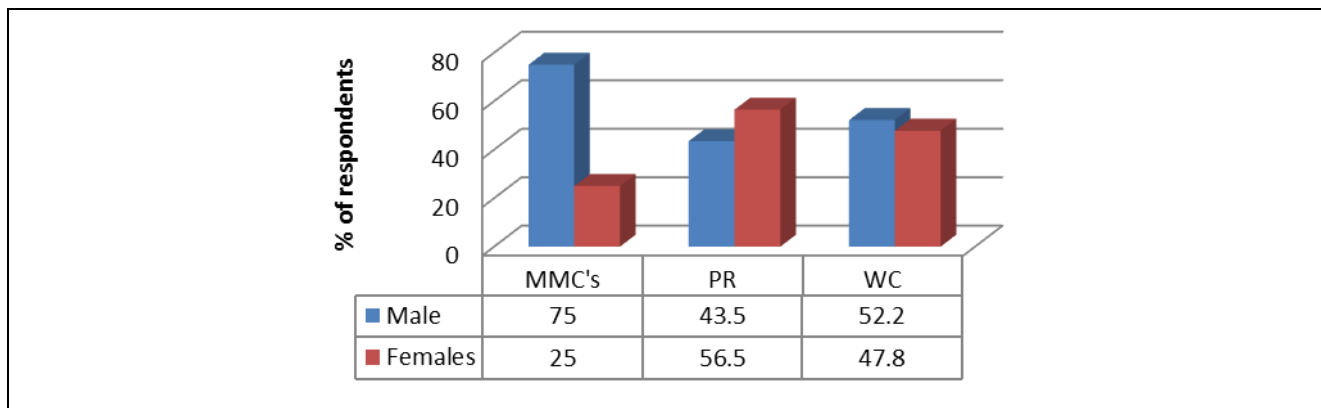
As in the case of the SALGA councillor survey in 2006, and the LGSETA councillor survey in 2012 with more than 8 000 councillors, the majority of the 77 respondents in this study were ward councillors (60%), followed by proportional representation (PR) councillors (30%). In terms of age, the majority of the respondents in the present study were between 40 and 49 years, as depicted in Figure 6.3.



**Figure 6.3: Composition of sample by age groups per type of councillor**

In Figure 6.3 there were no executive or mayoral committee members aged 60 years and over. In terms of executive powers and functions in municipalities, males made up 75% of the MMC, as

depicted in Figure 6.4. Yet, the proportion of males to females was almost 1 to 1 in terms of gender distribution. There were 51,9% (40) males and 48,1% (37) females.



**Figure 6.4: Gender representation per type of councillor**

There seemed to be a gender imbalance when it came to executive and mayoral committee councillors, with the ratio of males to females 3:1. In the case of ward councillors, there was an almost complete gender balance. This is significant for the water sector as most vulnerable groups are children, women and disabled persons. It may mean that a policy directive on gender representation per political party can be considered to ensure that females are also represented at executive leadership level.

All the respondents indicated their home language, as depicted in Table 6.5.

**Table 6.5: Home language**

Language	MMC	PR	WC	TOTAL	%	Rank
Afrikaans	75,0% (6)	43,5% (10)	52,2% (24)	40	51,9%	1
Setswana	-	26,1% (6)	34,8% (16)	22	28,6%	2
IsiXhosa	12,5% (1)	13,0% (3)	6,5% (3)	7	9,1%	3
English	12,5% (1)	8,7% (2)	2,2% (1)	4	5,2%	4
Sesotho	-	4,3% (1)	2,2% (1)	2	2,6%	5
IsiZulu	-	-	2,2% (1)	1	1,3%	6
Other (specify)	-	4,3% (1)	-	1	1,3%	6

As can be seen from Table 6.5, most of the respondents spoke Afrikaans as home language. Language is important as it is the chief medium of communication between individuals. Using language makes life easier for passing important messages, education and promotion. Language plays a large role in cultural behaviour, with human beings using it not just to communicate, but also to identify with a particular cultural or socioeconomic need. For councillors, language is crucial

for maintaining an efficient system of collecting, collating, analysing and presenting current and accurate data on quantifiable water indicators to meet local demand and DWA standards to address socioeconomic needs. With limited experience of councillors in Table 6.6, it is crucial that the water governance and leadership manuals must be user friendly and be translated to vernacular language for the councillors to understanding the engineering and technical jargon or words used in the water sector by DWA and CMAs.

**Table 6.6: Experience of the respondents as councillors**

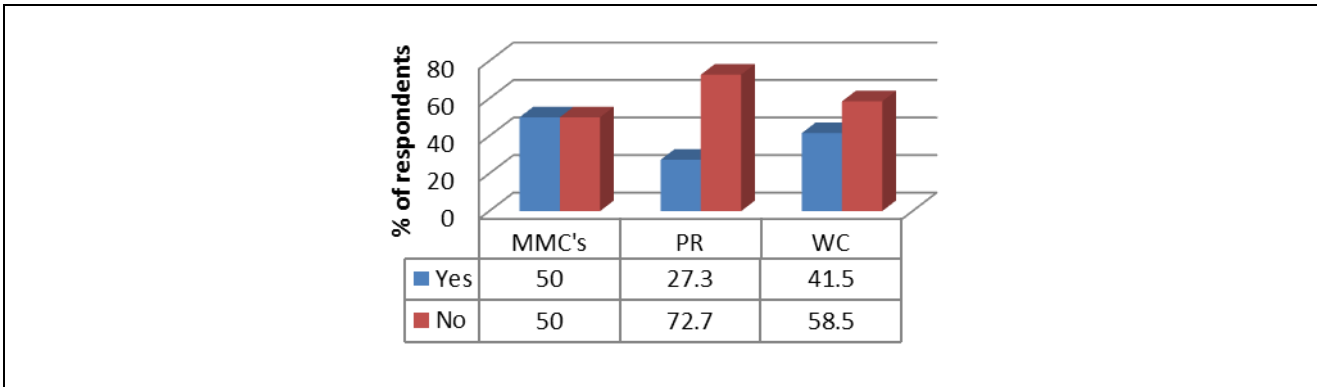
No of years	MMCs	PR	WR	TOTAL	%	Rank
At most 1 year	37,5% (3)	60,9% (14)	67,4% (31)	48	62,3%	1
6 – 7 years	25,0% (2)	8,7% (2)	21,7% (10)	14	18,2%	2
2 – 3 years	25,0% (2)	21,7% (5)	4,3% (2)	9	11,7%	3
10 + years	12,5% (1)	4,3% (1)	4,3% (2)	4	5,2%	4
4 – 5 years	-	4,3% (1)	2,2% (1)	2	2,6%	5

The design and delivery of the Northern Cape water adaptive capacity (WAC) model as depicted in Figure 3.6 and Figure 5.10 requires, inter alia, technical, innovative and creative councillors who can use their experience to explain the complex components of Northern Cape LGDA and the proposed adaptive capacity. Under the complex delivery conditions in communities, language plays a large role in culture, with people using it not just to communicate, but also, for instance, to identify with particular minority issues not being taken into account in water governance, and programmes for safe drinking water and adequate sanitation services.

In order to succeed in attracting investors in terms of WAC, councillors are expected to have reasonable experience in water governance and infrastructure management. This experience in dealing with different water interests can assist portfolio councillors to avoid being caught in a self-defeating price war or businesses, which will compromise their credibility, integrity and mandate in the water sector. By sharp contrast to this expectation, it is significant to note that over 60% of both PR councillors and ward councillors had, at most, one year in council. This meant that most of them had been recently elected and were in need of training.

As discussed in Chapter 5, the Northern Cape shares many borders with other provinces and countries. The councillors of the Northern Cape must have good diplomatic relations, strong communication skills and the ability to analyse CMA and SADC Regional Water Protocols and engineering submissions so that they may make appropriate and informed judgements as local hydropolitical operators. From this geographic setting perspective, in terms of post-school

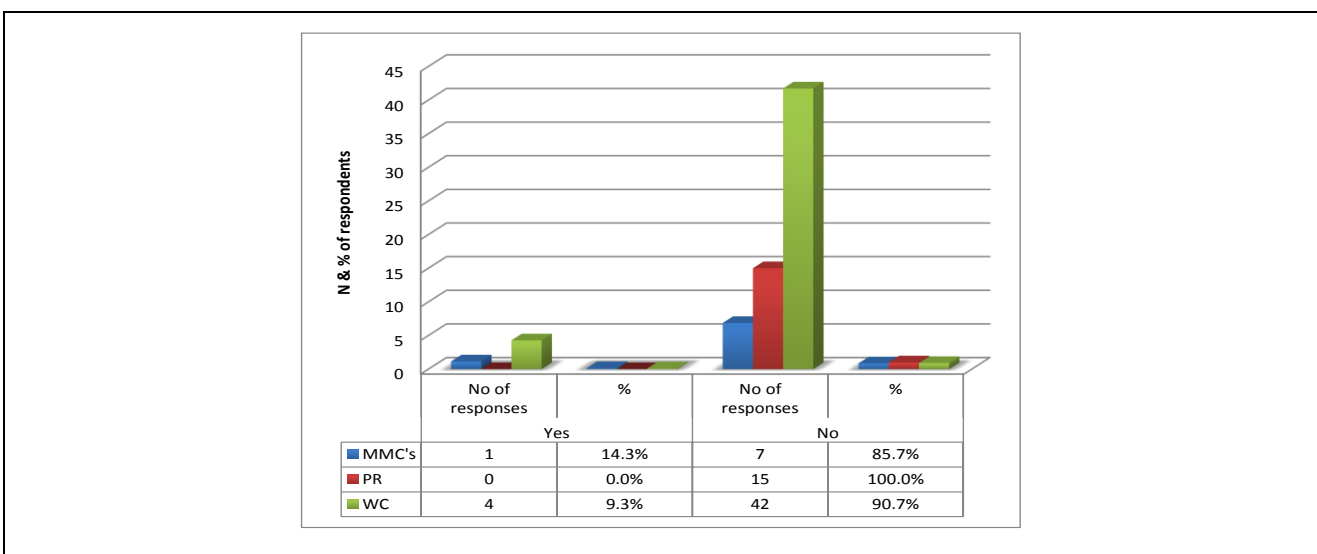
qualifications, about 38% (27) indicated that they had post-matriculation qualifications while 62% (44) had no post-matriculation qualification. The distribution by type of councillor is shown in Figure 6.5. In terms of the executive/mayoral committee councillors, the ratio of those with a post-matric qualification and those without is 1 to 1. In the case of PR councillors, however, the majority did not have any post-matric qualification.



**Figure 6.5: Distribution of post-matric qualification by type of councillor**

It is also significant that there were few councillors who had attended water training programmes, including DWA induction workshops. There were 69 valid responses that indicated whether respondents had attended any training in water services. A small minority, 7,2% (5), had attended training in water services. No PR councillor had attended any training in water services, as shown in Figure 6.6.

When it comes to accredited courses, only one respondent attended courses in Water Resource and Water Services Regulation Policy: Contracts, Agreements, By-Laws and Acts and Bulk Water Infrastructure. These courses had been attended by the respondent in question at Sedibeng Further Education and Training (FET) College in the Vaal on Water Care and Treatment in the period 2011 to present.



**Figure 6.6: Water services training by type of councillor**

Even though most respondents did not attend the water resources management courses, they were asked to rank the courses which can be helpful in their portfolios on a scale of 1 to 4, with 1 = least helpful and 4 = most helpful as depicted in Table 6.7. The following rankings were obtained:

**Table 6.7: Mean rating by councillors of highest ranked helpful training courses**

<b>Qualifications/Courses/Modules</b>	<b>Mean rating</b>	<b>Rank</b>
Water Governance and Leadership	4	1
Water Resource Management and Water Services Regulation Policy: Contracts, Agreements, By-Laws and Acts	3	2
Water Master Plans and Water Services Development Plans and Planning for Waterworks: Free Basic Water, Infrastructure and Sanitation Facilities	3	2
Financial Management of Water Resources, Water Services: Tariffs Setting, Cost Recovery Systems of Municipalities	3	2
Water Master Plans and Water Services Business Plans or Proposal Writing	3	2
Community Participation and Community Development Processes in Water Management	3	2
Bulk Water Infrastructure	3	2
Water Care, Water Quality and Assessment	3	2

### **6.3.3 Current and future needs of councillors**

#### **6.3.3.1 Current water needs of councillors**

Table 6.8 demonstrates the weakness of the self-reporting technique. Accordingly, all courses were ranked the same, except Water Governance and Leadership, which was ranked as most helpful. In order to determine the most needed courses, the respondents were asked to name further perceived problems, which councillors need to equip themselves to resolve through training programmes. The results are summarised in Table 6.8.



**Table 6.8: Further perceived problems which should prompt training for councillors**

Item	Mean rating			Overall rating	Rank
	MMCs	PR	WC		
Lack of sufficient number of water resources management and water services trainers within the municipality	1.50	2.44	2.10	2.08	1
Lack of appropriate water resources management and water services accredited courses/modules	2.33	2.78	2.36	2.46	2
Inappropriateness of existing water resources management and water services courses/modules	2.17	2.78	2.40	2.46	2
The quality of existing water resources management and water services training providers (outside the municipality)	2.50	2.56	2.45	2.49	4
Lack of sufficient information on existing water resources management and water services training programmes	1.83	2.78	2.59	2.51	5
Inadequate education and training facilities	2.67	2.60	2.52	2.57	6
Expensive fees for studying at tertiary institutions (technicians, technical/community colleges, universities, etc.)	2.33	2.78	2.73	2.68	7

Unlike other studies, political affiliation, gender, type of municipality (district municipality, local municipality, WSAs), location, qualification, age and councillor type (PPR, WC and MMC) appear to have no impact on educational and training needs (DeSario et al. 1994: 58-69).

The respondents were asked to indicate the courses or education and training modules they personally needed as a councillor in order to perform better in their municipality's bulk water infrastructure and water services priority plans.

The following rating scale was used:

- 0 = not needed;
- 1 = can be of some assistance; and
- 2 = most needed (M/N).

The information obtained is shown in Table 6.9 below.

**Table 6. 9: Most needed training by mean rating of highest ranked councillor duties**

Item	Mean rating			Overall rating	Rank
	MMCs	PR	WC		
Cash management	1.00	0.89	1.29	1.12	1
Accounting	1.00	1.00	1.30	1.17	2
Writing skills	1.38	0.83	1.32	1.18	3
Development of performance appraisal	1.00	1.17	1.26	1.19	4
Labour relations in water works	1.38	0.79	1.39	1.20	5
Equal employment opportunity (EEO)	1.50	1.05	1.23	1.21	6
Employee benefits	1.25	0.95	1.36	1.22	7
Grant proposal writing and administration	1.38	1.05	1.32	1.24	8
Local government data bank	1.13	0.89	1.47	1.25	9
Maintenance functions	0.88	1.16	1.42	1.27	10
Water resource management and water services contractual management	1.13	1.11	1.41	1.28	11
Personnel hiring	1.13	1.11	1.41	1.28	11
Statistical/data analysis	1.25	1.05	1.42	1.28	11
Working with appointed officials	1.25	1.11	1.39	1.28	11
Water resource management and water services programme evaluation and needs assessment	1.50	0.94	1.43	1.30	15
Office and inter-office communication and work relations	1.38	1.21	1.36	1.32	16
Computer literacy	1.63	1.00	1.44	1.33	17
Legislative and legal framework in water services	1.50	0.89	1.56	1.34	18
Budgeting of water services and water resource management	1.25	0.94	1.59	1.35	19
Local government documents/reports	1.38	1.11	1.52	1.37	20
Capital programme/capital financing	1.38	1.00	1.68	1.43	21

In Table 6.9, executive councillors, somewhat differently from their peers (PR and WC councillors), perceived a slightly greater need for training in areas such as water governance, legislation, intergovernmental relations and regulation for equitable distribution and/or allocation of water resources than PR and WC councillors. The PR and WC councillors had greater preference for training on problem solving, Operation and Maintenance (O&M), and budgeting to deal with current nut-and-bolt type solutions. The fact that 62% (44) had no post-matriculation qualification may suggest that SALGA, DWA, CoGTA and Auditor General Reports, and strategies and policies may need to be interpreted and translated in vernacular language, especially Afrikaans, a home language in the Northern Cape. With limited engineering and technical water qualifications, as well as the significant finding that no registered water governance and leadership qualifications were offered by either LGSETA or EWSETA at the time of the survey, may mean that even if councillors

or officials wished to obtain registered qualifications, there was no possibility of doing so via these bodies. It must be remembered that SAQA requires candidates to do short courses for registered qualifications from institutions of learning. It is assumed, given the engineering and technical jargon and implementation plans used in water as engineering discipline, that most councillors lack the understanding and comprehension for their applicability. The fact that 44% have post-matriculation qualifications may suggest that many WSA councillors may be somewhat uninformed about the kinds of water governance and developmental water services that are offered by SALGA, CoGTA, DWA and training providers. This will help councillors to have confidence to engage on hydro-political developments and initiatives. Councillors as hydro-political operators must understand that water distribution and allocation in South Africa has been biased towards the private sector. In 2010, the United Nations (UN) explicitly recognised the right to water and sanitation. For example, globally and nationally, personal and household water usage accounts for less than 10%, paid for by user fees, on one hand. On the other hand, private agriculture and industry usage accounts for most of the remaining 90% (Schulze 2012). Often poor municipalities like those of the Northern Cape, with their many water demands, limited resources and little capacity, are unable to monitor water quality and contractual obligations of providers. In this case, CBWE&T is an investment model to reduce structural challenges of water designs for delivery in accordance with IPAP, NGP, DWA NWRS and NDP beyond 2010 (read with Sections 46(4) (a) and 84(3) (b) of the Municipal Systems Act). (<http://www.wits.ac.za/files/res1d6124c660eb472ae7ff305301c604e.pdf>. Accessed. 17 September 2013).

### **6.3.3.2 Future water education and training needs of councillors**

As indicated before, municipalities operate in an environment of fluctuation and turbulence, where councillors are hydro-political operators and officials have limited powers in municipal governance and administration systems. For this reason, it is essential to appreciate and understand the need to train and develop hydro-political operators in the next ten years or more. The researcher thus asked respondents to indicate five areas in which they think their municipality will have the greatest education and training needs for bulk water infrastructure and water services during the next ten years (2012-2022). As it was a multiple-response question, some respondents gave more than one need. The information about the anticipated training needs is provided in Table 6.10.

In Table 6.10, it appears that councillors are more concerned about reporting to their constituencies, accounting, statistical values in terms of progress and needs to be addressed in future, and communication using modern IT systems. It appears from Table 6.10 that the need for understanding Figures 3.6 and 5.13, i.e., CAR should inform modern councillor training interventions. From Table 6.10, councillors will need to better able to account and better

communicate to citizens or voters using local government documents and reports in terms of municipal financial management procedures, and regulations.

**Table 6.10: Anticipated training needs by 2022**

Classification	Functionary areas	MMCs	PR	WC	Overall %	Rank
Local government documents/reports	Access to documents, government reports, and studies conducted by other municipalities. Examples include other local governments' budgets, master plans, job descriptions, position classifications, contracts, municipality charters, personnel handbooks, etc.	100,0% (6)	100,0% (10)	100,0% (18)	100,0% (34)	1
Accounting	Understanding of accounting and accounting procedures for municipal programmes and projects: Bookkeeping, fund accounting, analysis, interpretation of financial statements, cost accounting, selection procedures for attaining an automated accounting system.			5,6% (1)	2,9% (1)	2
Statistical/data analysis	Understanding statistical/data analysis for planning and decision-making: Use of statistics and quantitative analyses for communicating programme results and job performance in line with Department of Provincial and Local Government's key performance indicators (KPIs).	16,7% (1)	-	-	2,9% (1)	2
Computer literacy and ITC	Understanding of computer concepts, terminology, hardware, and software. Understanding of basic functions of microcomputers. Computer applications in data processing, word processing, office information systems, management information systems, data-based management systems			5,6%(1)	2,9% (1)	2

The respondents were further asked to give their agreement level on a number of items. The ratings used were:

- 1 = strongly agree (SA);
- 2 = agree (A);
- 3= unsure or don't feel strongly either way (U);

- 4= disagree (D); and
- 5= strongly disagree (SD).

The options “strongly agree” and “agree” were collapsed to give the agreement level. The information is given in Table 6.11. In Table 6.11, it appears that systematic and integrated planning for allocation of scarce municipal resources is key for councillors thereby able to proactively deal with public water demands and complaints. It is also significant in Table 6.11 to notice that all statements had agreement levels of over 55%. There were 11 statements with agreement levels of over 90%. However, the following aspects had agreement levels of over 95%:

- Education and training can empower councillors to allocate scarce resources in the most effective way in order to meet water services priorities of municipal customers including communities and customers (97%); and
- Councillors must address problems and complaints from their constituents (95,3%).

In terms of an additional three other priorities, the respondents indicated that an ideal councillor must:

- be a competent and innovative leader in his/her portfolio in line with Sections 27(1)(b), 26(1) and 24(a) of the South African Constitution (77%);
- seek to learn the public’s views about water services through relevant structures such as IDP Public participation and consultation processes, Ward Committees and Portfolio Committees (95%); and
- be a local representative (93,8%).

As part of democratic consolidation , and non-racialism, the above councillor leadership traits are in line with an earlier discussions that a LGDA councillor must be a trustee and matured judge as depicted in Figure 3.9. and Table 3.8 in Chapter 3. From these respondents, it appears that LGDA councillors are expected to be sensitive to the needs, wishes , expectations and demands of water users and hydropolitical stakeholders. He/she must be a local representative (93.8%) so that as he/she can take informed decisions for the best interests of communities and poor citizens as discussed in details paragraphs 3.6 and 3.7. in Chapter 3 respectively.

**Table 6.11: Agreement level**

<b>Statement</b>	<b>1 SA</b>	<b>2 A</b>	<b>3 U</b>	<b>4 D</b>	<b>5 SD</b>	<b>Respondents size</b>	<b>Rank</b>
Water Services Education and Training can assist councillors to be competent leaders and strategic managers in formulation of water services development plans and their implementation.	60,6% (40)	36,4% (24)	-	-	3,0% (2)	66	1
Education and Training can empower councillors to allocate scarce resources in the most effective way in order to meet water services priorities of municipal customers, including communities and customers.	59,1% (39)	37,9% (25)	-	-	3,0% (2)	66	1
Councillors must address problems and complaints from their constituents.	81,3% (52)	14,1% (9)	-	1,6% (1)	3,1% (2)	64	3
The municipality should seek to learn the public's views about water services through its relevant structures such as Ward Committees and Portfolio Committees.	68,2% (45)	25,8% (17)	1,5% (1)	-	4,5% (3)	66	4
The Council should prioritise water services as a basic service.	76,6% (49)	17,2% (11)	3,1% (2)	-	3,1% (2)	64	5
Ideally, the electors see a councillor as a local representative.	59,4% (38)	34,4% (22)	1,6% (1)	1,6% (1)	3,1% (2)	64	5
Executive Council should reinforce support for the importance of water services education and training for councillors.	65,1% (41)	28,6% (18)	1,6% (1)	-	4,8% (3)	63	7
Executive Council should take into account community needs when making decisions around water services.	62,1% (41)	30,3% (20)	1,5% (1)	1,5% (1)	4,5% (3)	66	8
In taking decisions, councillors must take into account the expressed needs of electors, ward interests and party's views on water services in the	63,1% (41)	2,2% (19)	-	1,5% (1)	6,2% (4)	65	9

Statement	1 SA	2 A	3 U	4 D	5 SD	Respondents size	Rank
municipality's area of jurisdiction.							
The role of community participation in water services development plans (WSDPs) and integrated development plans (IDPs) is important for sustainability of water services and operation and maintenance of waterworks.	63,1% (41)	27,7% (18)	3,1% (2)	3,1% (2)	3,01% (2)	65	10
All councillors should be able to evaluate water services, water services development plans and community needs.	67,2% (43)	23,4% (15)	6,3% (4)	-	3,1% (2)	64	11
Ideally, councillors should be educated to deal with electors' needs in a professional manner.	70,8% (46)	18,5% (12)	6,2% (4)	-	4,6% (3)	65	12
The Executive Council should ensure water services education and training of councillors through its council resolutions.	43,9% (29)	43,9% (29)	9,1% (6)	-	3,0% (2)	66	13
Councillors should actively participate in water services delivery mechanisms and endeavour to meet water services demands from customers.	64,1% (41)	21,9% (14)	9,4% (6)	-	4,7% (3)	64	14
A water services manager must be appointed by the municipality to drive the municipality's water services development plans (WSDPs) and integrated development plans (IDPs).	60,0% (39)	24,6% (16)	6,2% (4)	1,5% (1)	7,7% (5)	65	15
Public-private partnerships (PPPs) and contracts between the municipalities and public-private partners require technical, financial, legal and managerial skills on the part of councillors.	52,4% (33)	31,7% (20)	9,5% (6)	3,2% (2)	3,2% (2)	63	16
Councillors must put party views above the interest of electors when making	56,9% (37)	13,8% (9)	7,7% (5)	9,2% (6)	12,3% (8)		17

Statement	1 SA	2 A	3 U	4 D	5 SD	Respondents size	Rank
decisions about water services.						65	
Any candidate nominated by a political party may serve in a municipality even if he/she does not represent any ward.	46,2% (30)	24,6% (16)	7,7% (5)	10,8% (7)	10,8% (7)	65	17
Party politics is a better way of running council/municipal affairs such as water services.	41,5% (27)	15,4% (10)	10,8% (7)	7,7% (5)	24,6% (16)	65	19
It is important for councillors to carry out party programmes in delivering water services rather than the interests of the people or inhabitants in a municipality.	40,0% (26)	15,4% (10)	6,2% (4)	12,3% (8)	26,2% (17)	65	20

Table 6.12 below indicates the scale that was used to measure statistical significance of agreements between the three types of councillors, while the average ratings that were obtained are provided in Table 6.13.

**Table 6.12: Scale used for measuring statistical significance of agreements**

Mean range	Option
1.00–1.49	Strongly agree
1.50–2.49	Agree
2.50–3.49	Unsure
3.50–4.49	Disagree
4.50–5.00	Strongly disagree



**Table 6.13: Mean ratings agreement level by type of councillor**

<b>Question on Water Governance and Developmental Water Services competencies and skills</b>	<b>MMCs</b>	<b>PR</b>	<b>WC</b>	<b>Overall Rank</b>	<b>Rank</b>
Councillors must address problems and complaints from their constituents.	1.14	1.33	1.33	1.31	1
The council should prioritise water services as a basic service.	1.14	1.57	1.28	1.36	2
The municipality should seek to learn the public's views about water services through its relevant structures such as Ward Committees and Portfolio Committees.	1.43	1.67	1.37	1.47	3
Water services education and training can assist councillors to be competent leaders and strategic managers in formulation of water services development plans and their implementation.	1.14	1.71	1.42	1.48	4
All councillors should be able to evaluate water services, water services development plans and community needs.	1.43	1.43	1.53	1.48	5
Ideally, councillors should be educated to deal with electors' needs in a professional manner.	1.29	1.71	1.41	1.49	6
Education and training can empower councillors to allocate scarce resources in the most effective way in order to meet water services priorities of municipal customers, including communities and customers.	1.29	1.81	1.37	1.50	7
Executive Council should reinforce support for the importance of water services education and training for councillors.	1.43	1.48	1.54	1.51	8
The role of community participation in water services development plans (WSDPs) and integrated development plans (IDPs) is important for sustainability of water services, and operation and maintenance of waterworks.	1.57	1.38	1.65	1.55	9
Ideally, the electors see a councillor as a local representative.	1.29	1.76	1.47	1.55	9
Executive Council should take into account community needs when making decisions around water services.	1.43	1.86	1.42	1.56	11
Councillors must take into account the expressed needs of electors, ward interests and party's views on water services in the municipality's area of jurisdiction in taking decisions.	1.43	1.57	1.62	1.58	12
Councillors should actively participate in water services delivery mechanisms and endeavour to meet water services demands from customers.	1.29	1.79	1.55	1.59	13
A water services manager must be appointed in the municipality to drive the municipality's water services development plans (WSDPs) and integrated development plans (IDPs).	1.86	2.10	1.49	1.72	14
Public-private partnerships (PPPs) and contracts between the municipalities and public-private partners require technical, financial, legal and managerial skills on the part of councillors.	1.14	1.90	1.74	1.73	15

<b>Question on Water Governance and Developmental Water Services competencies and skills</b>	<b>MMCs</b>	<b>PR</b>	<b>WC</b>	<b>Overall Rank</b>	<b>Rank</b>
The Executive Council should ensure water services education and training of councillors through its council resolutions.	1.86	2.05	1.55	1.74	16
Councillors must put party's views above the interest of electors when making decisions about water services.	2.29	1.86	2.14	2.06	17
Any candidate nominated by a political party may serve in a municipality even if he/she does not represent any ward.	1.43	1.95	2.41	2.15	18
Party politics is a better way of running council/ municipal affairs such as water services.	2.86	2.33	2.68	2.58	19
It is important for councillors to carry out party programmes in delivering water services rather than the interests of the people or inhabitants in a municipality.	2.86	2.33	2.86	2.69	20

### **6.3.4 Inferential statistics on current and future needs of councillors**

#### **6.3.4.1 Chi-square tests and Fisher's exact test using independent variables**

The statistic the most commonly used to establish whether observed results in a cross-tabulation represent the true population values is the chi-square tests for independence or association (Mouton, 1996:166) The chi-square test is a measure of discrepancy between the expected and observed frequencies. The chi-square tests for independence or association were used to determine whether two categorical variables are related. Use of a chi-square test is inappropriate if the expected frequency is less than five in more than 20% of the cells. Therefore, most statisticians warn against using the test when any of the expected values is less than five. This warning implies that the use of the chi-square test is restricted to large samples. However, when small samples are involved, the difficulty can be overcome by using Fisher's exact test. In this case, only valid chi-squares will be presented and, where they are not valid, Fisher's exact test will be used. Most of the cases where the chi-squares were invalid were cases where the majority of the respondents gave the same view, which resulted in some cells having no frequencies. Thus, the researcher goes on to determine whether the pattern resulted in difference in opinion among groups.

A chi-square test was done to determine whether the views of respondents differed by category of councillor, gender and post-matric qualification. The main question to be answered was:

Do opinions of respondents on aspects of water service education and training needs of councillors differ by category of councillor, gender and post-matric qualification?

The category of councillors had three variables executive/mayoral committee councillors, PR councillors and ward councillors. The gender variable had two categories, namely males and females, while the post-matric qualification variable also had two categories: yes and no.

The test was done at the 5% level of significance.

The hypothesis to be tested was:

- H0: The variables are independent (no association);
- H1: The variables are not independent (there is an association).

The null hypothesis was rejected if the p-value was less than 0.05. This meant that there was an association between the variables concerned.

### **6.3.4.2 Results and discussion**

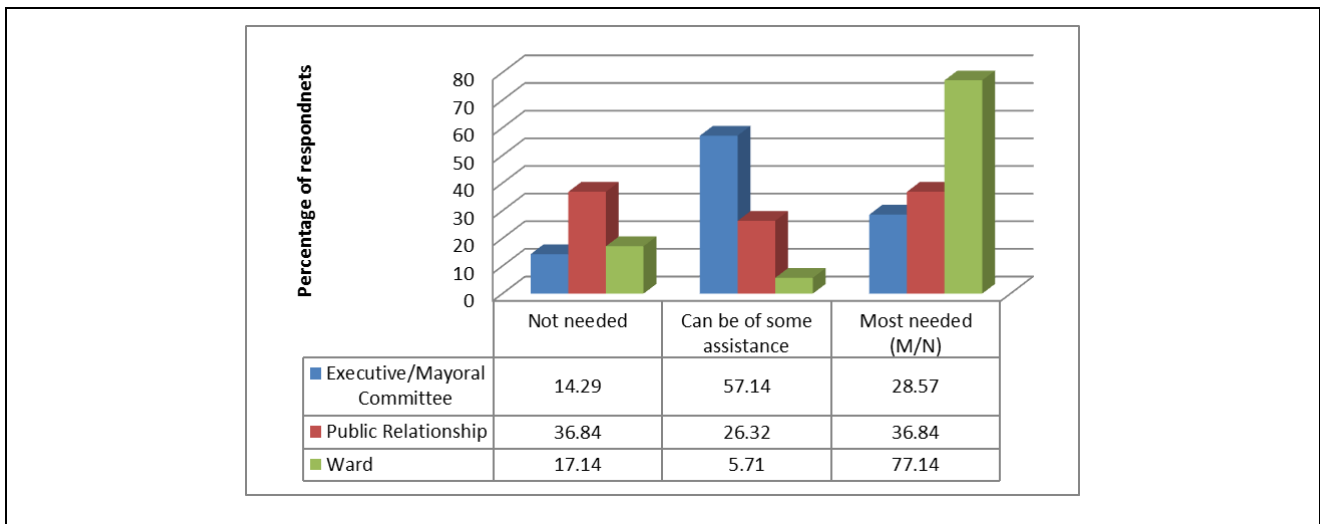
#### **6.3.4.2 (i) Results and discussion chi-square Tests**

In order to determine whether councillors differ in terms of courses or education and training modules or courses they need in order to perform their duties adequately, a chi-square test was performed. The information is shown in Table 6.14.

**Table 6.14: Chi-square test on ranking of training needs by category of councillor**

Item	Chi-square test		Fisher's exact test	
	Value	p-value	Value	p-value
Water Resource Management and Water Services Programme Evaluation and Needs Assessment	4.454a	0.348	4.375	0.339
Budgeting of Water Services and Water Resource Management	16.578a	0.002	15.130**	0.002

Table 6.14 indicates that the null hypothesis of no association was not rejected in all the aspects, except in Budgeting of Water Services and Water Resource Management. There was an association between category of councillor and the need to have a course on the item above with a p-value of 0.002, which is highly significant. The multiple bar chart is given in Figure 6.7.



**Figure 6.7: Multiple bar chart showing the need to train in Budgeting of Water Services and Water Resource Management**

It can be observed that ward councillors are mostly in need of training in Budgeting of Water Services and Water Resource Management, while the majority of executive/mayoral committee councillors think that such training can be of some assistance.

In order to determine whether gender affected responses with regard to courses or education and training modules needed in order to perform duties adequately, a chi-square test was performed. The information is shown in Table 6.15.

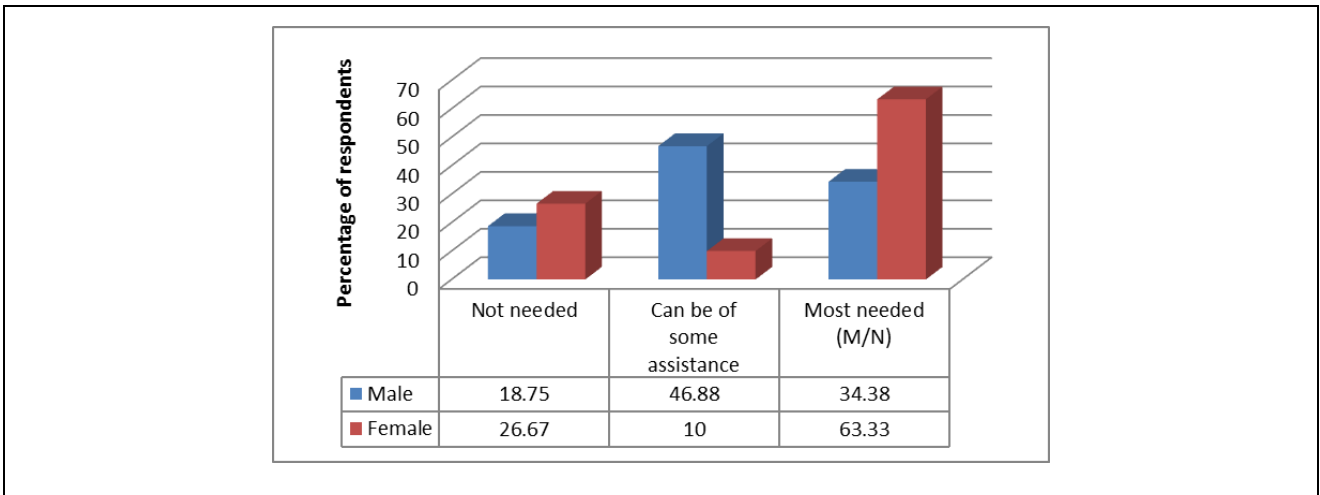
**Table 6.15: Chi-square test on ranking of training needs by gender**

Item	Chi-square test		Fisher's exact test	
	Value	p-value	Value	p-value
Local Government Data Bank	10.365**	0.006	10.540	0.005
Maintenance Functions	8.367*	0.015	8.308	0.015
Working with Appointed Officials	8.132*	0.017	8.031	0.019

Note: A chi-square value is invalid and the statistical significance of the values is \*\* for  $p < 0.01$  and \* for  $p < 0.05$ .

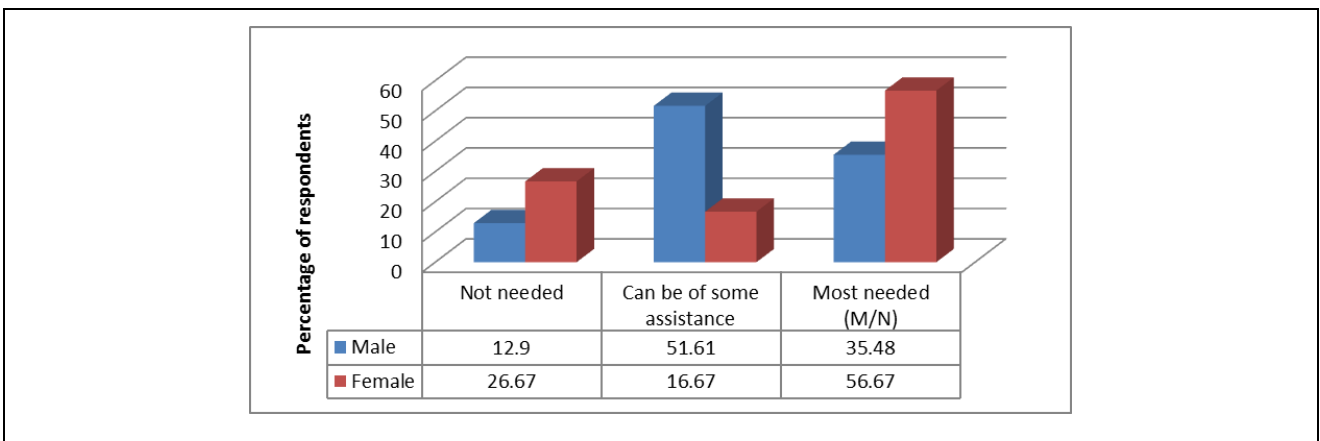
The null hypothesis of no association was not rejected in all the aspects except in Local Government Data Bank, Maintenance Functions, and Working with Appointed Officials. The contingency tables are given in Figures 6.8 and Table 6.16 onwards.

The level of need for the module Local Government Data Bank differs by gender. The p-value is 0.006, which is highly significant. The multiple bar chart is given in Figure 6.8.



**Figure 6.8: The need to train in Local Government Data Bank by gender**

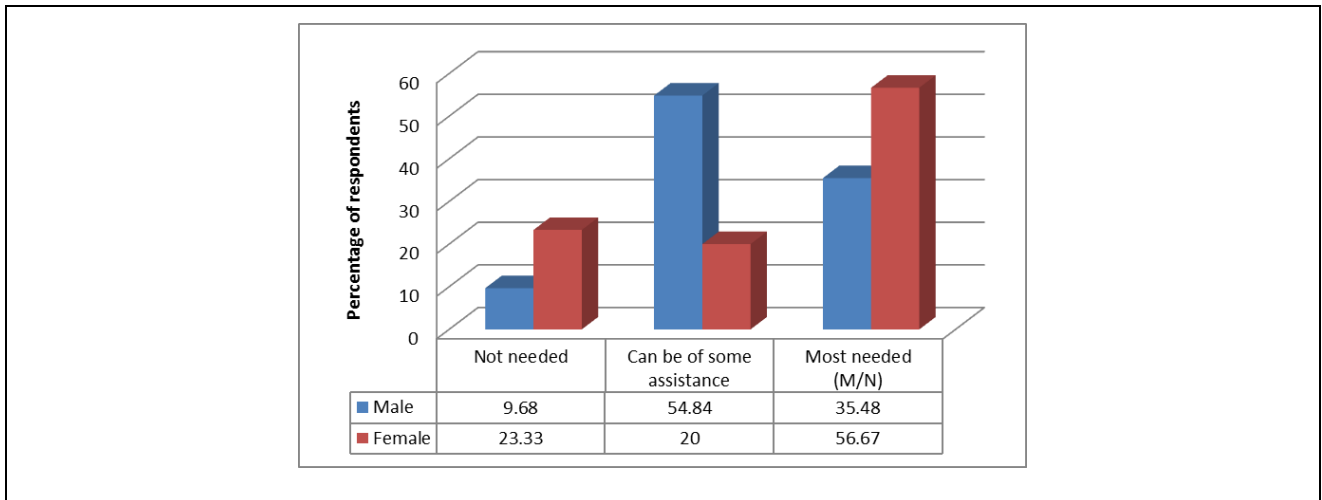
Females feel that they are in need of a course in Local Government Data Bank, while males think that it can be of some assistance. The level of need for the module Maintenance Functions differs by gender. The p-value is 0.015, which is significant. The multiple bar chart is given in Figure 6.9.



**Figure 6.9: The need to train in Maintenance Functions by gender**

The majority of males thought that the module Maintenance Functions can be of some assistance, while the females indicated that they mostly need training in the module.

There is a relationship between gender and the need for training in the module Working with Appointed Officials. The multiple bar chart is shown in Figure 6.10.



**Figure 6.10: The need to train in Working with Appointed Officials by gender**

Females are mostly in need of training in the module Working with Appointed Officials, while males indicated that it can be of some assistance.

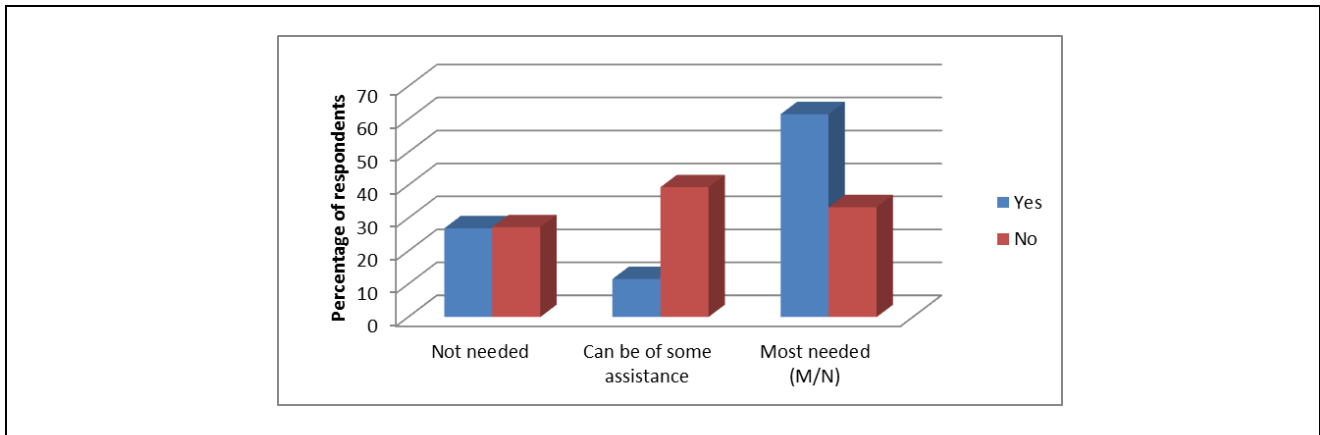
In order to determine whether a post-matric qualification had a relationship to courses or education and training modules needed in order to perform duties adequately, a chi-square test was obtained. The information is shown in Table 6.16.

**Table 6.16: Chi-square test on ranking of training needs by post-matric qualification**

Item	Chi-square test		Fisher's exact test	
	Value	p-value	Value	p-value
Employee Benefits	6.690*	0.035	6.685	0.034

Note: A chi-square value is invalid and the statistical significance of the values is \*\* for  $p < 0.01$  and \* for  $p < 0.05$ .

The null hypothesis of no association was not rejected in all the aspects except in Employee Benefits. The level of need for training in the module Employee Benefits differed by post-matric qualification. The p-value is 0.035, which is significant. The multiple bar chart is given in Figure 6.11.



**Figure 6.11: Multiple bar chart showing the need to train in Employee Benefits by post-matric qualification**

#### **6.3.4.2 (ii) Results and discussion Mann-Whitney U Tests**

Although the findings are relatively fair, it must be considered that the study is not only about finding current and future training needs of councillors in water governance and leadership, but also about usefulness of social sciences in determining training needs analysis (TNA). For this further consideration, the Mann–Whitney U test (also called the Mann–Whitney–Wilcoxon (MWW), Wilcoxon rank-sum test, or Wilcoxon–Mann–Whitney test) was performed (Mann & Whitney, 1947). Although it is relatively poorly documented, the Mann–Whitney U test is a non-parametric test of the null hypothesis that two populations are the same against an alternative hypothesis especially that a particular population tends to have larger values than the other. It has already been established by academic researchers such as Hettmansperger and McKean (1998), and Hodges and Lehmann (1963) have stressed the greater efficiency of the Mann–Whitney U test over the t-test on non-normal distributions, such as a mixture of normal distributions, and it is nearly as efficient as the t-test on normal distributions.

From the interview by Kidd (2012), the Mann–Whitney U tests were done to compare whether the groups were independent, or not related. A Mann–Whitney U test is the non-parametric equivalent of Student's t-test. It is equivalent to the Kruskal-Wallis test when the independent variable consists of two categories. It was used to determine whether differences exist between aspects by gender and post-matric qualification. Thus, the variables that were used to determine whether the difference existed were:

- Gender of respondent
- Post-matric qualification of respondent

A Mann–Whitney U test is only appropriate where the following four assumptions are met:

**Assumption 1:** The dependent variable should be measured on an ordinal scale (like Likert scales) or interval/ratio level. In this case, all the dependent variables were measured on the ordinal scale. The variables are:

- Duties councillors are normally involved in (using the Likert scale: never, seldom, regularly, and daily)
- Level of agreement on water service issues (using the Likert scale: strongly agree, agree, unsure, disagree, and strongly disagree)

**Assumption 2:** The independent variable should consist of two categorical, independent groups. In this case, these are:

- Gender of respondent (categories: male or female)
- Post-matric qualification (categories: yes or no)

**Assumption 3:** The observations should be independent; that is, there is no relationship between the observations in each group or between groups themselves.

**Assumption 4:** It is applicable when the two variables are not normally distributed. For a Mann–Whitney U test to provide a valid result, the distribution of scores for both categories of the independent variable must have the same shape (i.e. both distributions must be the same shape).

The null hypothesis in this or any comparable situation involving two independent samples of ranked data is that:

- $H_0$ : The samples come from identical populations (i.e. they have the same median); and
- $H_1$ : The samples come from different populations.

The tests were done at the 5% level of significance.

In all the statements, the null hypothesis was not rejected, as indicated in 0.



**Table 6.17: Gender of councillor and levels of agreement on statements on water service education and training needs**

Statement	Mann–Whitney U test		Decision
	Value	P-value	
All councillors should be able to evaluate water services, water services development plans and community needs.	397.00	0.046	Reject the null hypothesis
Party politics is a better way of running council/ municipal affairs such as water services.	350.50	0.010	Reject the null hypothesis
It is important for councillors to carry out party programmes in delivering water services rather than the interests of the people or inhabitants in a municipality.	370.50	0.021	Reject the null hypothesis

Likewise, for the aspect “All councillors should be able to evaluate water services, water services development plans and community needs”, males had a higher mean rank than females. This means that males gave higher rankings as indicated in Figure 6.12.

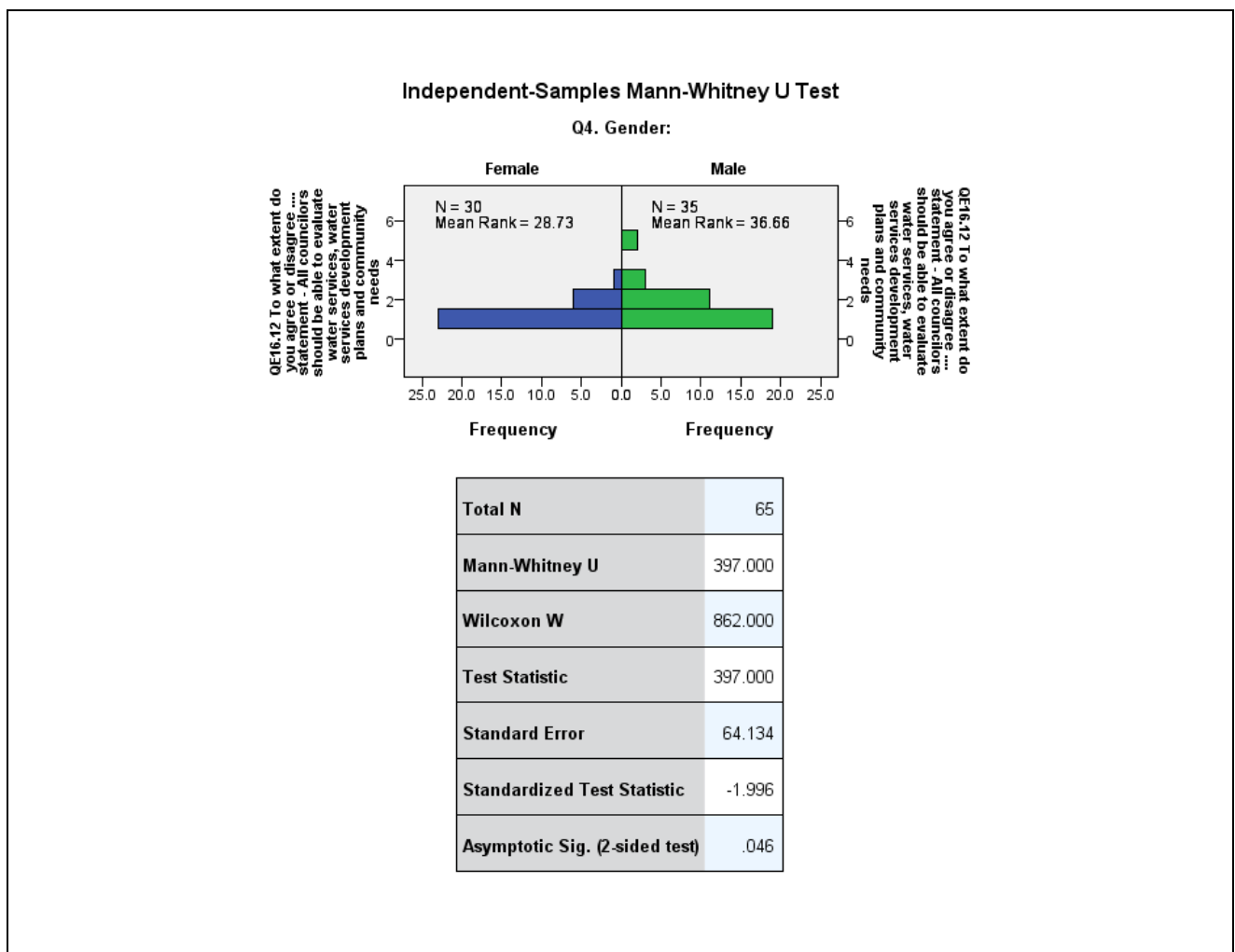
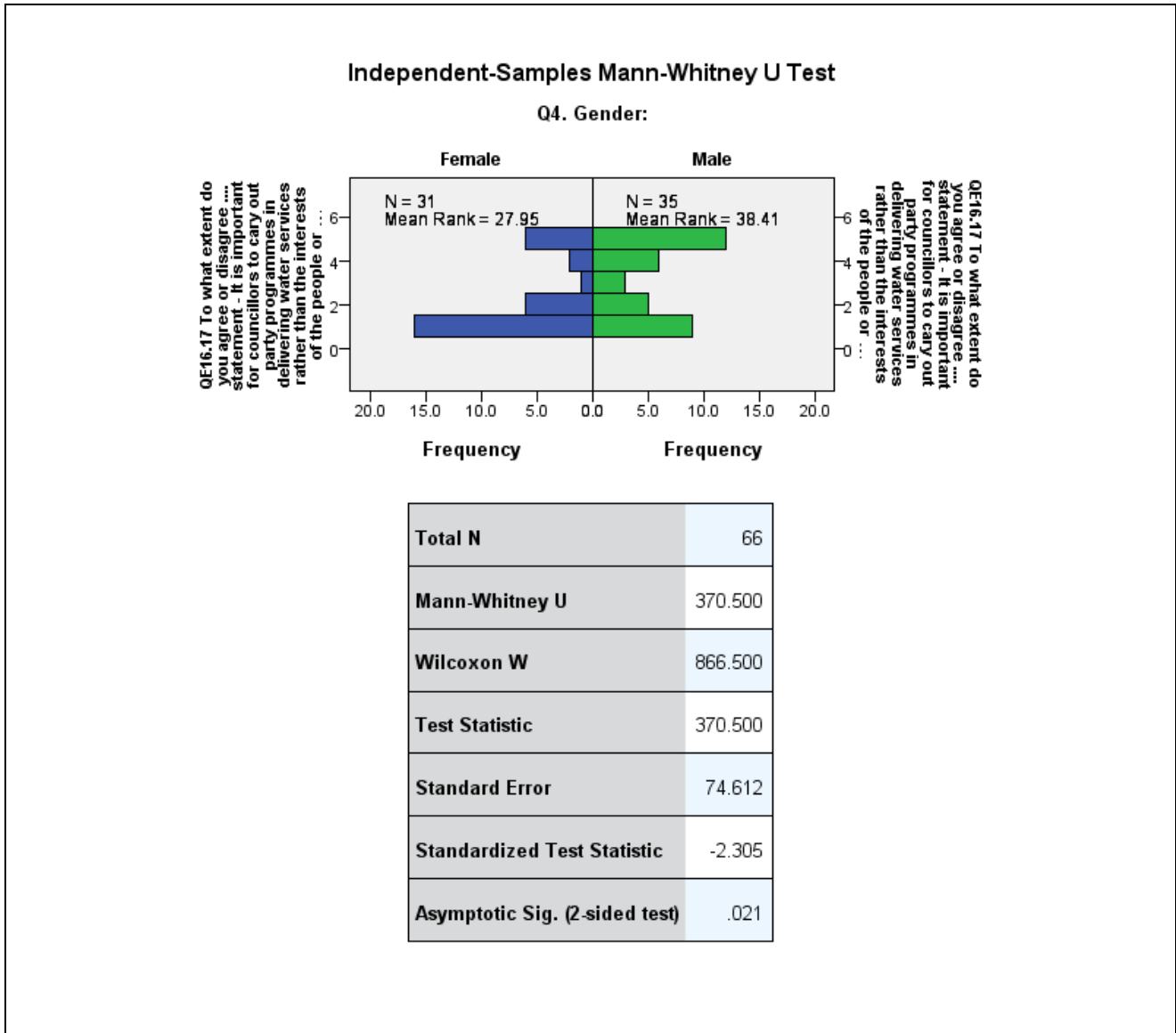


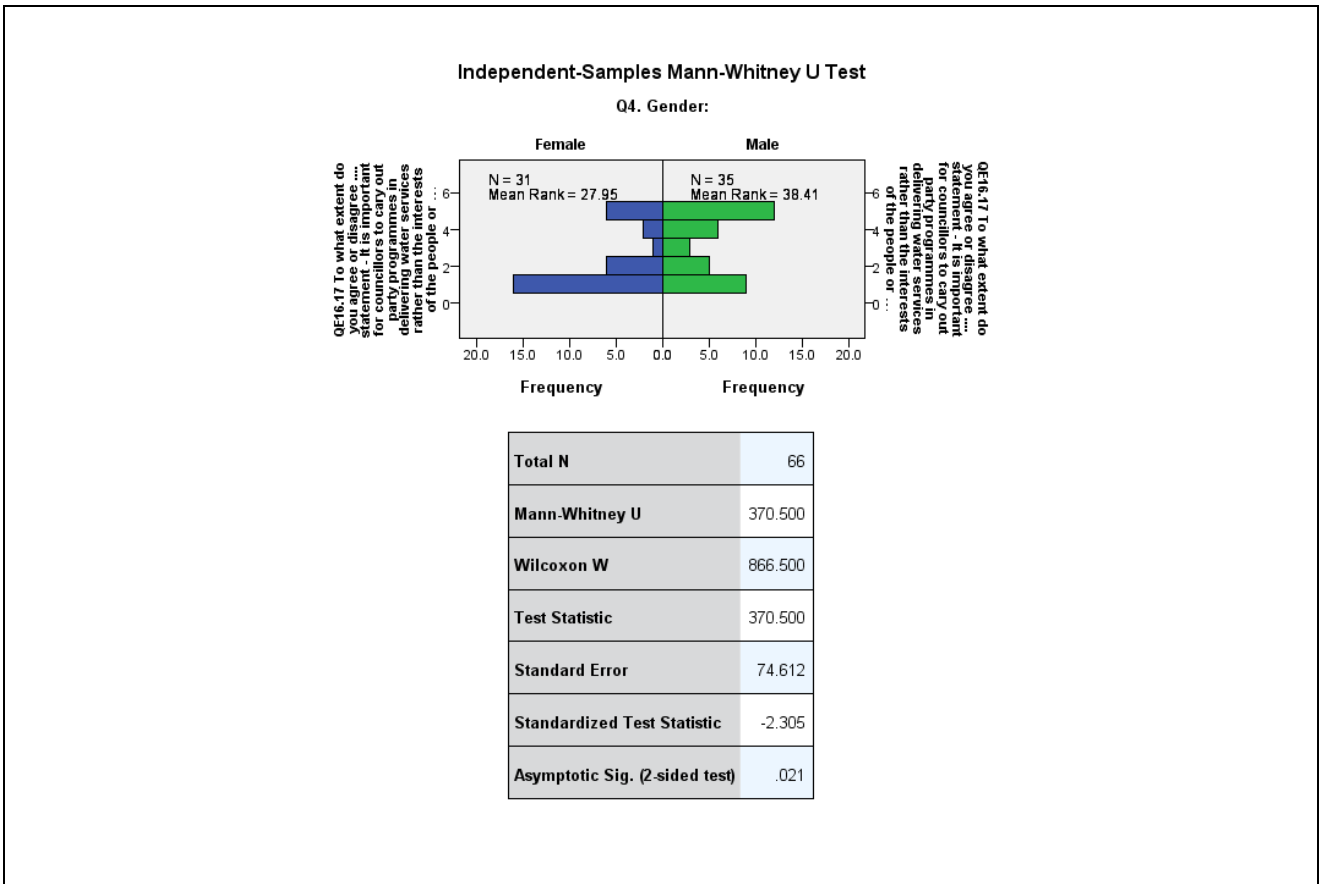
Figure 6.12: Gender and the aspect “All councillors should be able to evaluate water services, water services development plans and community needs”

The males disagreed more with the aspect “Party politics is a better way of running council/ municipal affairs such as water services” than females. Thus, the mean rank of males was higher than that of females. Figure 6.13 shows that the mean rank of males was more on the disagreement side (option 4 and 5) than that of the females.



**Figure 6.13: Gender and the aspect “Party politics is a better way of running council/ municipal affairs such as water services”**

Males disagreed to a greater extent than females with the aspect “It is important for councillors to carry out party programmes in delivering water services rather than the interests of the people or inhabitants in a municipality”. More females were in agreement with the statement than males. Figure 6.14 shows the results.



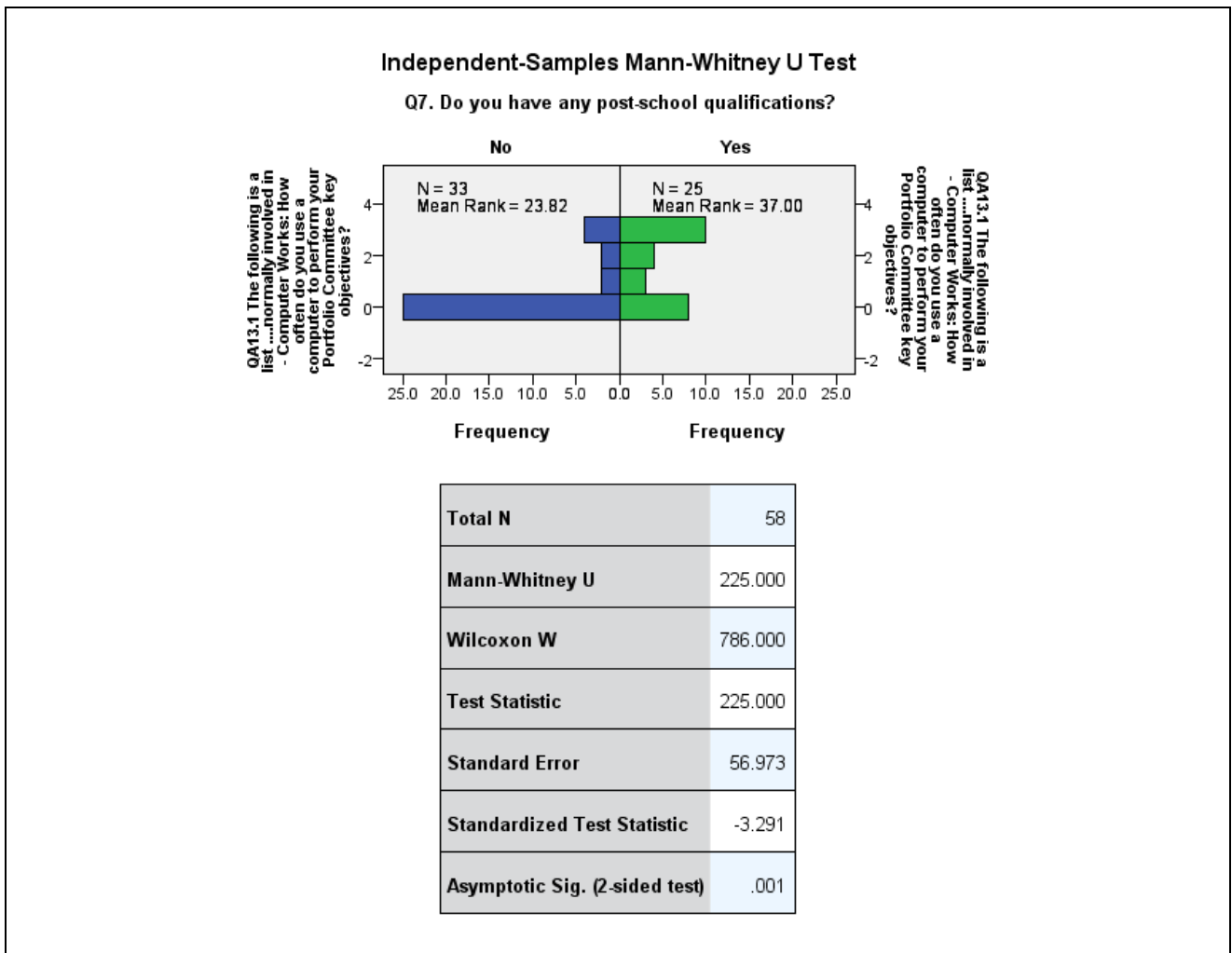
**Figure 6.14: Gender and the aspect “It is important for councillors to carry out party programmes in delivering water services rather than the interests of the people or inhabitants in a municipality”**

The councillors differed in certain aspects, as indicated in Table 6.18.

**Table 6.18: Post-matric qualification of a councillor and how often a councillor performs certain functions**

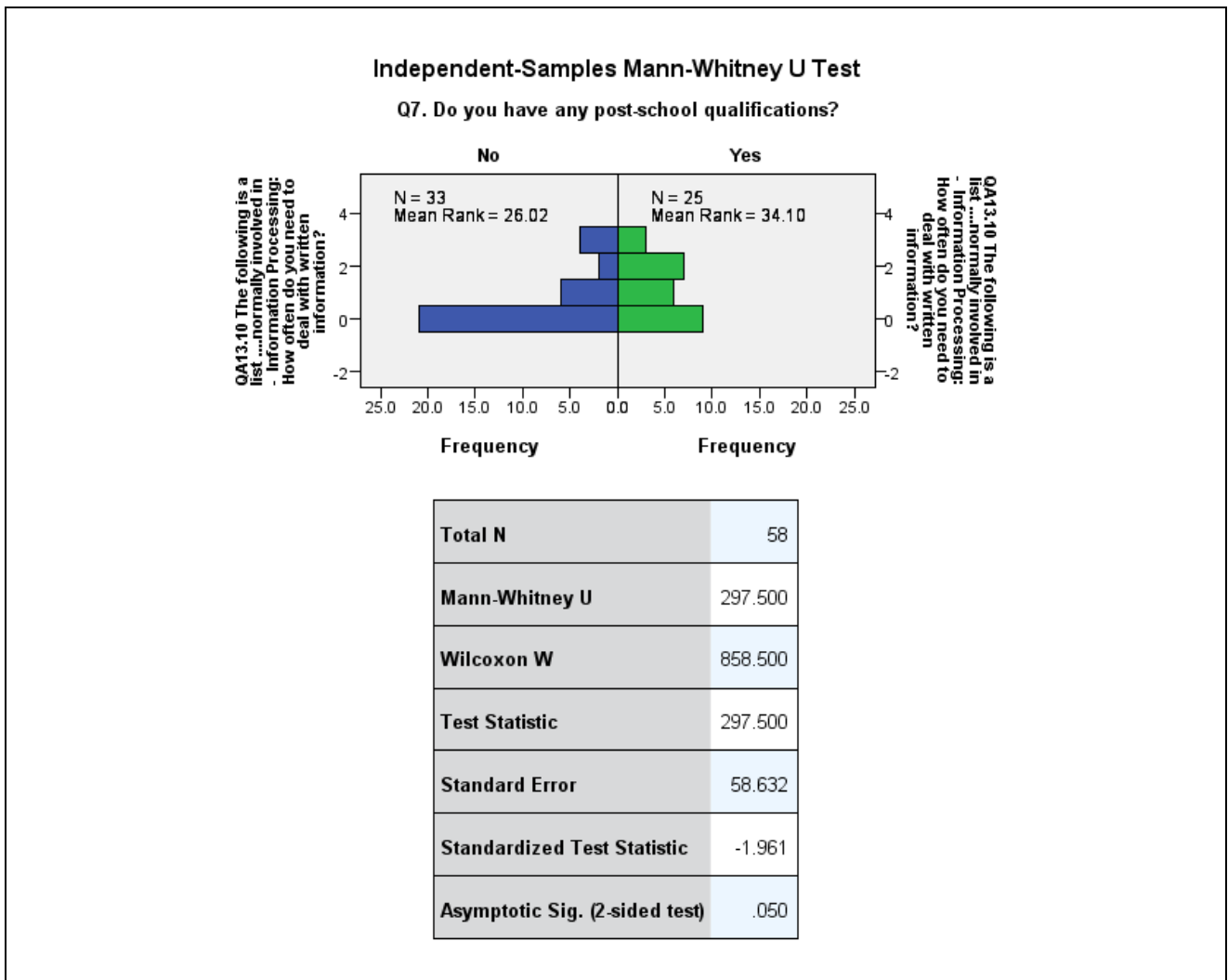
Functions	Mann–Whitney U		Decision
	Value	P-value	
Computer work	225.00	0.001	Reject the null hypothesis
Information processing	297.50	0.050	Reject the null hypothesis
Legal issues on water resources management and water services	270.00	0.023	Reject the null hypothesis
Problem-solving in waterworks	210.00	0.004	Reject the null hypothesis
Project implementation	215.00	0.001	Reject the null hypothesis
Operation and maintenance (O&M) of water services and water infrastructure	273.00	0.027	Reject the null hypothesis
Sustainability and cost recovery	254.00	0.046	Reject the null hypothesis
Community programme or project control	265.00	0.028	Reject the null hypothesis
Interactive skills (interacting with fellow councillors, customers, other departments, etc.)	238.00	0.006	Reject the null hypothesis

In Table 6.19, it is significant that when it comes to the aspect of “computer work”, the null hypothesis of identical populations was rejected with a p-value of 0.001. This was highly significant. It showed that those without a post-matriculation qualification indicated that they never do computer work, as shown in Figure 6.15.



**Figure 6.15: Post-matric qualification and the aspect of computer work**

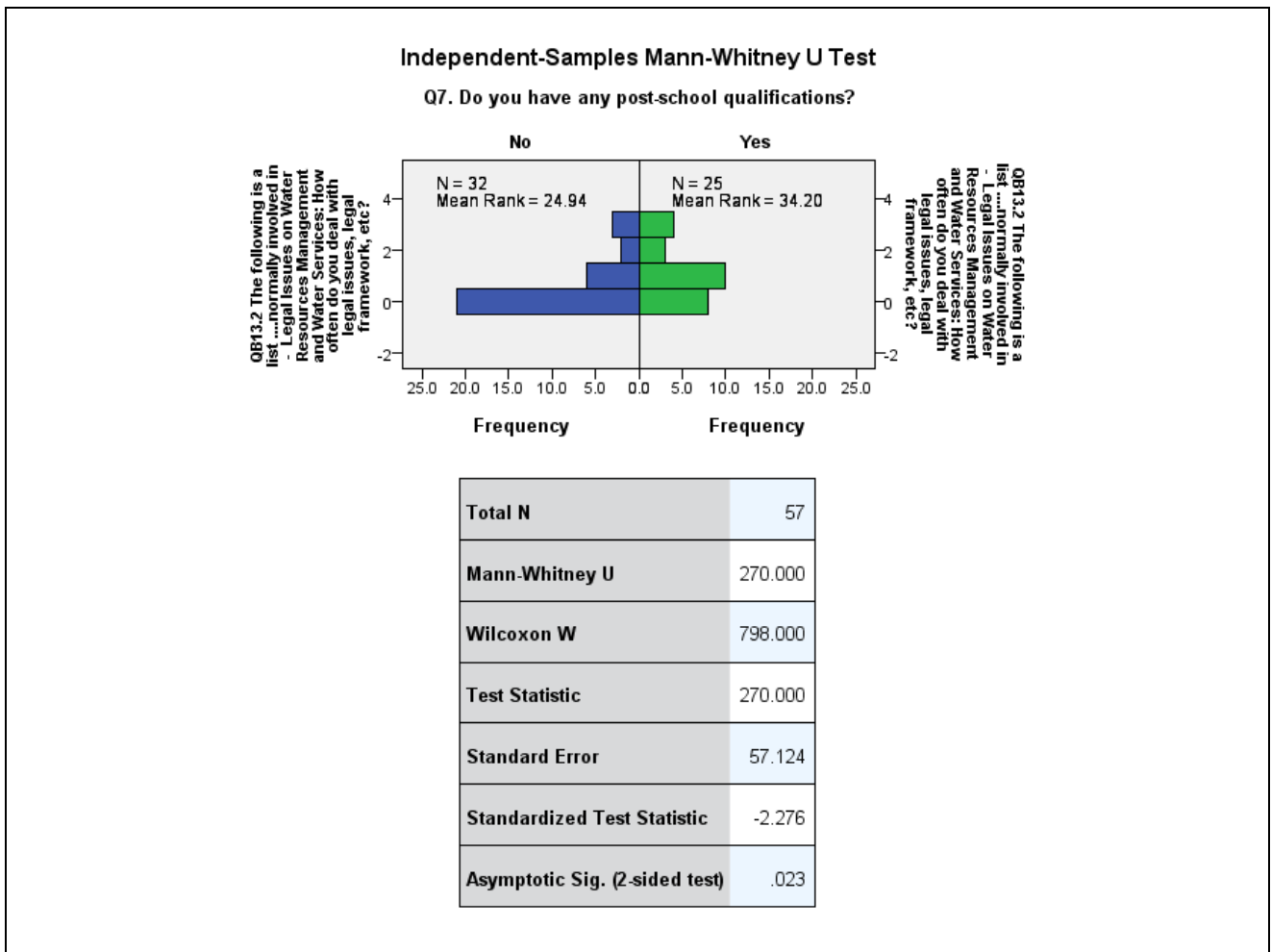
One can conclude that those without post-matriculation qualifications never or seldom used computers. For the aspect of “information processing” the p-value was 0.05, as indicated in Figure 6.16.



**Figure 6.16: Post-matric qualification and the aspect of information processing**

Those without post-matric qualifications never or seldom do information processing as a duty. Looking at the histogram in Figure 6.16, one can see that the most of those respondents indicated that they never process information.

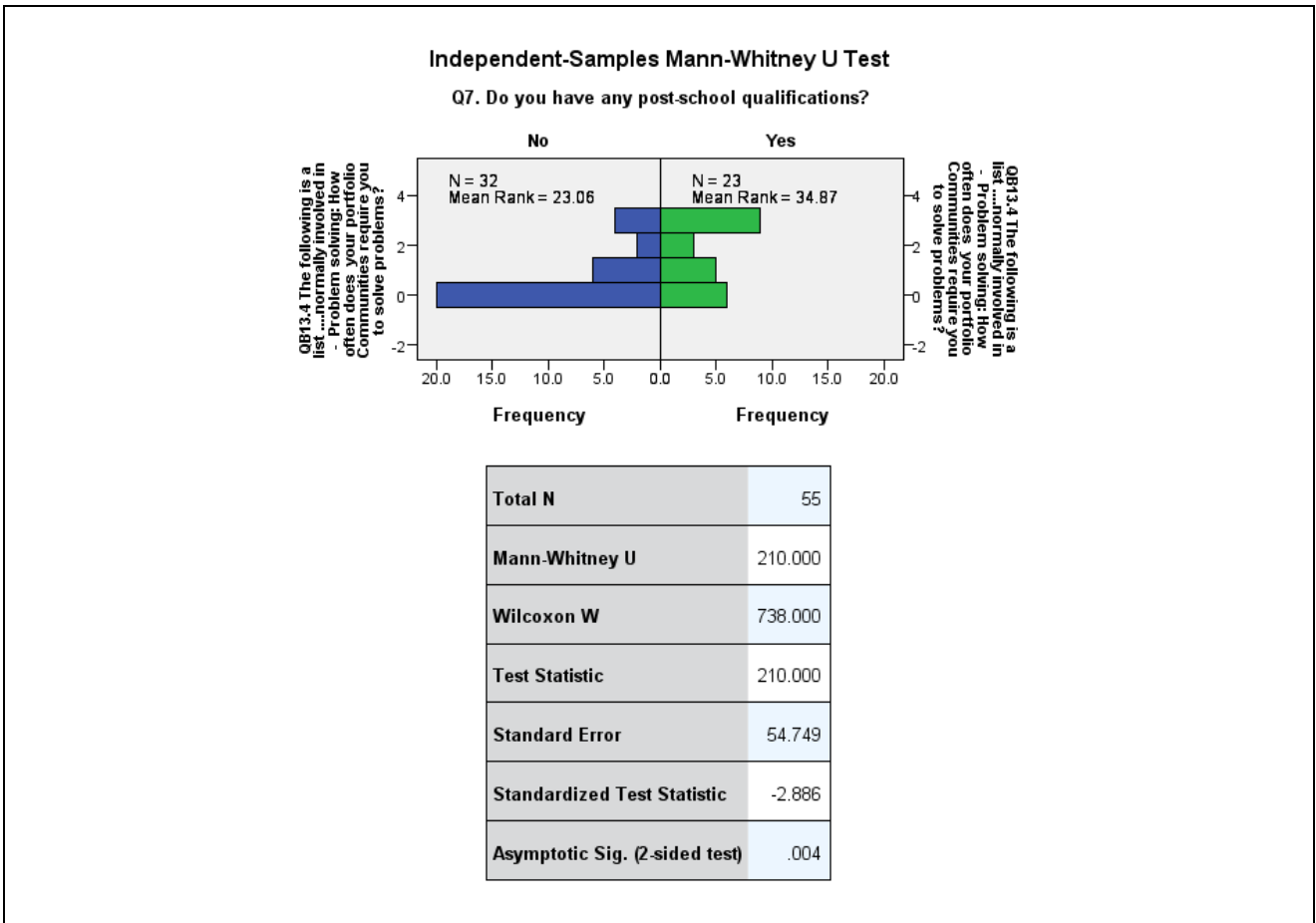
In the case of the aspect “legal issues on water resources management and water services”, the null hypothesis of identical populations was not rejected. The p-value was 0.023, as shown in Figure 6.17.



**Figure 6.17: Post-matric qualification and the aspect of legal issues on water resources management and water services**

The majority of those without post-matric qualifications do not perform functions related to legal issues on water resources management and water services as one of their duties.

The null hypothesis of identical medians was rejected on the aspect of “problem-solving in waterworks”. The p-value was 0.004, which was highly significant, as depicted in Figure 6.18.

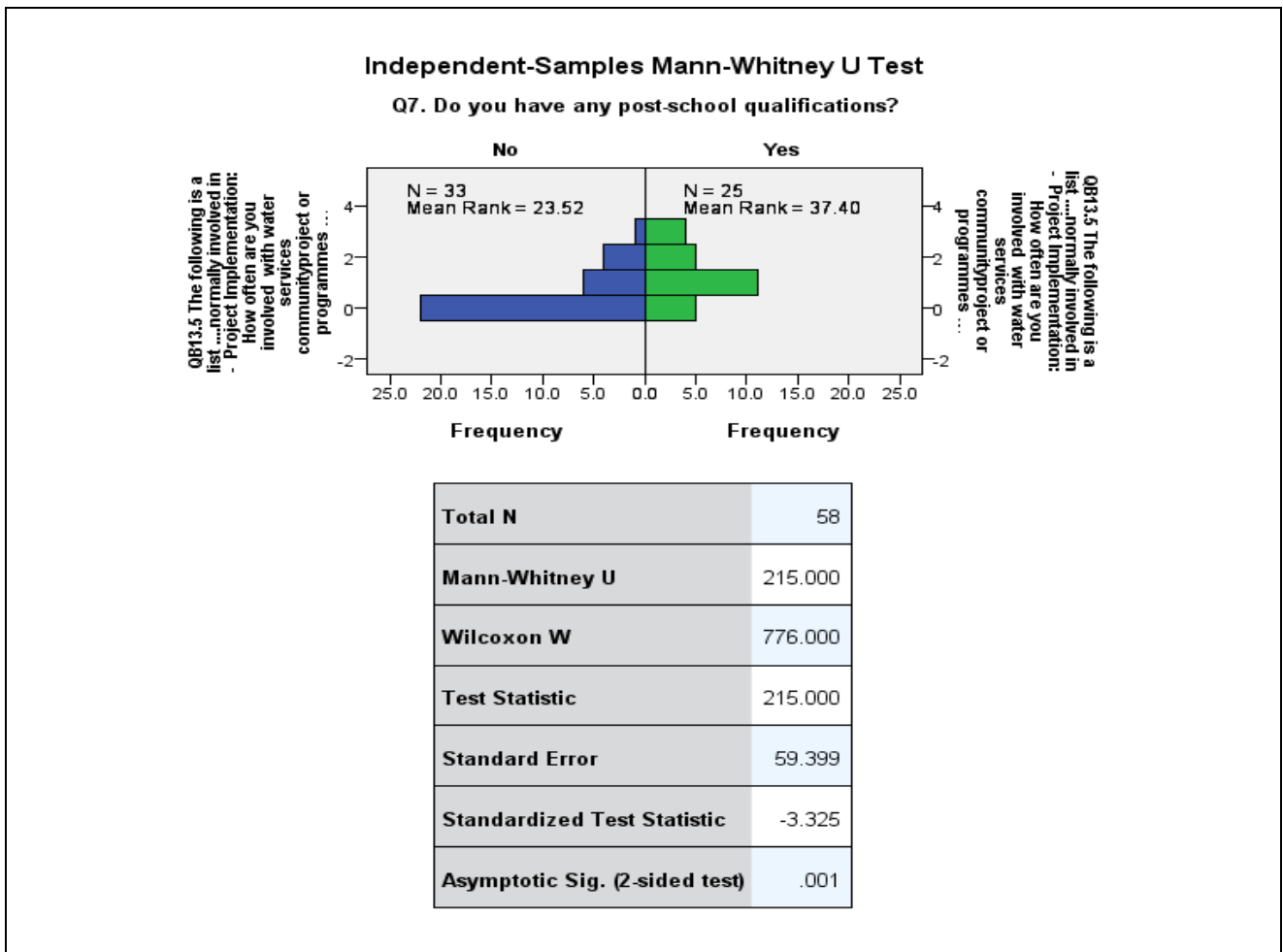


**Figure 6.18: Post-matric qualification and the aspect of problem solving in waterworks**

The same pattern as was depicted on the other aspects was observed. The majority of those without a post-matric qualification never do problem solving in their portfolio committee.

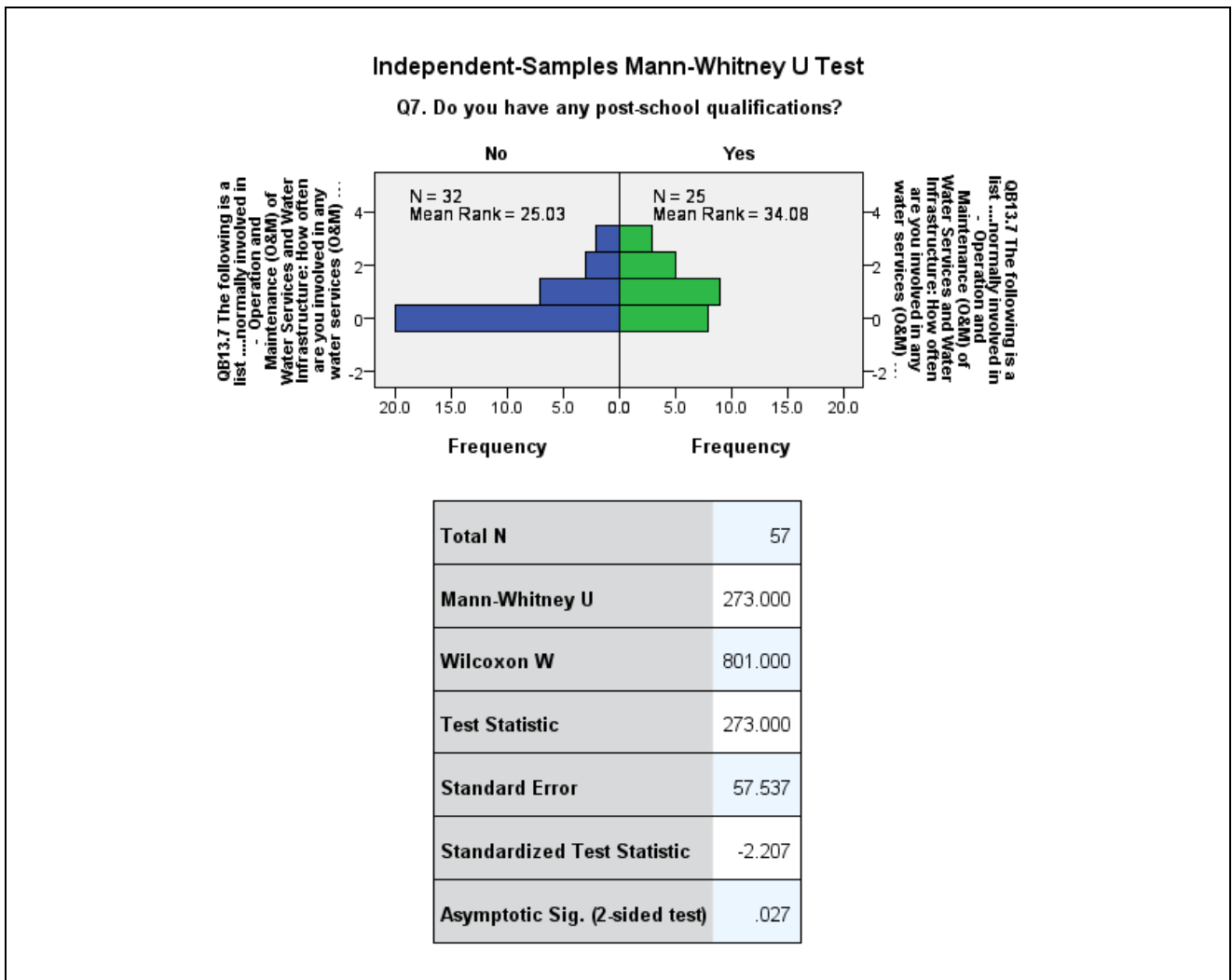
For the aspect of “project implementation”, the p-value was 0.001, which is highly significant. The majority of those without a post-matric qualification never do project implementation, as indicated in Figure 6.19.





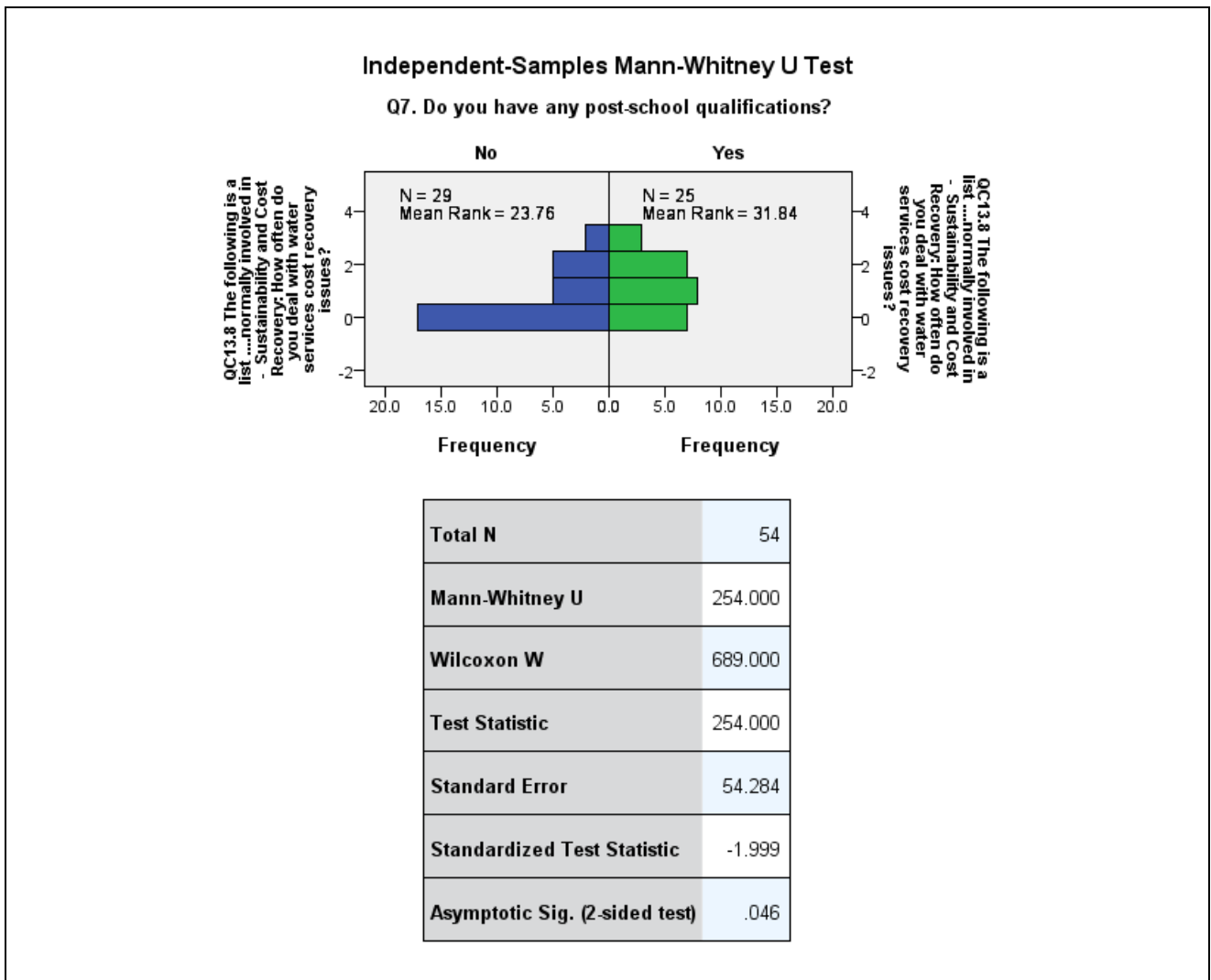
**Figure 6.19: Post-matric qualification and the aspect of project implementation**

The post-matric qualification had an effect on how often a councillor carried out a duty with regard to the aspect of “operation and maintenance (O&M) of water services and water infrastructure”, as depicted in Figure 6.20.



**Figure 6.20: Post-matric qualification and the aspect of operation and maintenance (O&M) of water services and water infrastructure**

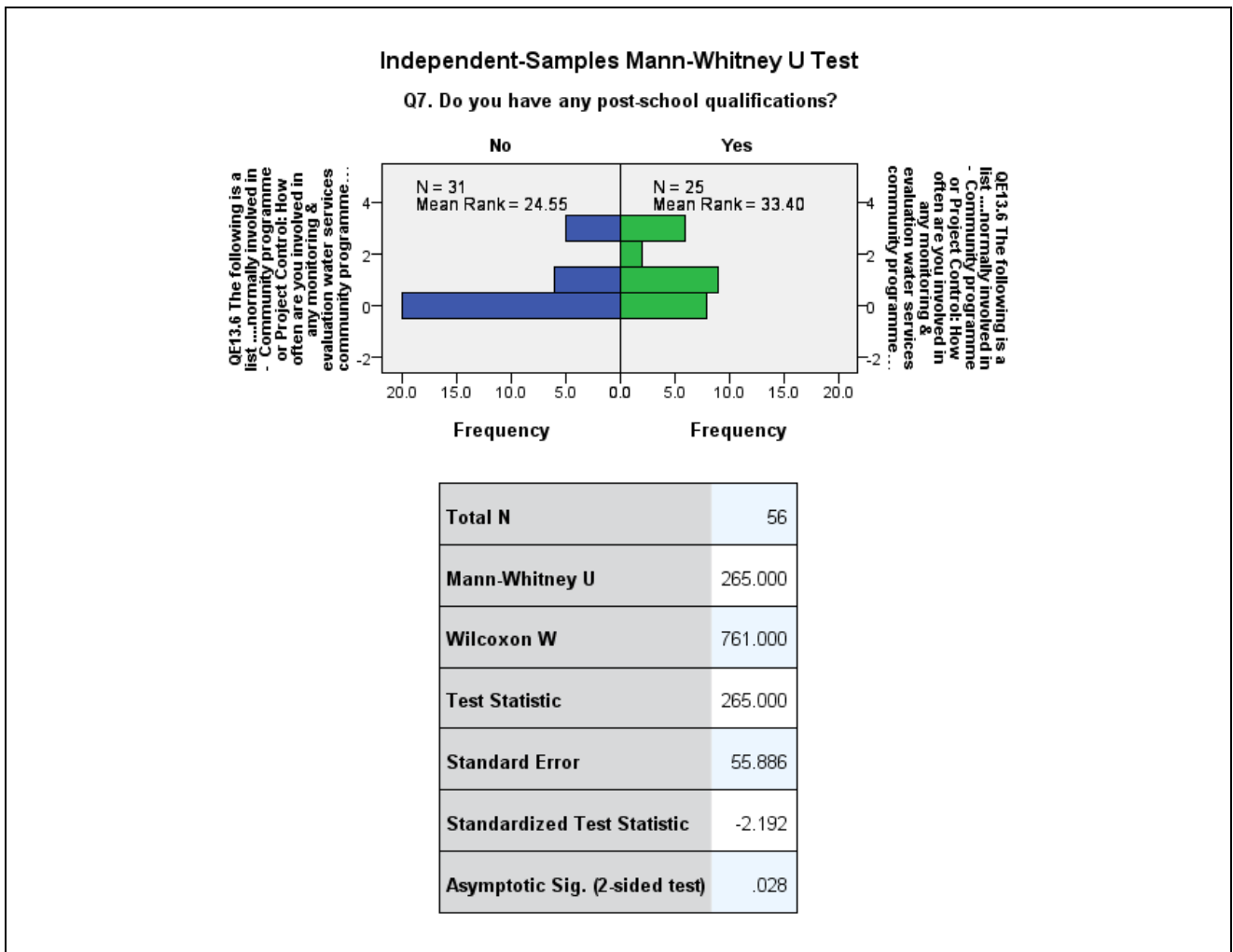
Most of the councillors without a post-matric qualification never or seldom perform the duty of operation and maintenance (O&M) of water services and water infrastructure. The mean rank was 25.03 for those without a post-matric qualification as compared to a mean rank of 34.08 for those with a post-matric qualification. In terms of the aspect “sustainability and cost recovery”, the p-value was 0.046. The null hypothesis of identical medians was rejected, as shown in Figure 6.21.



**Figure 6.21: Post-matric qualification and the aspect of sustainability and cost recovery**

The mean rank for those without a post-matric qualification was 23.76, compared to 31.84 for those with a post-matric qualification. The majority of those without a post-matric qualification never perform functions related to sustainability and cost recovery as a duty.

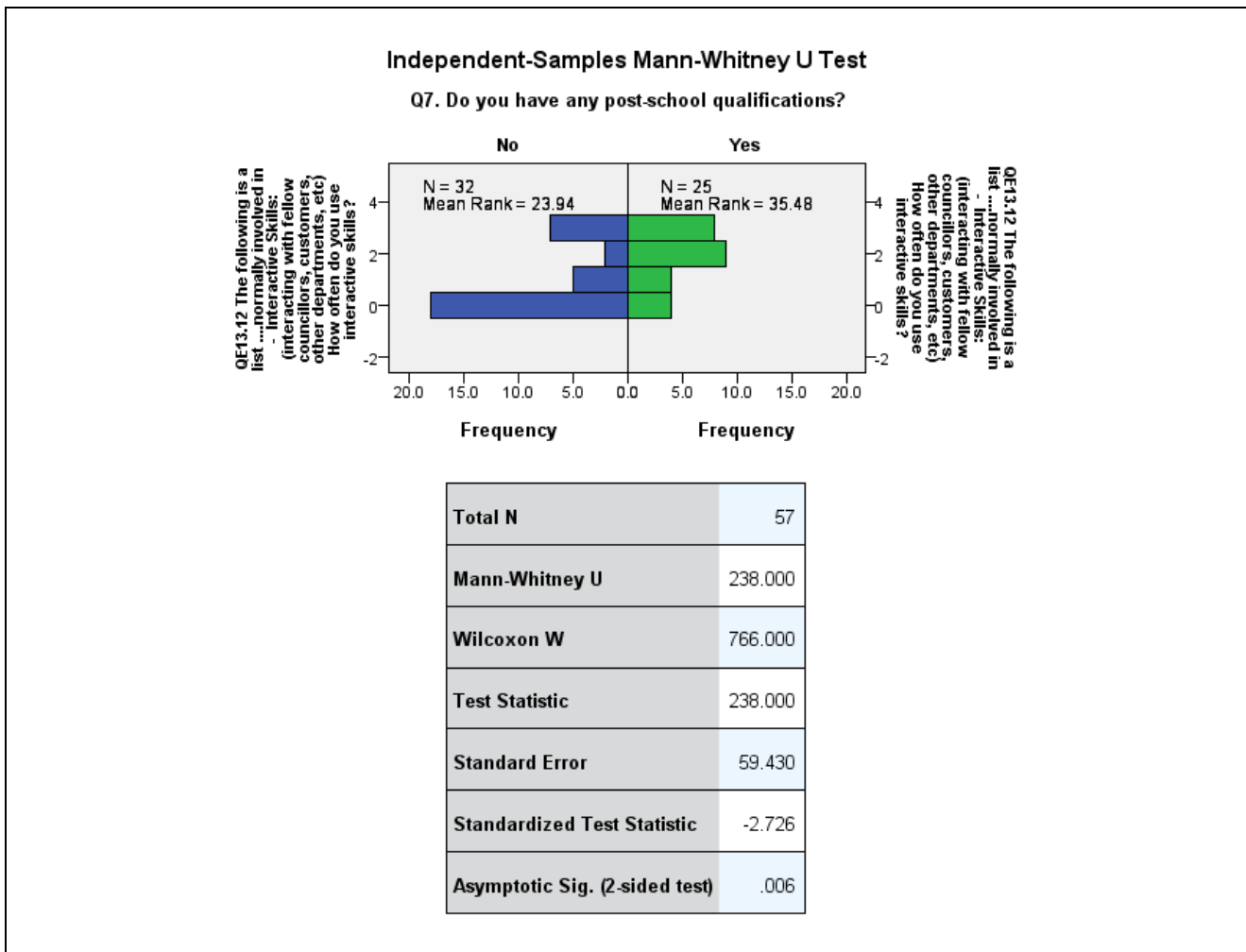
For the aspect of “community programme or project control”, the Mann–Whitney U test value was 265 with a p-value of 0.028, as indicated in Figure 6.22.



**Figure 6.22: Post-matric qualification and the aspect of community programme or project control**

It can be observed that the majority of those without a post-matric qualification never perform functions with regard to community programme or project control.

In terms of the aspect “interactive skills (interacting with fellow councillors, customers, other departments, etc.)” the p-value was 0.006, which is highly significant. Thus, the null hypothesis of identical populations was rejected. The information is shown in Figure 6.23.



**Figure 6.23: Post-matric qualification and the aspect of interactive skills**

### 6.3.4.2 (iii) Results and discussion Kruskal-Wallis tests

A Kruskal-Wallis test is only appropriate where the following two assumptions are met:

**Assumption 1:** The dependent variable should be measured on an ordinal (like Likert scales) or interval/ratio level. In this case, all the dependent variables were measured on the ordinal scale.

The variables are:

- Factors that hinder the development of adequately trained councillors in water services (using Likert scale: not a problem, slight problem, and serious problem);
- Duties councillors are normally involved in (using the Likert scale: never, seldom, regularly, and daily);
- Courses or education and training modules councillors need (using the Likert scale: not needed, can be of some assistance, and most needed (M/N));
- Level of agreement on water service issues (using Likert scale: strongly agree, agree, unsure, disagree, and strongly disagree).

**Assumption 2:** The independent variable should consist of two or more categorical, independent groups. In this case, these are:

- Age of respondent (categories: below 30 years, 30-39 years, 40-49 years, 50-59 years, and 60 years and above);
- Years as a councillor (categories: at most 1 year, 2-3 years, 4-5 years, 6-7 years, 8-9 years, and 10+ years);
- Category of councillor (categories: executive/mayoral committee, proportional representation, and ward).

If a significant difference is found, then there is a difference between the highest and lowest median and if there is no significant difference in the data, one cannot conclude that the samples are the same but rather that they come from identical populations.

The null hypothesis in this or any comparable situation involving several independent samples of ranked data is that:

- $H_0$ : The samples come from identical populations;
- $H_1$ : The samples come from different populations.

The test was done at the 5% level of significance.

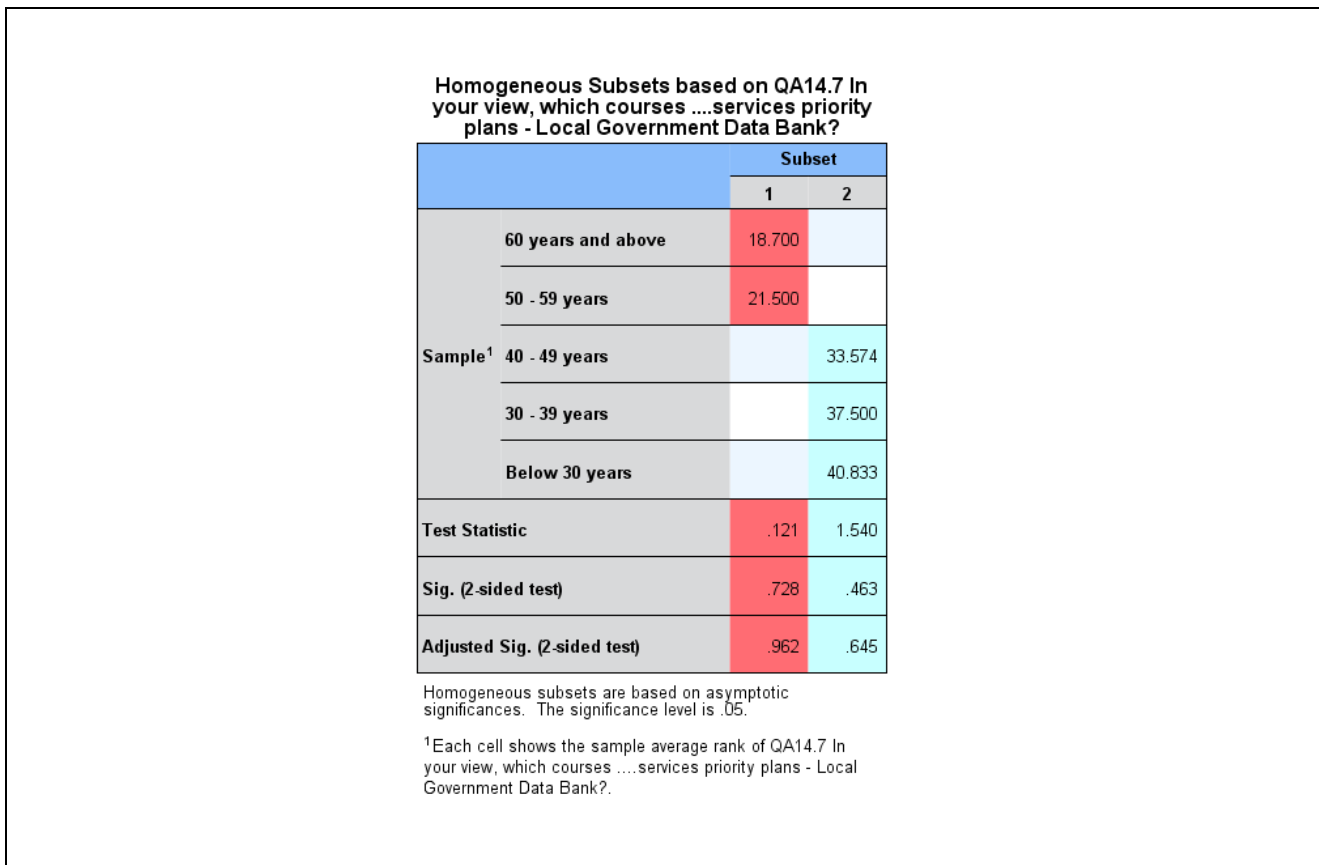
In order to determine whether age had an effect on the training needs of councillors, a Kruskal-Wallis test was performed, as depicted in Table 6.19.

**Table 6.19: Training needs by age**

Item	Kruskal-Wallis test		Decision
	Value	p-value	
Local Government Data Bank	11.156*	0.025	Reject the null hypothesis
Computer Literacy	12.132*	0.016	Reject the null hypothesis
Legislative and Legal Framework in Water Services	14.196**	0.007	Reject the null hypothesis
Local Government Documents/Reports	10.723*	0.030	Reject the null hypothesis
Grant Proposal Writing and Administration	10.854*	0.028	Reject the null hypothesis
Maintenance Functions	9.857*	0.043	Reject the null hypothesis
Capital Programme/Capital Financing	13.971**	0.007	Reject the null hypothesis
Cash Management	12.977*	0.011	Reject the null hypothesis
Employee Benefits	14.263**	0.007	Reject the null hypothesis
Labour Relations in Water Works	10.498*	0.033	Reject the null hypothesis
Personnel Hiring	15.322**	0.004	Reject the null hypothesis
Development of Performance Appraisal	10.851*	0.028	Reject the null hypothesis

Note: The statistical significance of the values is \*\* for  $p < 0.01$  and \* for  $p < 0.05$ .

For the aspect Local Government Data Bank, there were two homogenous groups, as indicated in Figure 6.24.

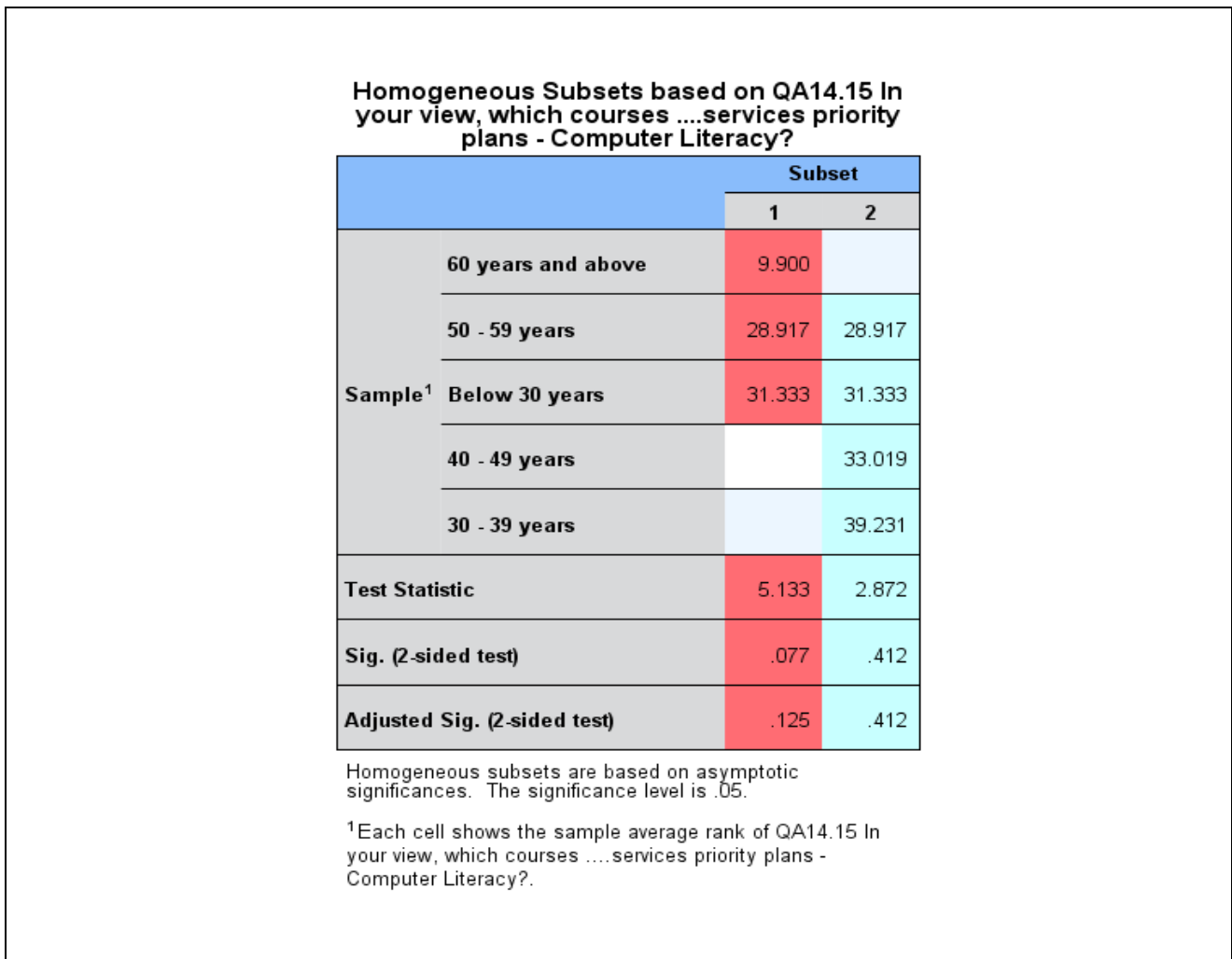


**Figure 6.24: Homogeneous groups on the training need for the aspect of Local Government Data Bank by age groups**

The age groups “60 years and above” and “50-59 years” fell in one homogeneous group, while the age groups “40-49 years”, “30-39 years” and “below 30 years” fell in other homogeneous groups. It can be noted that the older respondents gave lower rankings, indicating that they were not in need of training in the course Local Government Data Bank. It means that those below the age of 50 did need this training.

Responses with regard to the aspect Computer Literacy resulted in the rejection of the null hypothesis, as evidenced by a p-value of 0.016. Figure 6.25 gives the homogeneous groups of the test.





**Figure 6.25: Homogeneous groups on the training need for the aspect Computer Literacy by age groups**

There were two homogeneous groups. The first consisted of “60 years and above”, “50-59 years” and “below 30 years”. The second consisted of “50-59 years”, “below 30 years”, “40-49 years” and “30-39 years”. One can conclude that the major difference was between the “60 years and above” group and the other group, “40-49 years” and “30-39 years”. Looking at the mean rank of the age group “60 years and above” of 9.9, one can conclude that this group ranked the aspect low, indicating that they were not in need of training in Computer Literacy.

The aspect Legislative and Legal Framework in Water Services resulted in two homogeneous groups, as shown in Figure 6.26.

**Homogeneous Subsets based on QB14.10 In your view, which courses ....services priority plans - Legislative and Legal Framework in Water Services?**

		Subset	
		1	2
Sample <sup>1</sup>	60 years and above	19.400	
	50 - 59 years	21.346	
	40 - 49 years		33.630
	Below 30 years		40.750
	30 - 39 years		40.750
Test Statistic		.003	2.616
Sig. (2-sided test)		.958	.270
Adjusted Sig. (2-sided test)		1.000	.409

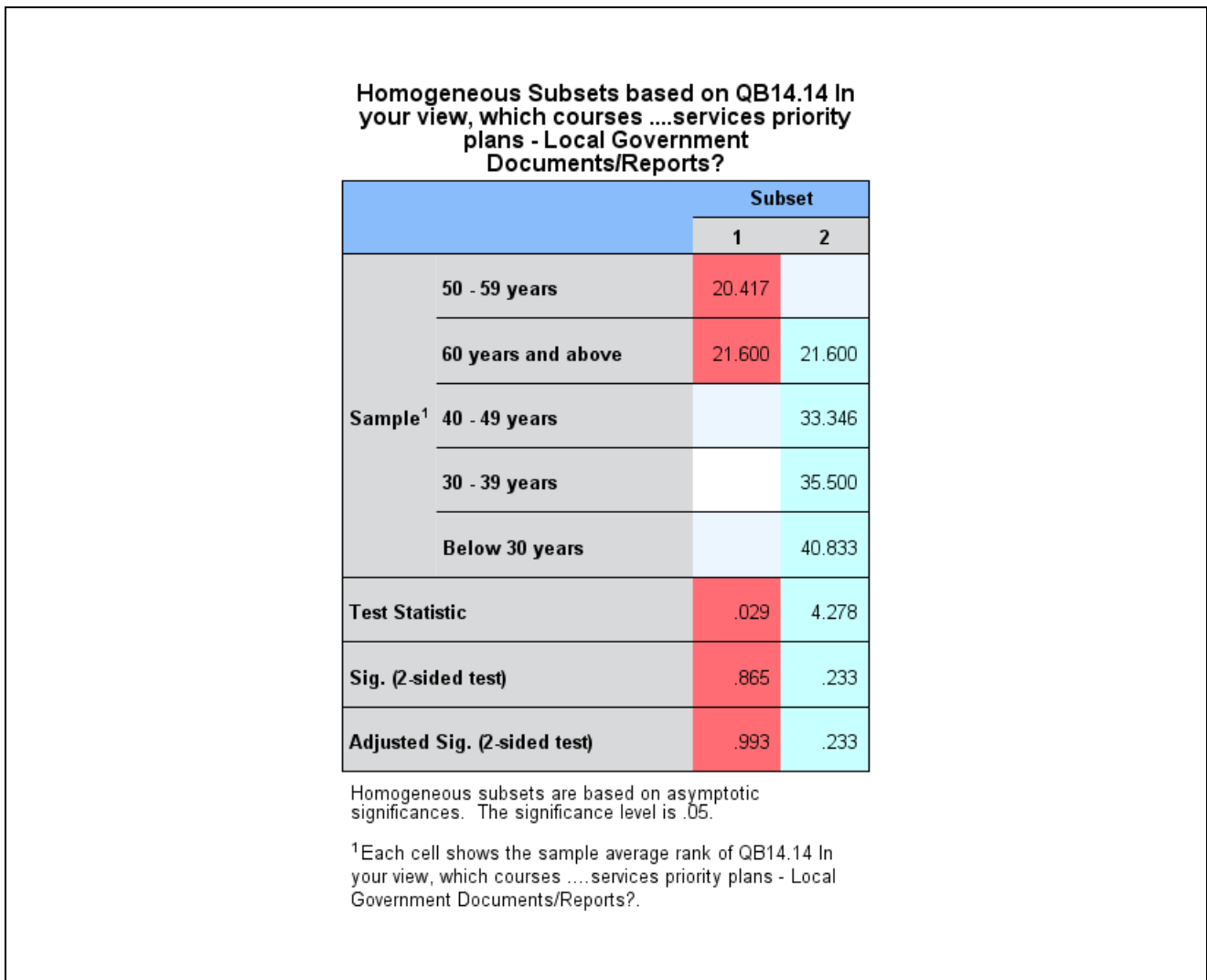
Homogeneous subsets are based on asymptotic significances. The significance level is .05.

<sup>1</sup>Each cell shows the sample average rank of QB14.10 In your view, which courses ....services priority plans - Legislative and Legal Framework in Water Services?.

**Figure 6.26: Homogeneous groups on the training need for the aspect Legislative and Legal Framework in Water Services by age groups**

The homogeneous groups were two, with no overlaps. The first group consisted of those who were 50 years and above and the other of those below 50 years. The mean ranks showed that those below 50 years gave higher ranks. This means that those below 50 had a greater need of training in Legislative and Legal Framework in Water Services.

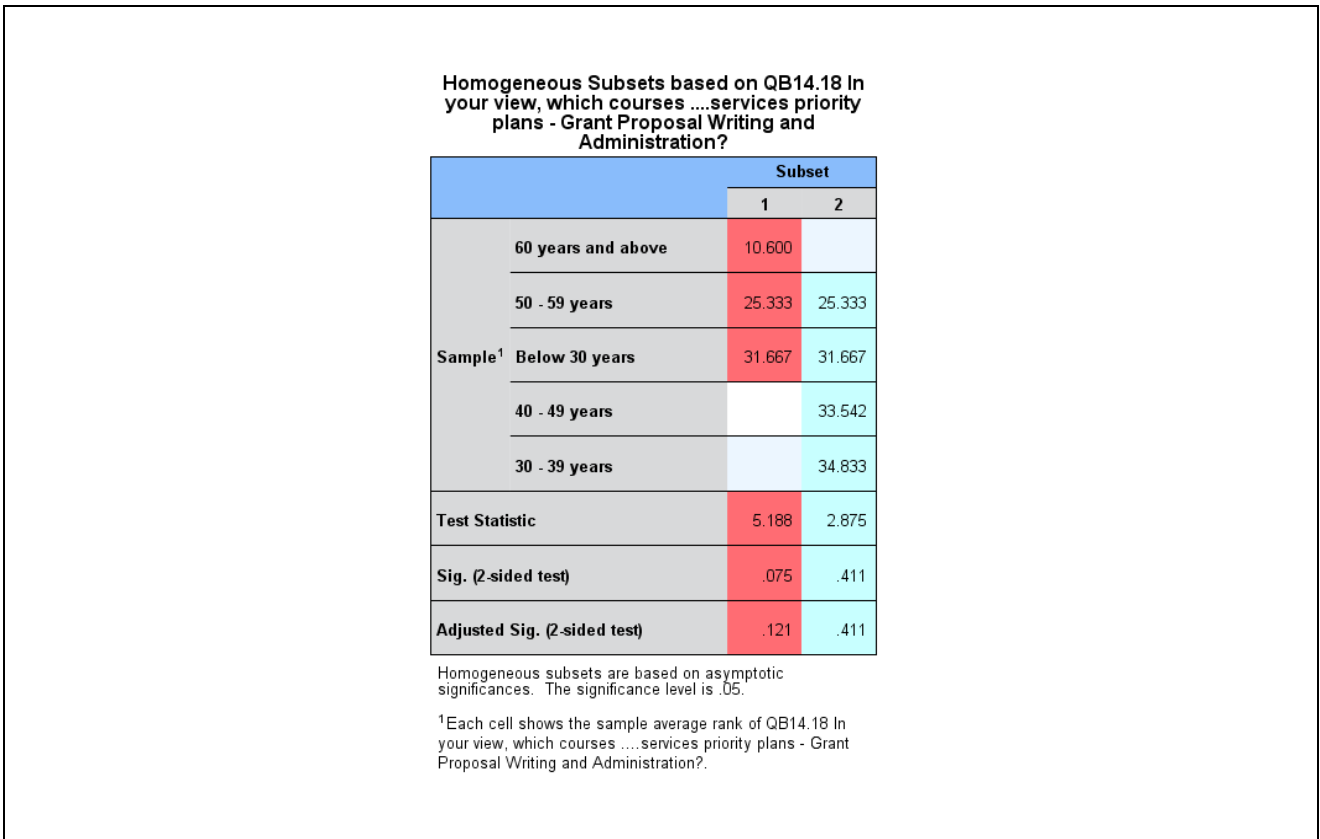
The p-value for the aspect Local Government Documents/Reports was 0.030. This resulted in two homogenous groups, as shown in Figure 6.27.



**Figure 6.27: Homogeneous groups on the training need for the aspect Local Government Documents/Reports by age groups**

The first group consisted of those who were at least 60 years old while the other group also consisted of the age group “60 years and above” and those below 60. Thus, there was an overlap. One can conclude that those aged “50-59 years” gave the lower ranks and differed significantly from the other age categories. The need of the “50-59 years” age group for training in Local Government Documents/Reports was lower.

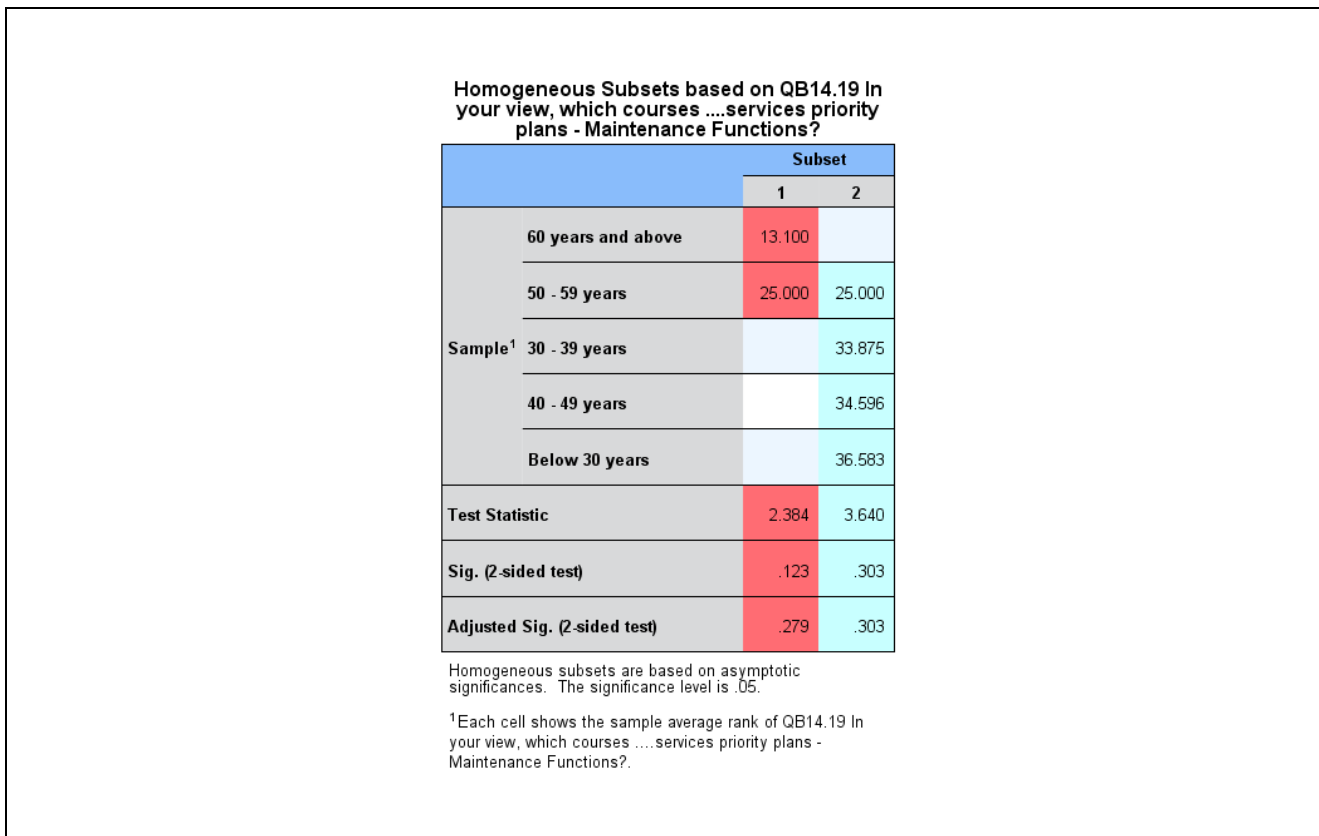
For the aspect Grant Proposal Writing and Administration the test statistic was 10.854 with a p-value of 0.028. The rejection of the null hypothesis was evidenced by having two homogeneous groups, as shown in Figure 6.28.



**Figure 6.28: Homogeneous groups on the training need for the aspect Grant Proposal Writing and Administration by age groups**

Two homogeneous groups resulted, with overlaps. Those aged “50-59 years” and “below 30 years” were in both groups. The first group consisted of the age groups “60 years and above”, “50-59 years” and “below 30 years”. The second group consisted of all age groups except “60 years and above”. The mean rank sum for the latter age group was 10.6, which is the lowest. Thus, one can conclude that respondents in the “60 years and above” age group gave low rankings, signifying a lesser need of training in Grant Proposal Writing and Administration.

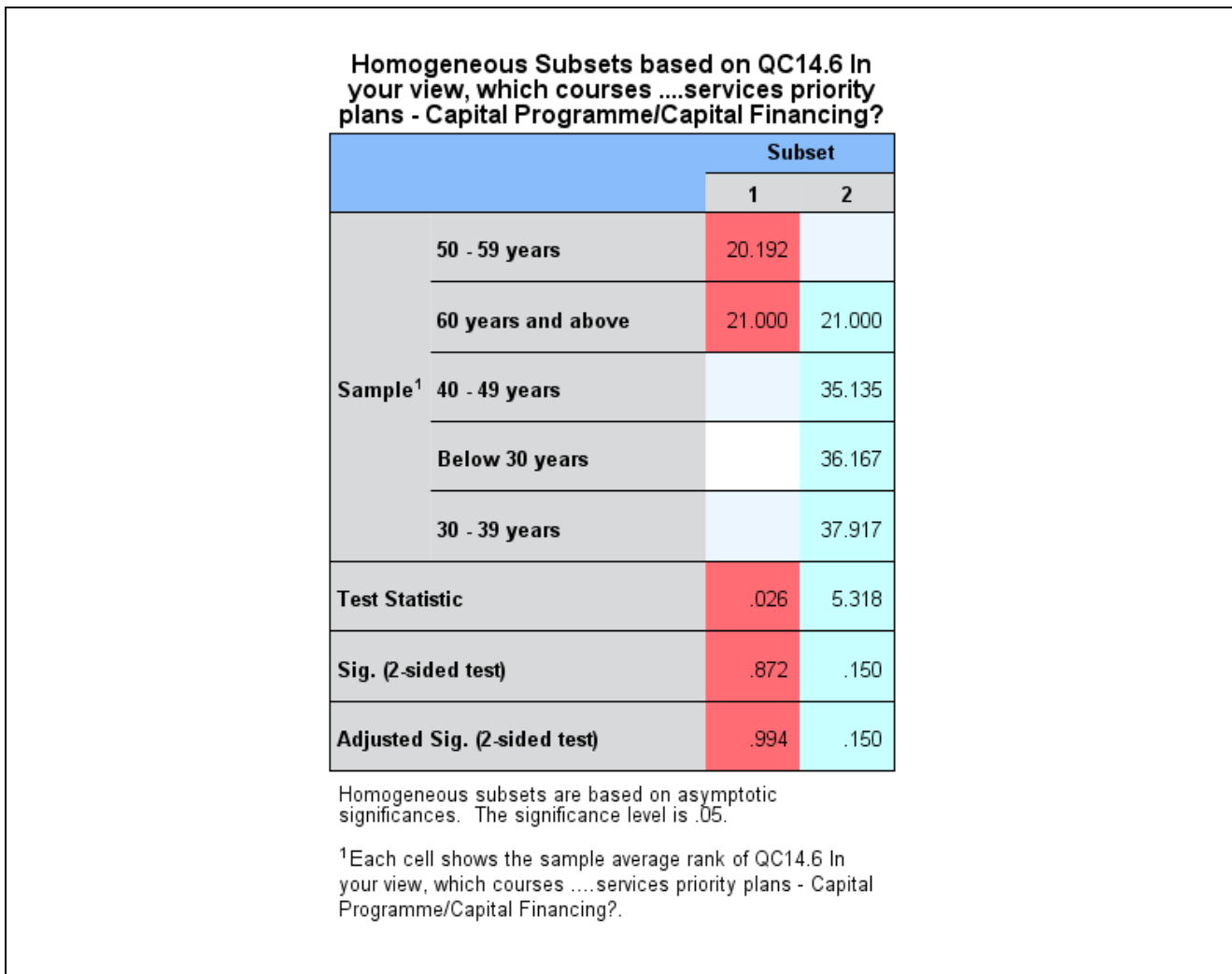
Figure 6.29 shows the homogeneous groups for the aspect Maintenance Functions.



**Figure 6.29: Homogeneous groups on the training need for the aspect Maintenance Functions by age groups**

Those who are 50 years and above were in one group, while those below 60 years fell in another group. Thus, there was an overlap, with the age group “50-59 years” falling in both groups. The same pattern that has been observed before was also depicted here. The age group “60 years and above” was less in need of training in Maintenance Functions.

For the aspect Capital Programme/Capital Financing, the Kruskal-Wallis test gave a value of 13.971 and a p-value of 0.007. There were two homogeneous groups. The first group consisted of those who were at least 50 years old while the other comprised all the other age groups except “50-59 years”, as shown in Figure 6.30.

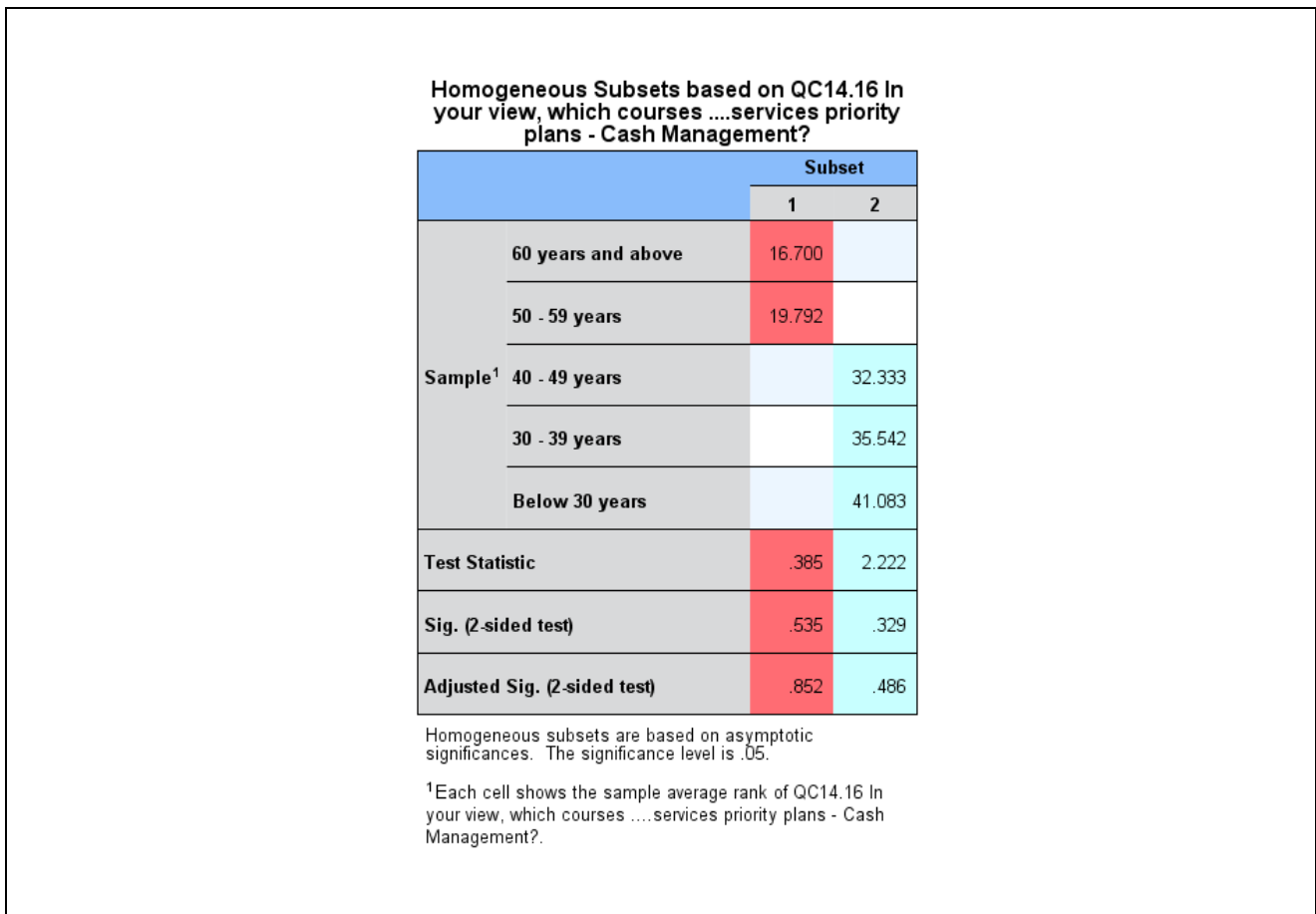


**Figure 6.30: Homogeneous groups on the training need for the aspect Capital Programme/Capital Financing by age groups**

The results of this test indicate that there was a significant difference in ranking on whether there was a need for training in Capital Programme/Capital Financing. The first homogeneous group was made up of those who were at least 60 years old while the other group consisted of all age groups except “50-59 years”. The older groups gave lower rankings, signifying a lesser need.

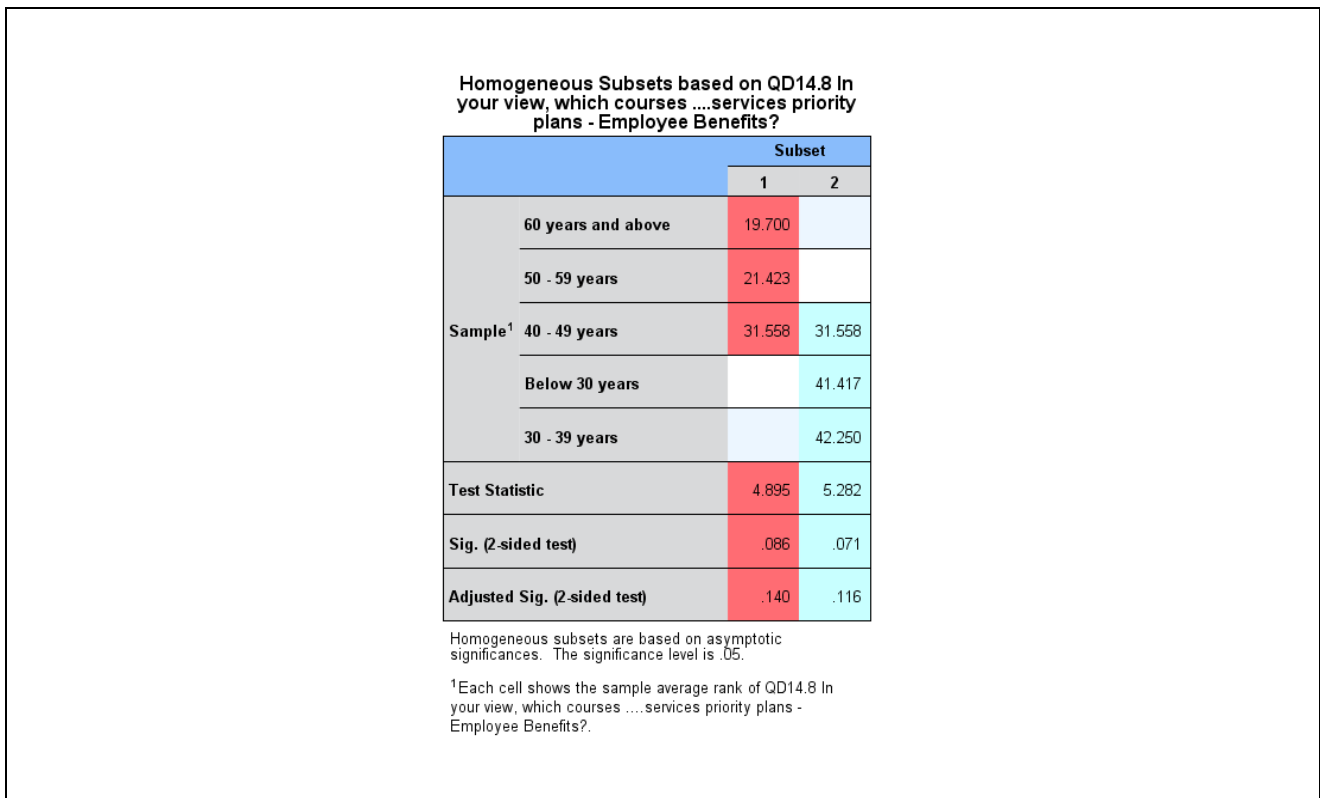
With regard to the aspect Cash Management, it was observed that the need for training on this aspect tended to increase as groups became younger. There were two non-overlapping homogeneous groups: those who were at least 50 years and those below 50. The ones aged below 30 years had the largest mean rank of 41.083, signifying that most of the respondents ranked the aspect highly.

Thus, the younger age group was most in need of training in Cash Management. The information is shown in Figure 6.31.



**Figure 6.31: Homogeneous groups on the training need for the aspect Cash Management by age groups**

In terms of the aspect, Employee Benefits there were two homogeneous groups, those aged at least 40 years and those at most 40 years of age. Thus, the age group “40-49 years” belonged to both homogeneous groups. The information is shown in Figure 6.32.

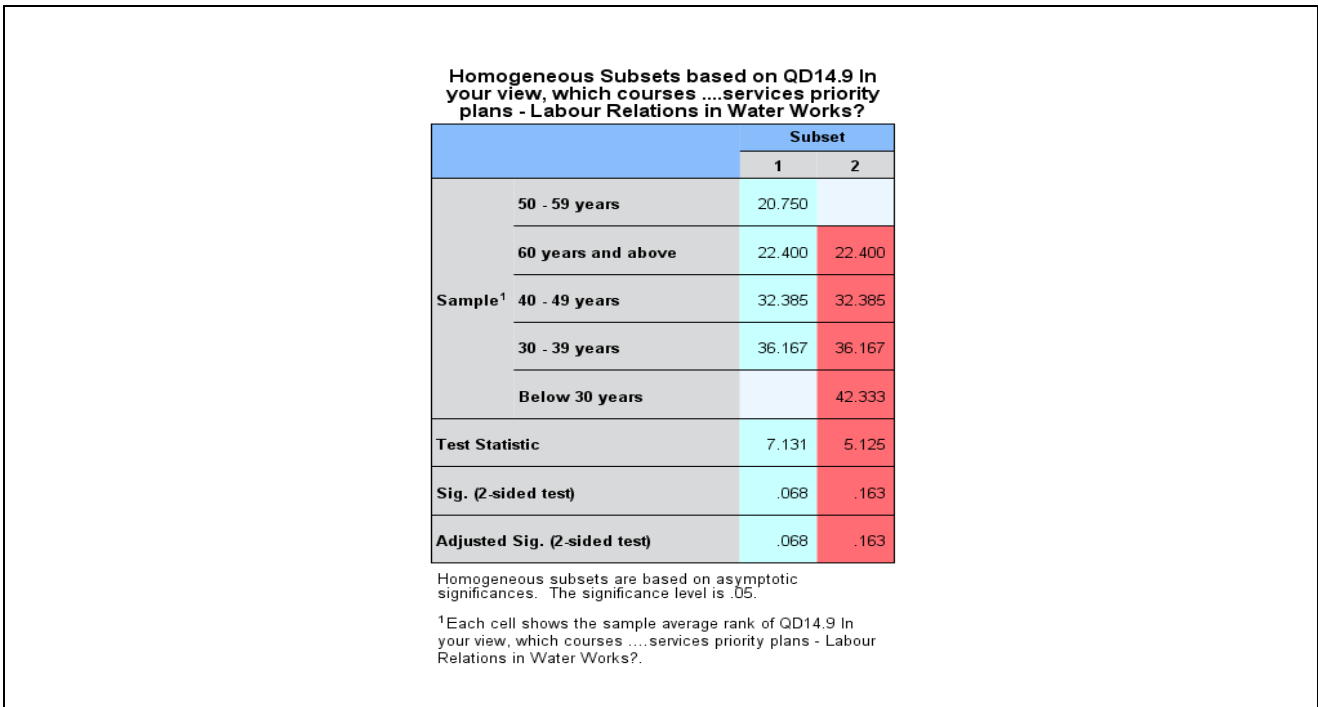


**Figure 6.32: Homogeneous groups on the training need for the aspect Employee Benefits by age groups**

The age group mostly in need of being trained in Employee Benefits was “30-39 years”, followed by those below 30 years.

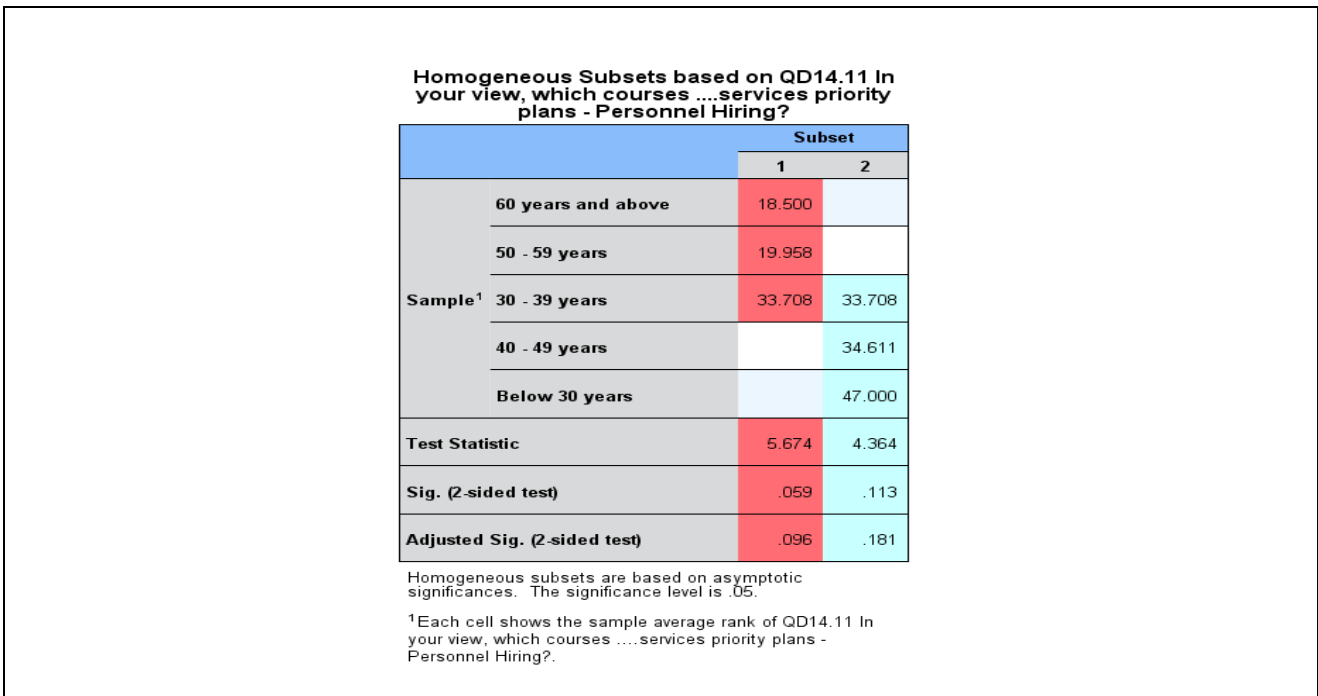
For the aspect Labour Relations in Water Works, the test statistic was 10.498 with a p-value of 0.033. This resulted in the null hypothesis that the samples came from identical populations being rejected. The analysis gave two homogeneous groups. The first comprised all the age groups except those below 30 years, and the second comprised all age groups except those aged “50-59 years”. Thus, one can conclude that there was a significant difference in the need for training in Labour Relations in Water Works between these two age groups. Looking at the mean rank sums, one can observe that the need was high for those aged below 30 years. Figure 6.33 shows the homogeneous groups.





**Figure 6.33: Homogeneous groups on the training need for the aspect Labour Relations in Water Works by age groups**

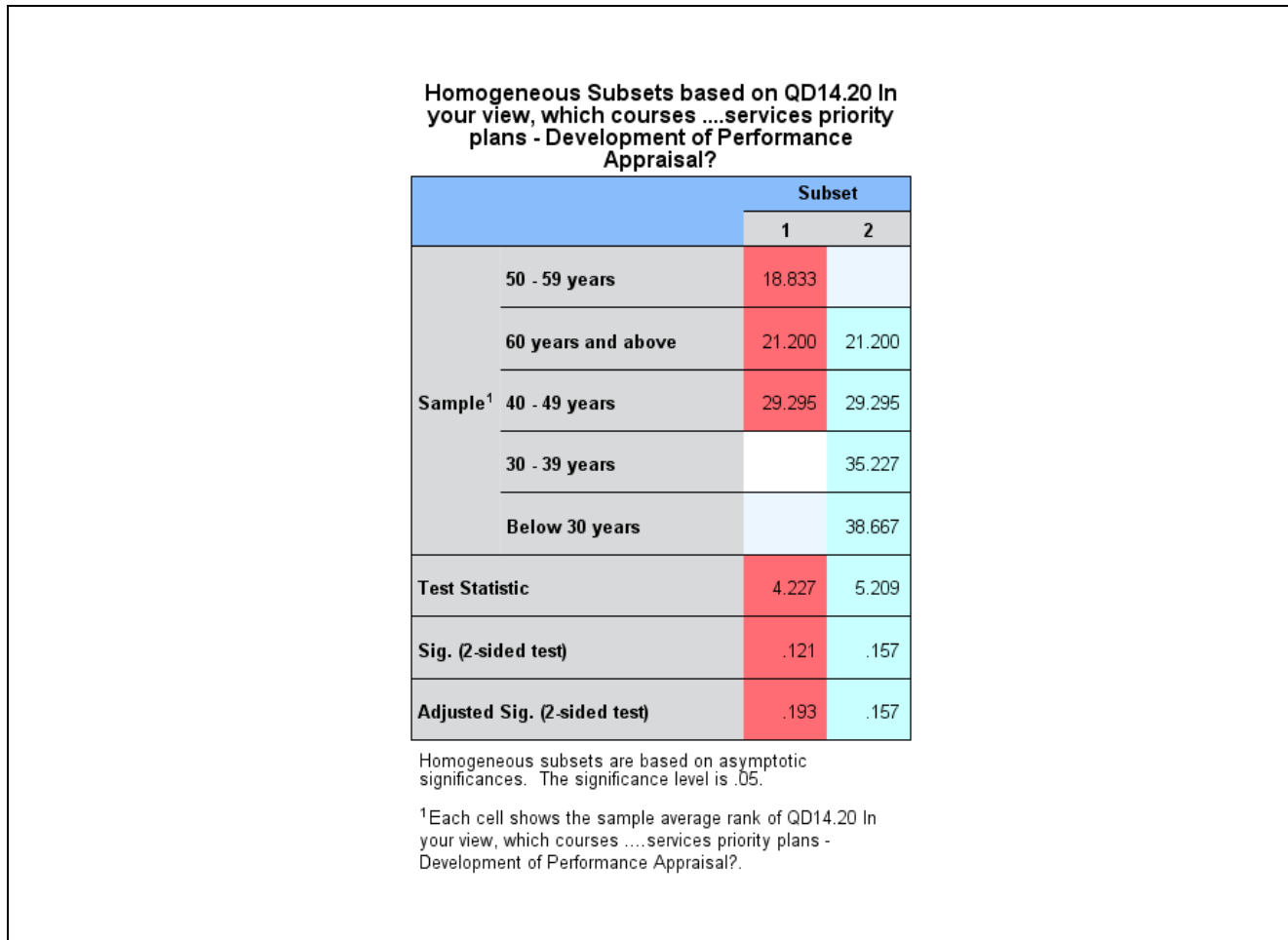
Figure 6.34 shows the homogeneous groups for the aspect Personnel Hiring.



**Figure 6.34: Homogeneous groups on the training need for the aspect Personnel Hiring by age groups**

The p-value was 0.004, which was highly significant. The age group “60 years and above” had the lowest mean rank sum of 18.5, signifying that the respondents in this group gave lower rankings in terms of need. Those below 30 years had the highest mean rank sum of 47, indicating that the respondents gave high ranks. Thus, one can conclude that the age groups most in need of training in Personnel Hiring were those aged “below 30 years”, “40-49 years” and “30-39 years”.

In terms of the aspect, Development of Performance Appraisal the p-value was 0.028, which was significant at the 5% level. Figure 6.35 indicates the homogeneous groups.



**Figure 6.35: Homogeneous groups on the training need for the aspect Development of Performance Appraisal by age groups**

There were two homogeneous groups. The one group consisted of those at least 40 years old and the other comprised all the age groups except “50-59 years”. Those aged “50-59 years” indicated a lesser need of training, while those below 40 had a greater need for training in Development of Performance Appraisal.

In summary, one can conclude that those who were 50 years and above were not so much in need of training as those who were below 50 years of age. This may be attributed to the fact that the older age groups were closer to retirement age.

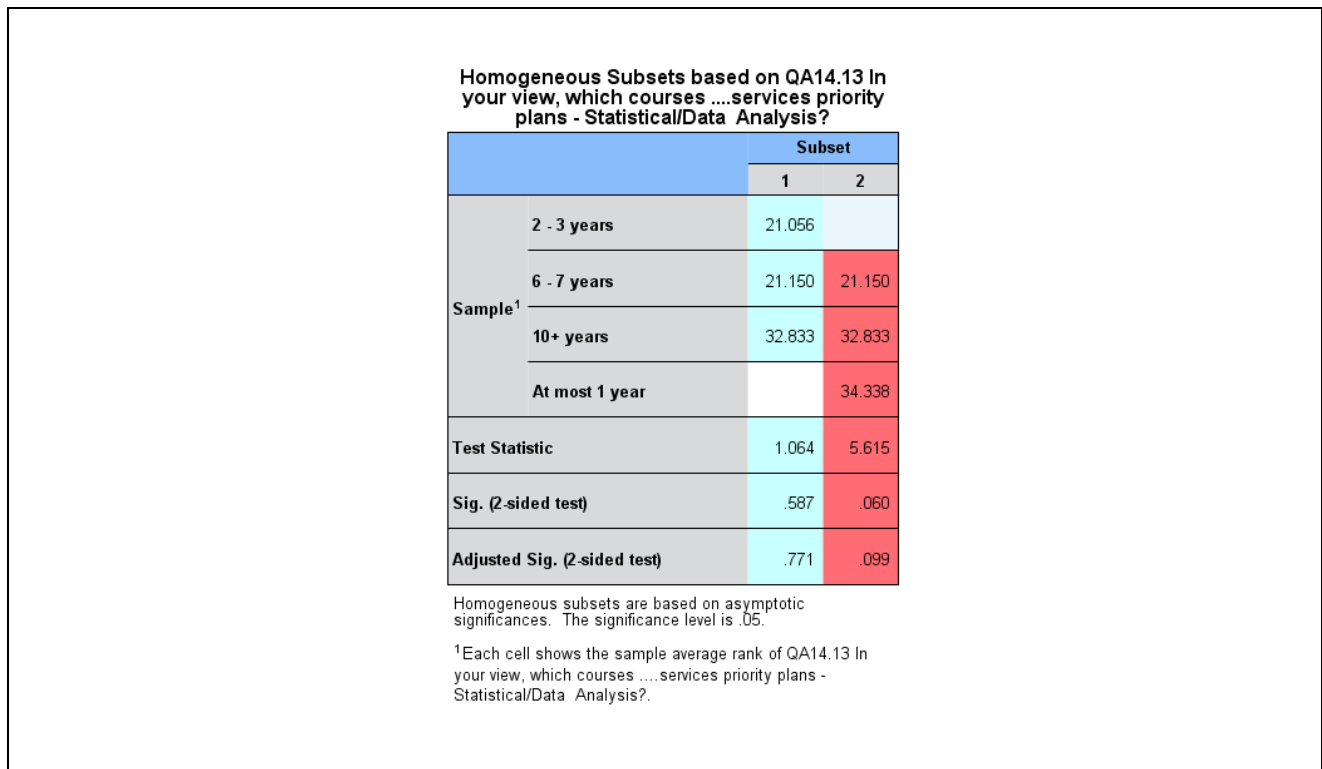
A Kruskal-Wallis test was done to determine whether years served as a councillor had an effect on the training needs of councillors. The information is depicted in Table 6.20.

**Table 6.20: Training needs by years served as a councillor**

Item	Kruskal-Wallis test		Decision
	Value	p-value	
Statistical/Data Analysis	8.862*	0.031	Reject the null hypothesis
Local Government Documents/Reports	11.142*	0.011	Reject the null hypothesis
Accounting	10.422*	0.015	Reject the null hypothesis

Note: The statistical significance of the values is \*\* for  $p < 0.01$  and \* for  $p < 0.05$ .

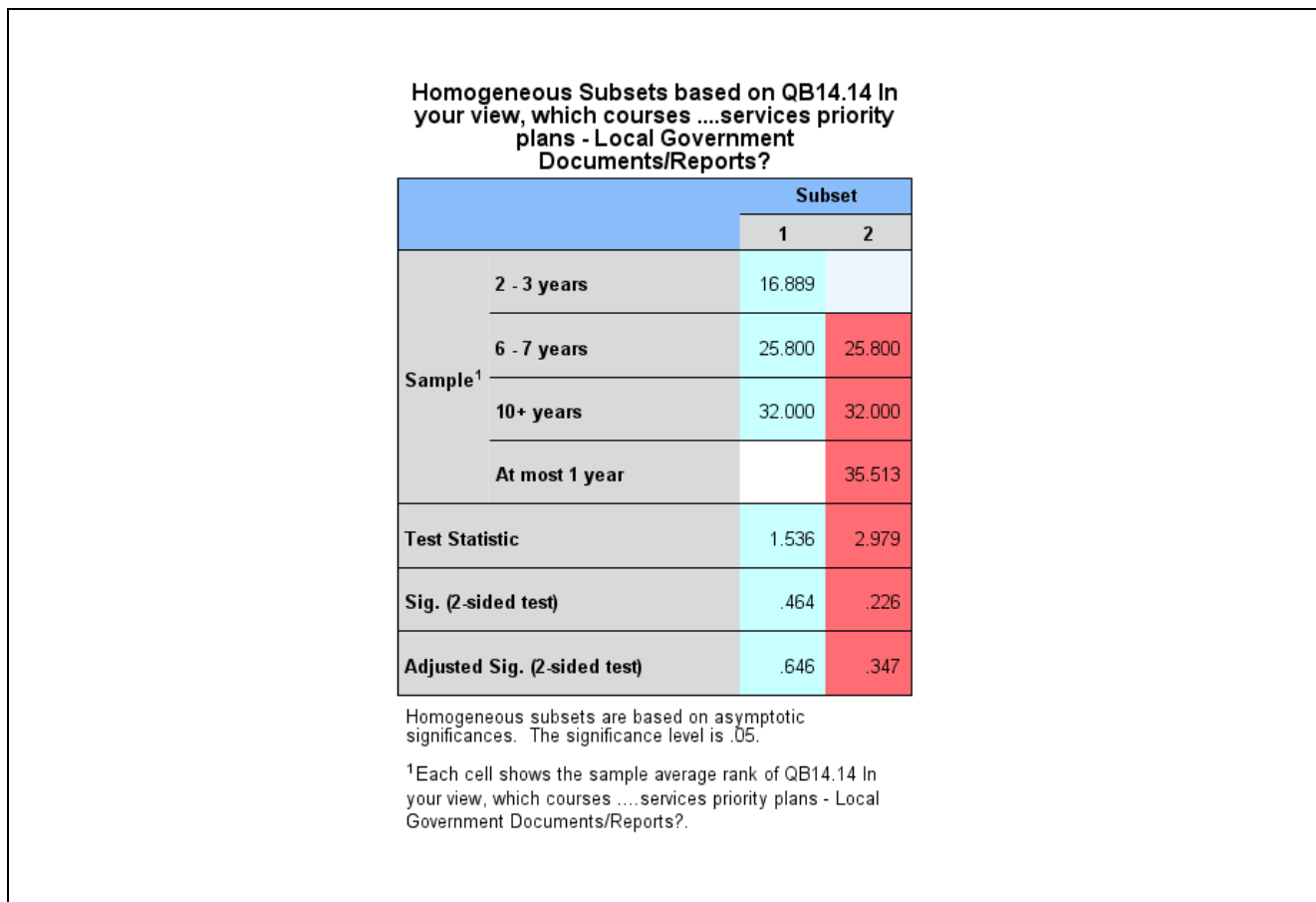
For the aspect Statistical/Data Analysis, there were two homogenous groups as indicated in Figure 6.36.



**Figure 6.36: Homogeneous groups on the training need for the aspect Statistical/Data Analysis by years served as a councillor**

The first homogeneous group comprised the councillors who had served “2-3 years”, “6-7 years” and “10+ years”, while the second consisted of the groups “6-7 years”, “10+ years” and “at most 1 year”. Those with experience of “6-7 years” and “10+ years” were members of both homogeneous groups. One can conclude that the groups that were significantly different were those who had served for “2-3 years” and those who had served for “at most 1 year”. The councillors who have served “at most 1 year” were in greater need of training in Statistical/Data Analysis than those who had served for “2-3 years”.

In terms of the aspect Local Government Documents/Reports, the same pattern as that displayed for Statistical/Data Analysis was observed, as shown in Figure 6.37.



**Figure 6.37: Homogeneous groups on the training need for the aspect Local Government Documents/Reports by years served as a councillor**

Thus, the councillors that have served “2-3 years” are not in need of training in Local Government Documents/Reports, in contrast to the ones who have served “at most 1 year”.

Figure 6.38 shows the homogeneous groups for the aspect Accounting.

**Homogeneous Subsets based on QC14.12 In your view, which courses ....services priority plans - Accounting?**

	Subset	
	1	2
2 - 3 years	19.500	
6 - 7 years	24.800	24.800
At most 1 year		33.859
10+ years		49.000
Test Statistic	.484	5.382
Sig. (2-sided test)	.487	.068
Adjusted Sig. (2-sided test)	.811	.110

Homogeneous subsets are based on asymptotic significances. The significance level is .05.

<sup>1</sup>Each cell shows the sample average rank of QC14.12 In your view, which courses ....services priority plans - Accounting?.

**Figure 6.38: Homogeneous groups on the training need for the aspect accounting by years served as a councillor**

Those who have served “2-3 years” and “6-7 years” were in one group, while those with “6-7 years”, “at most 1 year” and “10+ years” were in the other group. Thus, there was an overlap, with the group “6-7 years” belonging to both groups. The results of this test indicate that there is a significant difference in ranking on whether there is a need for training in Accounting between those who have served “2-3 years” and those in the groups “at most 1 year” and “10 + years”. The groups “at most 1 year” and “10+ years” have the largest rank sums of 33.859 and 49, respectively, signifying that most of the respondents indicated the need to be trained in Accounting.

#### 6.3.4 Summary

Using various statistical tests, it appears that the respondents differ slightly with executive/mayoral committee councillors who on one hand strongly agreed in respect of water governance, regulation, and external relations. On the other hand, PR and ward councillors agreed on responsiveness to new demands, operation and maintenance, and community problems and complaints. Considering the researcher insider perspective and the level of qualifications of the respondents, it is not surprising that the ideal councillor being an appropriately educated in order to

be deployed was less emphasised than addressing problems and complaints of the constituencies. While MMCs, PR and ward councillors may be equally concerned with improving their capacity to deal with both the internal and external institutional environment, future education and training needs on water governance, water and energy security management, water and energy tariffs and planning may be more disparate with far greater demands in global water and energy governance than current expectations. Additionally, 'most needed' future needs may not always emanate from the traditional human resources development framework.

As argued in Chapter 3 in Figures 3.1 and 3.6, local government is mainly about engineering and technical competencies for project management of various community initiatives. Any leadership decision and judgement should primarily be informed by engineering and technical competencies and skills. While the councillors may agree on a number of critical future training needs, project management – especially in engineering and technical bulk infrastructure – is about 'nuts and bolts'. To borrow from DeSario et al. (1994: 66), the modern infrastructure planning and development portfolio councillors need a less 'warm and fuzzy' training curriculum.

In this context and in view of key findings that the LGSETA and EWSETA do not have water governance and leadership qualifications, it is highly recommended that the current soft skill gap be narrowed in order to ensure the requirement of a registered qualification having 60% engineering and technical courses to equip councillors for their water governance oversight role. Engineering and technical short courses that refer to applied problem-solving learning would be an improvement on offering the current academic short courses and qualifications presented in institutions of higher education. With institutional developmental support to local government, such qualifications and short courses will add more value to much needed **CAR, 3Hs and 3Es** mentioned earlier in LGDA beyond 2030 vision and much closer to 22<sup>nd</sup> century local government leadership for green economy under anti-poverty strategies by the democratic government.

The current water crisis, public protests and demands for safe drinking water and adequate sanitation services in most communities in South Africa, do call for new water governance and leadership innovation courses, new approaches to current water demands, new integrated water resources management and knowledge and information exchange programmes, and new creativity in refining current training interventions and enhancing CBWCE&T Model to empower councillors to effectively deal with climate changes, extreme weather conditions, abject poverty, systematic unemployment and increased inequalities on one hand. On the other hand, the new training model must empower the councillors to see water as major constraining factor for socio-economic growth and development envisaged under IPAP, NGP, NDP, DWA NWRS2 and AU's 2063 City Agenda as discussed in the next Chapter. The next Chapter provides a guideline for designing a typical CBWCE&T in the water sector thereby able to identify types of skills and expertise for councillors.

## CHAPTER 7

# GUIDELINE FOR DESIGNING A COMPETENCY-BASED WATER COUNCILLOR EDUCATION AND TRAINING PROGRAMME

### 7.1 INTRODUCTION AND BACKGROUND

*[S]upport to community organizations in the form of finance, technical skills or training can enhance the ability of the poor to make their needs known and to take control of their own development process.*

White Paper on Local Government (March 1998)

In view of the findings on the water services education and training needs of councillors in the Northern Cape local authorities discussed in Chapter 6 and evidence from the literature review in this study, this chapter aims to provide a guideline for designing an appropriate education, training and development programme for councillors. The intention is to provide pointers in terms of issues that must be considered when curriculum development for such a programme is undertaken. The strategic objectives of the proposed competency-based water councillor education and training (CBWCE&T) programme are to:

- provide councillors with skills programmes, employable skill units and learnerships based on registered unit standards approved by the relevant Education and Training Quality Assurance Body (ETQA) or Quality Council for Trades and Occupations (QCTO);
- research and identify the exact nature of such a training;
- work out the detailed content of each unit standard, skills programme and learnership chosen;
- encourage training providers to consider the training needs of councillors in the water services systems, taking Figures 3.6 and 5.10 into account and consideration;
- allow training providers to develop and adjust their training materials and training methodologies to meet councillors' needs in accordance with minimum QCTO, ETQA, and SAQA standards and requirements; and
- advocate the registration of qualifications for water (and energy) governance and leadership and support DWA, SALGA, relevant SETAs, and institutions of higher education such as universities, Further Education and Training (FET) colleges and centres of excellence in Water, Energy and Environment to register these qualifications as skills programmes or short courses to be implemented based on the registered qualifications between NQF levels 1 and 5 (Umalusi Band) and NQF levels 6 to 10 (Higher Education Band).

In Chapters 2 to 6, councillor competencies and skills imperatives were explicitly compiled in terms of the LGDA requirements in accordance with the Skills Development Act (1998) and Policy on Education and Training in South Africa. The aim of the proposed CBWCE&T programme is to

develop the capacity of water portfolio councillors in WSAs with a view to achieving water governance and developmental water services strategic goals, targets and performance areas subsumed under LGDA values. As the researcher conducted a detailed skills audit of councillors using mixed methods as described in Chapter 2, the ideal water portfolio councillor's competencies and skills were identified and defined in Chapters 3 to 6. It is precisely because of this compelling literature evidence that the step-by-step curriculum development process of the National Training Board (1994: 7-9), complemented by Erasmus and Van Dyk (2004: 183-184), was followed in accordance with various anti-poverty strategies such as IPAP, NGP, DWA NWRS 2 and NDP 2030 vision. The CBWCE&T is a practical set of curriculum concepts and principles to guide interventions. The CBWCE&T is an ideal model that is intended to give directions and guidance to practitioners in the water sector to implement programmes that will be adding values and benefits in LGDA system and its hydro-political operators or councillors in 33 WSAs in Northern Cape.

## **7.2 A MODEL FOR A COMPETENCY-BASED WATER COUNCILLOR EDUCATION AND TRAINING PROGRAMME**

As the competency-based water councillor education and training (CBWCE&T) model and related concepts, principles and terms were discussed in detail in Chapter 4, they will only be explained briefly here. The principles for assessment and moderation of the CBWCE&T programme will be explained at greater length. As a point of departure, however, it is useful to clarify the differences between skills programmes, learnerships, unit standards and qualifications. These concepts are used in this study to address the determined skills gaps and required competencies for councillors in the water portfolio in line with the curriculum in Appendix B. Appendix B provides the decision-makers and capacity-building options of water, energy, health and environmental management courses or qualifications to be considered under the NPM or modernisation of Local Government, now subsumed under LGDA values (Higgs, 1999:121-142; Griddle, 2004:525-548).

### **7.2.1 Skills programmes**

The establishment of the National Qualifications Framework (NQF) and the South African Qualifications Authority (SAQA) is an attempt in South Africa to bind all education and training programmes into an integrated system in which there are minimum barriers to the mobility of candidates and learners (of which councillors are a sub-set). According to the SAQA Bulletin (SAQA 1999b: 11), it does not matter how a certain set (unit standard) of knowledge, skills and values has been achieved in order for it to be recognised by the NQF:

As long as you can perform a specified task competently [demonstrating that you have the required knowledge, skills and values] then you can be given credit and awarded a certificate. The process [in-put] is no longer to be specified [hence the importance of embedded knowledge and recognition of prior learning], what matters is the evaluated performance.



Based on the quotation above and in accordance with the NQF, as supported by Gawe (1999: 24), Erasmus and Van Dyk (2004: 21-22), and the National Training Board (1994: 8-11), an ideal water portfolio councillor profile and the CBWCE&T curriculum were informed by principles of adult education and learning that underpin the qualifications and assessment for the CBWCE&T programme to provide the required benefits. These assessment principles include the following:

- The provision of effective feedback to learners or councillors;
- The active involvement of learners or councillors in their own learning;
- Adjusting CBWCE&T facilitators, experts and assessors to take account of the results of assessment;
- Recognition of the profound influence assessment has on the motivation and self-esteem of learners or councillors, both of which are critical influences on learning; and
- The need for learners or councillors to be able to assess themselves and understand how to improve their work, and implementation of exercises as part of supporting development in their WSAs.

As the CBWCE&T programme is based on the outcomes-based education (OBE) paradigm that was discussed in Chapter 4, these principles will be applied to the core roles and responsibilities of water portfolio councillors that include, inter alia:

- Planning in terms of the WSDP, IDP and water master plan;
- Infrastructure development and implementation;
- Water tariffs and financial management;
- Institutional water governance, regulations and policy directives in integrated water resource management (IWRM); and
- Water provisions and service delivery arrangements.

These principles are further explained and interpreted below within the context of the National Education Policy Act and the establishment of sector education and training authorities (SETAs) in terms of the National Skills Strategy. In the Skills Development Act 97 of 1998, as amended, a skills programme is defined as a learning intervention that

- is occupationally based;
- will, when completed, constitute a credit towards a qualification registered in terms of the National Qualifications Framework, as defined in section 1 of the South African Qualifications Authority Act;
- uses training providers referred to in section 17 (1) (c); and
- complies with any requirements that may be prescribed.

### 7.2.2 Learnerships and unit standards

A learnership is a means of obtaining a qualification while one is working. It is made up of unit standards. Unit standards are the specific tasks that need to be achieved to complete a qualification. Each unit standard will have exit outcomes, assessment criteria, embedded knowledge and cross-critical fields. There are three types of unit standards:

- **Fundamental** unit standards cover literacy and communication, and basic mathematical skills.
- **Core** unit standards, which are central to the qualification, all have a range of elective unit standards. Learners are able to choose which are the most suitable for their occupation and most applicable to their workplace.
- **Elective** unit standards can be selected from a range of unit standards, depending on the type of qualification the learner is applying for.

A learnership is an occupational qualification that is governed by a formal contract in terms of the Skills Development Act (SDA). It includes apprenticeships (which are included in the definition in the SDA, although many apprenticeships are still running under the terms of the old Manpower Training Act) and consists of theory and work-based experience, with formal assessment and a qualification. If one is already an employee or councillor when the learnership is started (section 18(1) sector development agencies (SDA)), employment continues. If one is unemployed when it is started (section 18(2) SDA), then the contract ends once completed, but it may lead to one being offered employment, depending on good performance and results as well as reliability during the programme (Pralhad & Hamel, 1990:79-92; Pitt & Clarke, 1999:301-316; Post, 1997: 733-740).

A learnership is defined as a learning programme that

- consists of a structured learning component;
- includes practical work experience of a specified nature and duration;
- leads to a qualification registered by SAQA and related to an occupation; and
- is registered with the director-general of the Department of Labour in the prescribed manner or with the ETQA of a relevant SETA, such as the EWSETA ETQA.

### 7.2.3 Qualifications

The Oxford Dictionary defines qualification as “a pass of an examination or an official completion of a course”, especially one conferring status as a recognised practitioner of a profession or activity. While this term is used interchangeably with learnership, qualification is more applicable to institutions of higher learning. Qualification also refers to the capacity, knowledge or skill that matches or suits a tertiary diploma or degree, for example a three-year diploma or degree from a college or university. A post-secondary degree awarded to an individual after completion of undergraduate course work usually takes eight semesters and 150 credits to complete. Course work for bachelor's degrees is done at the undergraduate level and is made up of general studies

and major specific classes. Bachelor's degrees are awarded in specific concentrations and are built on the Bachelor of Science, Bachelor of Arts, or Bachelor of Fine Arts foundations. Individuals pursue bachelor's degrees to further their education and advance their careers. A bachelor's degree may also be referred to as a baccalaureate in a particular discipline.

In this study, water engineering is referred to as a discipline. The water engineering discipline deals with the analysis of an engineering system at all stages, to improve the quality of the production process and of its output. In water infrastructure engineering, "quality" is a measure of excellence or a state of being free from defects, deficiencies and significant variations. It is brought about by strict and consistent commitment to certain standards that achieve uniformity of a product in order to satisfy specific customer or user requirements. The ISO 8402-1986 standard defines quality as "the totality of features and characteristics of a product or service that bears its ability to satisfy stated or implied needs". For instance, if an automobile company finds a defect in one of their cars and has to recall a product, customer reliability and therefore production will decrease because trust will be lost in the car's quality.

Contextually, water as a discipline fits under civil engineering and planning. Water is a scarce resource in South Africa. Owing to climate change, it will become even more scarce as rainfall patterns change. According to forecasts, rainfall events are likely to decrease in frequency and increase in intensity, resulting in more droughts and more floods. In addition, the water sector contributes to climate change by having high-embodied energy due principally to pumping. In spite of this, municipalities and industries continue to squander and pollute the limited water available in South Africa. While part of the solution lies in supply-side investments in infrastructure, the real change is required in relation to water efficiency, wastewater treatment and recycling.

"Water quality" is a term used to express the suitability of water to sustain various uses, such as agricultural, domestic, recreational and industrial, as well as aquatic ecosystem processes. A particular use or process will have certain requirements for the physical, chemical or biological characteristics of water: for example, limits on the concentrations of toxic substances in water used for drinking, or restrictions on temperature and pH ranges for water supporting invertebrate communities. Consequently, water quality can be defined by a range of variables that limit water use by comparing the physical and chemical characteristics of a water sample with water quality guidelines or standards. A councillor who is responsible for water and infrastructure planning and development should be able to understand, articulate and apply water governance and water quality elements in the WSA's water business plan and activities.

#### **7.2.4 Exit outcomes, national certificates and qualifications**

The terms "programme" or "curriculum" are used interchangeably to describe or discuss the selection, design and implementation of the learning outcomes of the CBWCE&T model. Authors

such as Calder (1995: 66), Kemp, Morrison and Ross (1994: 3), and Hepworth (1987: 35) agree that curriculum outcomes should

- assist with the planning of teaching techniques and strategies;
- present the goals and objectives of the specific programme or, in this case, the CBWCE&T model;
- include a body of content that will facilitate the attainment of CBWCE&T outcomes; and
- provide an indication of the methods that may be used to evaluate CBWCE&T effectiveness in the water sector or councillor leadership competencies.

The programme or curriculum is therefore a guide for facilitators, assessors and water institutions for planning, designing and teaching or training, and also involves the development of learning programmes (SAQA, 2000a:5; Carey, 1997:2). In the context of this study, the researcher uses **OUTCOMES** as an acrostic that refers to the following:

- **O**bjectives of the CBWCE&T model derived from a skills audit of councillors;
- **U**nderstand the reasons for CBWCE&T skills programmes, themes and modules;
- **T**ake stock of the present situation in terms of water scarcity and a declining mining-based economy;
- **C**larify the gap between the LGDA requirements and current councillor competencies;
- **O**ptions generation in which international qualifications have been reviewed;
- **M**otivate for action to be taken in terms of the registration of water governance, climate change, water security, and other qualifications and skills programmes by DWA, SALGA, LGSETA and EWSETA;
- **E**nthusiasm on the part of the councillors to develop themselves and use the CBWCE&T curriculum for the development of their career path and encouragement of them to do so; and
- **S**ervices which are community driven, characterised by greater milieu of community participation in most sectors.

Based on unit standards between NQF 1 and NQF 5, National Further Education and Training Certificates are awarded to competent learners. National Certificates and National Diplomas recognise skills and knowledge that meet nationally endorsed unit and achievement standards. The skills and knowledge that are required for National Certificates and National Diplomas are exactly what employers say they need. These qualifications are nationally recognised because national industry representatives design them. Usually, the credits are between 120 and 166, whereas the credits awarded for diplomas and junior degrees are more than 240. It is significant that each qualification has outcomes for the learner or councillor to achieve.

### **7.2.5 Access**

The National Education Policy Act 27 of 1996 stipulates that every person has a right to

basic education and equal access to education institutions regardless of age, gender [including transgender in sociological perspectives], racial origin, religious persuasion, sexual orientation or disability.

This means that everyone, including councillors, should have access to education and training, and to being examined and assessed according to an approved certification and accreditation process of a particular unit standard recognised by the relevant ETQA. On the basis of this right or entitlement of learners (of which councillors are a sub-set), the principle of access will enable them to demonstrate their learning and capacity to undertake a skills programme, employable skill units and learnerships based on learning outcomes, while the training providers, trainers, educators and assessors will recognise embedded knowledge through recognition of prior learning (RPL).

RPL means the comparison of the previous learning and experience of a learner however obtained against the learning outcomes required for a specified qualification, and the acceptance for purposes of qualification of that which meets the requirements (Regulations under the SAQA Act, No. 18787 of 28 March 1998: 3).

With regard to the relationship between RPL and other assessments, it is also significant that SAQA describes RPL as a process displaying no fundamental difference between its assessment of previously acquired skills and knowledge and the assessment of skills and knowledge acquired through a current learning programme. RPL refers to a systematic process where

a candidate seeking credits for previously acquired skills and knowledge must still comply with all the requirements as stated in unit standards and qualifications. The difference lies in the route to the assessment (SAQA RPL Policy 2002: 8).

### **7.2.6 Diagnostic**

The diagnostic principle offers councillors as learners the opportunity to use an education and training programme as a means to diagnose their needs by auditing their expertise, experience, competencies and attitudes as identified in this study.

### **7.2.7 Assessment**

Assessment is not a “psychometric measurement” (Luckett 1999: 77), but should rather be seen as a process of identifying, gathering and interpreting information about the learner’s achievement of specified NQF standards or qualifications. Luckett (1999: 77) contends that assessment by a relevant ETQA should not assume that assessment instruments would measure learners’ competencies accurately, objectively and reliably, or that testing would be “specific to a particular

context". He argues that assessors and the ETQA body should make sure that an assessment portfolio can be generalised and is reliable so that another assessor can assess the same learner with the same assessment instruments. This means that the assessor or trainer should ensure that the right things are being assessed, as assessment is a social construct. Within the context of assessment, "evidence" refers to the documents, samples, designs or products in other forms that are presented as proof of compliance with requirements specified in a unit standard(s). The evidence must be directly related to the specified requirements. The evidence will be assessed by a registered assessor to determine whether it meets these requirements, and if so, the applicant will be awarded formal credits.

A working definition of assessment refers to all those activities undertaken by facilitators, assessors and experts, and by the learners in assessing themselves, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged (Luckett 1999: 77). Evidence submitted by learners is assessed by means of both formative and summative assessment. Formative assessment is done to determine a learner's knowledge and skills, including learning gaps, as they progress through a unit of study; is used to inform instruction and guide learning; occurs during the course of a unit of study; and makes up the subsequent phase of assessment for learning. Summative assessment is done at the end of a unit of study to determine the level of understanding the student has achieved, and includes a mark or grade against an expected standard.

There are three types of evidence that are often generated in a portfolio of evidence or learner assessment guide or workbook: direct evidence, indirect evidence and historical evidence. The difference between these types of evidence and examples of each type are indicated in Table 7.1 below:

**Table 7.1: Evidence assessment and moderation**

Direct evidence	Indirect evidence	Historical evidence
<p>This is actual evidence produced by the candidate.</p> <p>This is the most valid and authentic evidence and will be the primary evidence used by the assessor in making the assessment judgment.</p>	<p>This is usually in the form of a document, report or other information from a third party.</p> <p>It can be used to verify the authenticity of other forms of evidence.</p>	<p>This is evidence of what the candidate produced, achieved or did in the past.</p> <p>It is the least valid form of evidence, as it does not prove current competence.</p> <p>Therefore, the assessor will need to check whether this evidence is supported by current evidence.</p>
Examples	Examples	Examples
<p>Direct <b>observation of tasks</b> and activities</p> <p>Answers to questions, either orally or in writing</p> <p>Documents from work such as a logbook, a completed report, projects or products produced by the candidate</p>	<p><b>Testimonial or letter</b> from a manager or other person attesting to the competence of the candidate</p> <p>Performance appraisal reports</p> <p>Training records or results</p> <p>Project records</p> <p>Certificates, awards, medals, prizes or other forms of recognising achievement</p> <p>Photographs of completed work</p> <p>Customer/client ratings</p> <p>Videotapes of a relevant event</p> <p>Articles in the press reflecting the candidate's accomplishment</p>	<p>Results of the assessment on previous programmes and credits obtained</p> <p>Evidence of professional development programmes previously attended</p> <p>Any other formal qualifications</p> <p>Certificates of industry-related programmes</p> <p>Membership of WISA or professional body</p>

The facilitator and assessors identify which types of evidence a learner has included in his or her portfolio of evidence (PoE):

- The indirect evidence must be provided by a reliable source, namely persons who are in a position to comment on the learner's achievement and/or competence in relation to the areas covered in the qualification, for example a supervisor or manager; and
- Historical evidence from a number of years ago must be supported by other evidence that the learner is currently competent in the areas indicated in the certificates or programme records.

In addition to the examples of evidence above, the facilitator or assessor must identify the criteria that will be used to evaluate evidence of a learner's (or councillor's) competence using four criteria:

- Validity
- Authenticity
- Currency
- Sufficiency

Table 7.2 shows the questions assessors will ask in assessing the evidence against each of these criteria:

**Table 7.2: Assessment criteria for CBWCE&T programme**

Criteria	Questions the assessor will ask
Evidence must be valid	Is the evidence relevant? Does it relate to the specific outcomes and assessment criteria? Does it stay within the parameters of what is required? Is it in a form that will allow accurate judgment to be made of the candidate's level of competence?
There must be sufficient evidence	Is there enough evidence to make an accurate judgment about the candidate's performance? Does the evidence show, beyond reasonable doubt, that the required standards have been achieved? Does the evidence indicate that the competence is truly embedded in the candidate? Does the evidence cover all the conditions indicated in the range statements of the unit standard(s)?
Evidence must be authentic	Is the evidence the candidate's own work? Was it achieved by the candidate alone? Did the candidate really produce the evidence?
Evidence must be current	Does the evidence reflect current competence? Is historical evidence supported by other evidence to indicate that the candidate is still competent?

Source: Lockett, 1999: 77

### 7.2.8 Guideline for portfolio of evidence development

A portfolio of evidence (POE) or workbook is a collection of different documents, products and artefacts that prove that someone is competent against specific outcomes and standards. A learner completing a qualification and wanting to be assessed as competent has to generate evidence against all the requirements of the unit standards and of the exit level outcomes of a particular qualification. In the case of the CBWCE&T model, it is proposed that the EWSETA and LGSETA will register the water governance and leadership qualifications for approval by SAQA, and that a group of subject matter experts will be called upon to provide curricula inputs and comments. The responsible ETQA manager or Quality Council for Trades and Occupations (QCTO) will then submit the qualifications for approval and implementation thereafter (Kalleberg, 1977:124-143).

The workbook or POE is designed to:

- assist learners in generating formative evidence against all the requirements of the qualification; and
- prepare learners for the summative assessment. Every assignment that the learner needs to complete should be filed in this portfolio. Some of the assignments may include interviews, the



use of an audio cassette of the interview, oral assessment or observation techniques, to mention but a few. The audio cassette is also part of the portfolio, but needs to be put into a box or container and submitted together with the paper-based portfolio (Kerr, 1975:769-783).

The evidence the learners submit has to meet certain criteria, as described in Table 7.2 above. These criteria are summarised as **VARCS** (valid, authentic, reliable, current and sufficient).

Evidence is collected by means of some kind of instrument. These instruments take different forms and may include, for example, questionnaires, interview schedules, simulations, role-play, observation checklists and products. The assessment instruments based on the exit outcomes of the unit standard; skills programme and/or learnership for the CBWCE&T programme need to be designed so that they comply with the following principles, which are summarised as **VROD**:

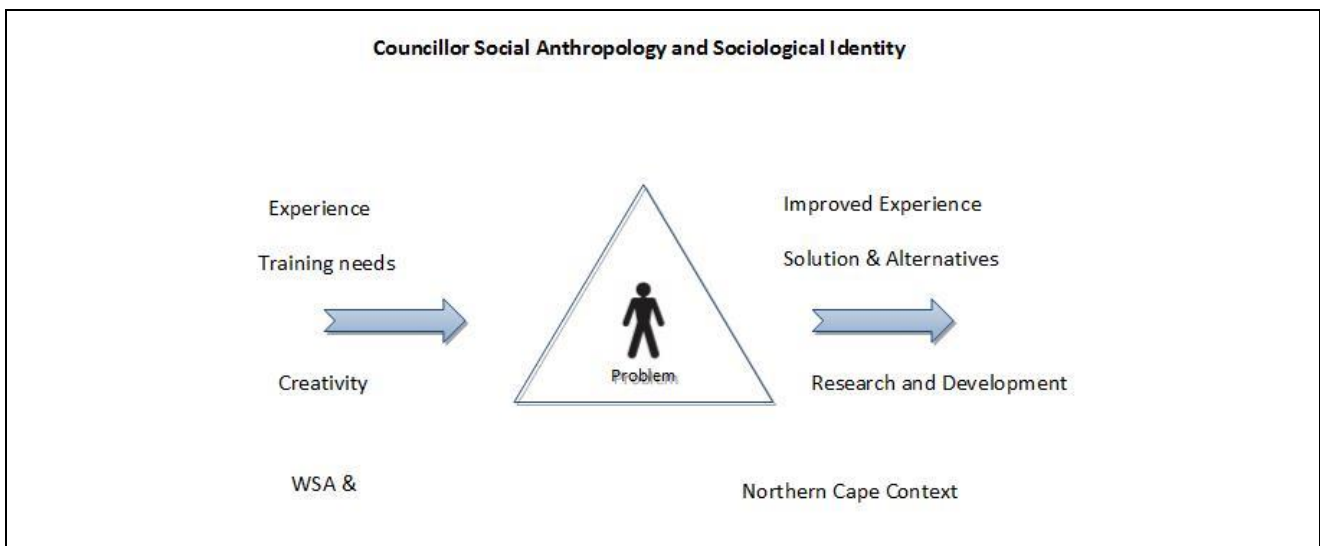
- **V** is for **valid**: the instruments used to collect evidence (such as tasks or tests) must assess what they are meant to assess. If a learner needs to write an answer to a question but his or her spelling is wrong, it does not mean that the learner is “not yet competent”.
- **R** is for **reliable**: the instrument must be able to give the same results when used by different people at different times. Everyone answering it must understand a question that is asked in a test in the same way, or else it is not reliable.
- **O** is for **objective**: the instrument must enable the assessor to be objective. If the criteria are not clear, the assessor has to make his or her own judgment. This could result in different assessors making different judgments of competence for the same person. For instance, the marking memorandum of an assignment must be clear enough so that all the assessors marking it assess it in a similar way.
- **D** is for **differentiate**: the instrument must enable the assessor to make a clear judgment on whether a candidate is competent or not. Once again, an instrument that enables the assessor to be subjective allows different assessors to make different judgments on the same evidence.

### **7.2.9 CBWE&T programme constructed on the basis of needs of councillors and WSAs**

From the argument above by Lockett (1999: 77), as supported by Schoombee (1975: 3-4), it can be deduced that judgments about a learner’s competence should be integrative and inclusive through a collective effort between the trainer (as an assessor), learner (as a councillor), and organisation (as a local authority or municipality). This triangulation approach requires that both the learners (councillors) and their organisations (local authorities in the Northern Cape) should, as far as practically possible, be allowed to negotiate and co-construct the curriculum contents on the basis of their water services skills and competencies needs, as identified in this dissertation, and their experience in dealing with water services system needs. The trainers or training institutions will then be required to adjust and change their training materials to meet those strategic needs of councillors and local authorities. This will ensure that human judgment errors on the content and

format of assessment and grading systems are internally controlled to reflect a collective decision (Cohen, Dyckman, Schoenberger, & Downs, ; 1981:21; National Training Board, 1994: 8-11; Erasmus & Van Dyk, 2004: 21-22). For this reason, the portfolio is a maximum requirement of SAQA. SAQA approves a qualification based on minimum credits for fundamental unit standards, elective unit standards and core unit standards. A qualification will have a minimum of 120 credits distributed according to fundamental, elective and core unit standards.

A CBWCE&T programme must be 'owned' by the ward committee members and councillors to ensure strong community and local institution participation. Such a ward-based approach is also strongly associated with the sustainability of water governance. The CBWCE&T programme approach is more likely to be successful if it takes into account the context of participants' needs as schematically represented in Figure 7.1.



**Figure 7.1: CBWCE&T model for councillor development**

Given the elements that should be taken account, as shown in Figure 7.1, it is necessary for the facilitators or subject matter experts to keep the following in mind during training sessions:

- Councillors should be regarded as adult learners who are open to new truth or information, and their views should be respected.
- Activities should be built around water portfolio job descriptions and functions.
- Tasks, exercises and assignments must be based on the WSA.
- The objectives of the CBWCE&T programme should be to satisfy the councillors' needs.
- Training should be focused on hydropolitical issues and water governance.

In water governance and hydropolitical development, the facilitators and learners are expected to work together and share information, which provides a much better base for understanding the problems. Having been involved in various training programmes since 1994, the researcher has

observed that water governance has a very strong relationship with production systems and is related to other sectors such as education, health, environment, economics, tourism, mining and agriculture, to mention but a few. Therefore, the facilitators should understand that water governance must be approached from an integrated planning and development perspective, with the end users or water consumers at the centre of development and training sessions.

#### 7.2.10 Accreditation

Burke (1995: 161) defines the principle of accreditation as a process by which an authority gives formal recognition to a body, acknowledging that it is competent to carry out specified activities in accordance with appropriate regulations, and assessment criteria. Thus, accreditation of achievement by learners should be closely linked to the formative and summative assessments made throughout the learning period.

#### 7.2.11 Remedial action

Moore (2000: 211) refers to remedial action as a principle that is used in a work-based learning system. The learner-centredness approach might address most of the councillors' needs in their workplace environment, whereby corrective experimental learning outcomes can be jointly designed, planned and implemented either through local authorities' human resource departments or units. This remedial action can be exercised by using the **GROW** model, which involves the following steps:

- **Goal** – point that learner wants to reach, or definition of what must be achieved;
- **Reality** – point where learner is now, or understanding of the current situation;
- **Obstacles/Options** – discuss available options and choices; and
- **Way forward** – identify an action to be taken or exercise to be done.

As part of coaching, the facilitators can use the **SHOOTS** model for assessment or remedial actions:

- **Seek** to understand;
- **Hone** the goals;
- **Objectives** set;
- **Options** and action planning;
- **Try** it out; and
- **Success** review.

Beardwell and Holden (1994: 351) have defined a number of instruments to provide remedial actions using aMAP2 types of questions. The aMAP2 refers to **Action** by **Motivating**, **Awareness** and **Possibilities** using **Power** questions. Another way aMAP2 is represented is by the **CIGAR** model, which stands for:

- Current situation in the water sector or WSA in Northern Cape;
- Ideal outcome of the training in terms of developmental water services and performance;
- Gap analysis and identification of appropriate interventions such as WAC and CBWCE&T;
- Action to ensure water flux solutions assist with investment model; and
- Review progress and achievement as part of ongoing monitoring, evaluation and reporting (ME&R).

### **7.2.12 Progress**

One of the outputs of an education and training programme could be the ability of a council and its councillors periodically to review and reflect on the impact of such a programme (intervention) in terms of internal procedures in pursuance of section 160 of the Republic of South Africa Constitution. This will, in turn, provide feedback to the training programme or national policies (Mott, 1994: 154).

### **7.2.13 Synthesis of the principles**

It can be deduced that the proposed model for CBWCE&T should be based on commonly accepted adult learning principles of lifelong education, whereby learning occurs through a wide variety of styles, methods and contexts in order to integrate the learning into the experience of the learners (of which councillors are a sub-set) to form new creative outcomes (Harris & Saddington, 1995: 3; Masters & McCurry, 1990: 4). According to Harris and Saddington (1995: 3), Shaughnessy (1996: 7-8) and Cohen et al. (1994: 12), OBE-based learning is about more than merely converting old objectives into a new format. As discussed in Chapter 4, it reflects a paradigm shift, which, if authentically embraced, will require change in some aspects of educational services as well as in the institutional arrangements of local authorities. Thus, if the essential root values linked with education and training impacts or outcomes are not contextualised and operationalised to the workplace environment and the context of local authorities, it is logical to deduce that an education and training programme as a component of capacity building may turn out to be another instance of fruitless expenditure and a waste of time on the part of local authorities and councillors (as learners).

In realising this possibility, the researcher reviewed a number of education and training programmes in order to add value to the socioeconomic and developmental role of local government in South Africa. Although most of the programmes were available in the water sector, it was noticed that they were not necessarily focused on councillors as learners. This meant that the researcher had to adapt and adjust them in order to meet the objectives of this study. It is also significant that there is at present no water governance qualification in either the LGSETA or the EWSETA. As per SAQA minimum requirements, councillors have a right to be trained on a skills programme under a registered qualification, as discussed in this chapter. This means that the

processes for registering a water governance qualification will have to be followed before one develops the learner guides or training manual, learner assessment guides and facilitator guides.

The CBWCE&T guideline is informed by LGDA values (Harding *et al.*, 1981: 59-60). According to Mott (1994: 151), for such models to be applicable in any learning environment, they need to be implemented in a structured programme with explicit outcomes. Based on the literature review and these aforementioned documents, it appears that there is an international consensus that an education and training programme without a curriculum based on explicit learning outcomes is difficult to implement. On the basis of the evidence from the literature, it can be concluded that a practical education, training and development model for councillors in the water sector depends on important principles, which may be summarised as follows:

- Quality assurance by a relevant ETQA or QCTO;
- Training of councillors on a structured programme based on registered unit standards and a qualification registered with the relevant SETA or institution of higher education;
- Efficiency of an education, training and development programme that is occupationally based in the context of a local authority's environment;
- Equity and access to education and training for all learners, of whom councillors in local authorities are a sub-set;
- Validity and reliability of an education, training and development programme;
- Transparency of the assessment process;
- A curriculum based on explicit learning outcomes; and
- Training of councillors as learners in their key performance areas and identified needs as an ongoing process.

### **7.3 STEPS FOR APPLICATION OF CBWE&T MODEL**

In terms of a systematically planned water services education and training programme, the steps involved may include the following:

- Set standards and criteria for on-the-job performance of councillors;
- Specify what information is required effectively to monitor and control water resource management and developmental water services as a performance area of a WSA;
- Develop or have developed appropriate measuring instruments;
- Determine convenient monitoring points and centres such as programme management units (PMUs);
- Schedule monitoring activities;
- Monitor and record actual performance;
- Evaluate changes in knowledge, skills, attitudes and behaviour;
- Validate the effectiveness of training in achieving performance results;

- Conduct, or have conducted, a cost-benefit analysis to determine that training was a cost-effective method of achieving the desired objectives;
- Take required corrective and/or preventive action; and
- Maintain such record systems as are required by law (Mott, 1994: 154).

Whatever the terminology or techniques adopted by training providers and participants, appraisal of the training should as far as possible be planned, relevant, objective, specific, quantitative, continuous or ongoing, cost effective, and facilitating of control in accordance with Mott's (1994: 155-8) andragogy principles, which include the following:

- Evaluation of the efficiency of the training process;
- Validation of the effectiveness of training in achieving performance results and objectives;
- Cost-benefit analysis of training as a contribution to organisational effectiveness and goals as identified in WSAs' water services development plans and integrated development plans;
- Changes in skills at job level to be evaluated indirectly by sampling and directly before and after testing as perceived by participants and stakeholders in the water sector; and
- External validation via a series of tests and assessments designed to ascertain whether the behavioural objectives of an internal, valid training programme were realistically based on an accurate initial identification of training needs in relation to the criteria of effectiveness adopted by training providers, trainers and local authorities.

It is also assumed that each of these principles above, as advocated by Mott (1994), would have to be allocated a weighting, and that there would have to be a scale of achievement. An example of such a matrix based on one developed by Riggs and Felix (1983) is shown in Table 7.1. Table 7.1 provides for performance criteria on a 10-point scale for each of these criteria and a weighting of the various criteria to give a value for each performance and to validate whether all other elements of the principles are translated into competencies of councillors. Similarly, the weighting allocated to each criterion will depend in many cases on the executive council's experience of how each contributes to the objectives they desire vis-à-vis inhibiting factors for transfer of knowledge, as depicted in Table 7.1. Actual performance should as far as possible be objectively quantifiable in terms of these criteria. Given the requirements for the matrix to serve as a monitoring and measuring instrument, it is possible to use it to monitor on-the-job performance before and after training. It appears that this matrix is in line with the White Paper on Public Service Education and Training (1997: 35) for evaluation of education and training indicators, which includes:

- **Output:** whether the capacity of learners has improved in accordance with an agreed measurement; and whether an efficiently and effectively coordinated framework for ensuring the provision of appropriate and adequate public service training has been established and sustained (Phares, 1991: 367; Louw, 1993: 117); and

- **Impact:** whether improvements in the capacity of public servants have improved the overall efficiency and effectiveness of the public service from a citizen point of view; and whether the education and training needs of public servants have been met (Mott, 1994; Fletcher, 1997: 24).

**Table 7.3: Performance matrix**

Performance description	Criteria T	Scale TT 0-10	Total	Weight	Value
e.g. sale of water/p/month					
TUnits TTNorms on which to base scale can be set to be equal to the experienced councillor's standard of competence, given the required performance.				Total	Index

Source: Riggs and Felix, 1983.

#### 7.4 STRATEGIC GUIDELINE AND ACTIONS

As reflected in this study of councillors, shared needs or reflected managerial schemas require a unit of analysis that functions as a point of reference. In the explanatory framework given by Grandori (1997: 29-47), read with Mott (1994: 155), as well as LGDA principles such as accountability, and value-partnership as possible mediation modes to address the preconceived LGDA requirements for councillors and councillors' shared managerial schemas (micro-level analysis), the strategic guideline for an appropriate water services education and training programme for councillors is the unit of analysis. To categorise the programme design, the concept of nodes and links is applied by Grandori (1997: 32). Nodes' are defined as organisational actors of which councillors in water services portfolios in 33 WSAs in the Northern Cape are a sub-set] and the "links" are the interaction processes between nodes or water sector stakeholders that underlie the significance of these nodes in water services portfolio-related competencies and skills. A strategic intervention or action means a change in one or more dimensions of the nodes and links, having a wide range of LGDA sub-systems in 33 WSAs and 370 councillors in terms of content. The CBWCE&T design has at least three dimensions of the nodes and links: number, position and content. In the case of various training initiatives in South Africa, "[their] governance forms that are theoretically described and assessed ... [are] too low with respect to the observed variety in economic life" (Grandori, 1997: 29). Table 7.4 below indicates how the concept of nodes and links was used for the purposes of the guideline proposed by the researcher. This can be complemented by SAQA assessment criteria.

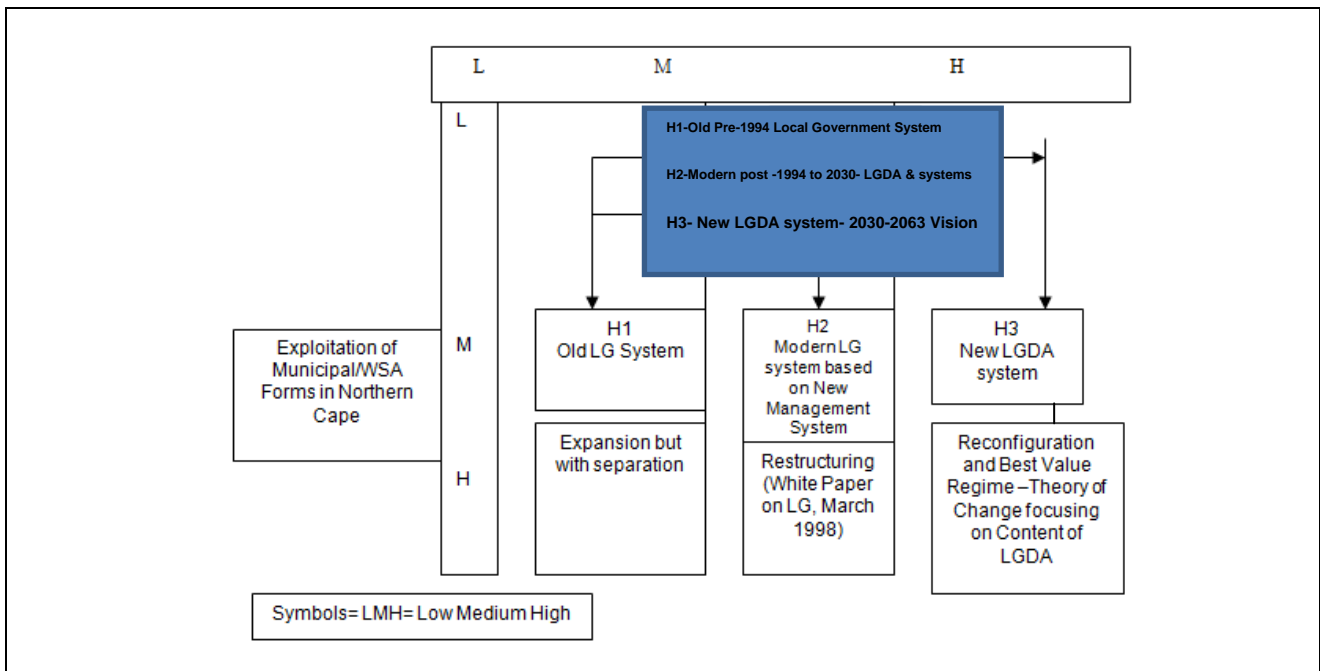
**Table 7.3: Strategic guideline for developing a training programme for councillors in the water services portfolio**

Category	Nodes	Links
Number	Change the number of nodes (size) of the organisation (in terms of gender representation and age distribution of councillors, downsizing or expansion).	Change the number of links (density) of the organisation (e.g. increasing number of vertical links).
Position	Change the position of nodes within the organisation (e.g. institutional reforms, section 78 processes, restructuring of local municipalities into water services authorities (WSAs) in terms of decentralisation and devolution of powers and functions).	Change the position of the links within the organisation (e.g. institutional reforms and decentralisation of water services).
Content	Change the properties of nodes (or of newly elected councillors to be empowered on water services, water resource management, interactions and interrelationships, strategic planning, financial management, population and demographics as well as monitoring and evaluation in 33 WSAs).	Change the properties of links or characteristics of nodes or councillors (e.g. changing the culture or competencies and skills).

Source: Adopted from Grandori, 1997: 897-925.

The Northern Cape's 33 WSAs are relatively new institutions, as their powers and functions were announced in July 2003. In contrast with the old local government (LG) system, the new LGDA as a public management system places more emphasis on adaptation to the environment, structural arrangements to meet the needs of the poor (World Bank Report, 2004) and strategic interventions and changes on position (decentralisation of water services to address the backlog and meet national targets) and links of new skills required by the new LGDA and newly elected councillors, with a shift to address gender balances. Accordingly, the ability to achieve accountability and public responsiveness in the decentralisation of water services has been greatly advanced through highly technical management systems, such as management by objectives (MBO), planning, programming and budgeting (PPB), or programme evaluation review techniques (PERT). Such systems have been adopted in local government to facilitate rational decision making within the complex LGDA system (Boyne *et al.*, 2001). This can be schematically reflected, as in Figure 7.2.





**Figure 7.2: Three dimensions in 33 WSAs in the Northern Cape**

Source: Adopted and modified from Grandori (1997:981)

### Grandori Hypotheses are used Propositions

The researcher adopted Grandori (1997) hypotheses, which are used as propositions in Figure 7.2. above. With reference to Table 7.3 and Figure 7.2 above, the following propositions ( **P 1 to P4**) are presented to guide the direction of interpreting and understanding the guideline offered in this chapter.

- **H1 or P1:** When assessing new WSAs, their institutional forms applying the old LG system are likely to be characterised by **number** of nodes and links. When WSAs are faced with constraints and challenges, their chances of survival are low.
- **H2 or P2:** When assessing new WSAs, their institutional forms applying the modern LG system are likely to be characterised by **positions** of nodes and links. WSAs that apply the modern LG management system can survive to some extent between medium to high, if they are able to exploit the repositioning or institutional arrangements required for the transitional space and timeline from local authorities (LAs) to WSAs. These WSAs are able to exploit the new local government system by searching for new structures to respond to public demands.
- **H3 or P3:** When assessing new WSAs, their institutional forms applying the new LGDA based on the theory of change framework or the new public management (NPM) system of governance adopted from the UK and the USA are likely to be characterised by **content** of nodes and links. WSAs with a new public management system characterised by an intensive exploration process can survive any form of constraint or chaotic environment.
- **H4 or P4:** Chaotic environments are likely to result in an increasing application of the NPM model or LGDA by WSAs. The latter is due to the notion that there is a shift away from the old

LG system toward the modern and new LGDA system, which has also been observed by the researcher. Given the constraints imposed by the natural environment and lack of resources in the Northern Cape, WSAs applying the old classic management system are likely to change their logic as it become less appropriate. According to Argyris and Schön (1978, cited in Tsibani 2005), when a substantial gap emerges between internal and external conditions and the local government management system that is applied, the logic no longer offers the appropriate context of learning. Consequently, the replacement of the core assumptions underlying existing learning processes is indicated as *deutero* learning in line with a horizontal movement from one column to another in the adopted framework herein, as depicted in Figure 7.2.

In light of the views of leading scholars such as Kolb *et al.* (1971), Argyris and Schön (1978) and Revans (1980), it is not difficult to understand the attraction of this guideline framework, incorporating as it does the assertion that only WSAs that are capable of learning will be able to effectively implement “developmental water services” reforms as per national targets. There is no doubt that the new “developmental water services” system in South Africa poses major challenges for WSAs. Capra (1988:xviii, cited in Tsibani 2005) expresses the implication of this challenge for newly established WSAs as follows:

[In South Africa, we need] a new paradigm...[and an international tried and tested approach between WSAs in order to address technical skills and capacity constraints],...a new vision of reality [beyond 2030] to consider adaptive to the 22<sup>nd</sup> century demands], a fundamental change in our thoughts, perceptions and values [on how to deliver sustainable and developmental water services as per national targets on the part of decision-makers, officials and, most importantly, councillors] (my emphasis).

In supporting the need for this guideline framework for designing and developing an appropriate CBWCE&T programme for councillors based on the new LGDA system or “developmental water services”, Bowers (1993: 217) supported by Harding *et al.* (1981: 59-61) warns that

reform does not require a master plan before it begins; but it needs to be guided by a clear sense of direction in which we must move, and a full awareness of the consequences if we fail.

The guideline must empower the facilitators and subject matter experts to avoid errors committed in the past (Hammer and Stanton 1995:14-33). From this multidimensional guideline, actors are offered various opportunities for internalising the categories as proposed herein to include other dimensions as depicted in Table 7.5. Thus far, WSAs have been the focus as unit of analysis. In the eight metropolitan councils in South Africa, divisions are headed by separate management teams, each applying different management approaches. This model may prove useful in analysing the intra-differences between types of municipalities with regard to managerial schemas,

strategic designs and institutional arrangements. Furthermore, the guideline allows decision-makers, training providers and practitioners to analyse different horizontal and vertical movements taking place within and outside WSAs, involving further refinements of practice. Consequently, whilst able to assist in designing an appropriate CBWCE&T programme for councillors, the guideline can also assist both councillors and municipal officials to conceptualise and operationalise (or understand) the management logic they apply to further survive the constraints and appropriate responses required thereafter (see Table 7.4 hereunder).

**Table 7.4: Education and training model for councillors in water services systems**

Medical	Public Health	Athletic	Authoritarian
Assumes that all the councillors' need prescriptions to counter deficiency in their techniques. Searches for answers from international, national, provincial and local human resource development policies and strategies or studies undertaken to decide how to develop an inter-sectoral approach and design an appropriate education and training programme for councillors.	Looks at improving environmental and institutional conditions of local authorities to enhance performance in the water services systems as required by the Water Services Act 108 of 1997, as may be amended, and other pieces of legislation. Focusing on incentives, gaps, rewards, recognition of municipal leadership style, community and municipal challenges, backlog, new demands, support services required including the climate of municipal structural arrangements and the manner in which decisions, debates and public opinion and indigenous knowledge are handled to improve human resources and performance of councillors.	Believes that all councillors in each local authority want to improve their performance. Each councillor demonstrates a political sensitivity, understanding and awareness of different groups and communities or stakeholders and their possible effects on their mandate and duties. Each councillor is able to think and act strategically, undertake strategic analysis of water services demands from customers and communities by making informed and timely decisions through a communication strategy with the ultimate objective of developing a win-win approach to water services issues, thereby using intellect, personal commitment, willingness to delegate and maintain integrity and relationships with customers and stakeholders alike, and finally using water business, technical, financial, managerial, administrative, and contractual terms of reference skills and competencies.	Each councillor to be aware of his or her activities to meet the vision, mission, goals and objectives of his or her local authority through participation in all relevant meetings, conferences and workshops on developmental programmes of his or her local authority

Source: Adopted from Harding, *et al.* 1981: 59-61.

## 7.5. Monitoring and evaluation

The process of monitoring and evaluation is often referred to as verification and validation of the quality and impact of an education, training and development programme in respect of both the learners in terms of career path development and job performance, on one hand, and performance of local authorities in delivering their mandate through the training of learners in key fields in the water services systems, on the other. Erasmus and Van Dyk (2004: 246-281) supported by Simosko and Cook (1996: 146) argue that monitoring and evaluation of the effectiveness of the education, training and development of councillors in the identified skills, attitudes and competencies require the involvement of all stakeholders and role-players in the water industry. This is because monitoring and evaluation is an ongoing complex process of improving, inter alia,

- the quality and efficiency of education and training;
- the quality of educational management; and
- the quality of educational attainment (Department of Education 1997e: 7-12), thereby providing the funders and organisations with reliable and valid information management systems to improve the overall water services and the effectiveness of the councillors in the case of this study.

Accordingly, it may be argued that an integrated monitoring and evaluation model could be enriched by assessing learners' attainment against both the programme (intervention) and local authorities' strategic goals for implementing the programme for councillors in the contexts in which they practise. Unless this process of monitoring and evaluation is conceptualised and operationalised into both measurable goals and outcomes, the research study will remain a fruitless exercise. It is argued that the education and training analytical framework of local government and councillors' needs, including the theoretical arguments presented in Chapters 3 and 4, should all be linked to specific education and training theories, or vice versa.

On the basis of the empirical evidence from the literature above, it could be argued that an effective, reliable and valid monitoring and evaluation process should distinguish between various stakeholders and national, provincial, district and local authority levels for the implementation of an education, training and development model for councillors in the water services business. In defining various stakeholders and levels, it appears that evaluators should consider the following aspects of the proposed education, training and development programme, though the list is not exhaustive:

- The overall management and implementation of systems by stakeholders at all levels;
- Municipalities and training providers in terms of implementation plans for the programme; and
- The actual training or workshops delivered on the proposed learnerships, skills programmes and employable skills units for councillors in the required skills, competencies and performance

areas identified in the previous chapters, including Appendix D (focus group report) and primary evidence from the 77 councillors in this study.

It can be concluded that this evaluation process may logically lead to the development of an appropriate evaluation design that is integrative in nature and content. This, in turn, leads to a consideration of issues of methodology and standardisation of assessment instruments, evidence collection, and capturing and observing the programme, the learners and institutions with respect to the outcomes per skills programme, employable skills unit and learnership to an individual and the overall local authority's performance. This involves proper planning, consideration of the most obvious threats to the validity of the results, and the execution of the assessment of learners against the objectives and outcomes of the programme (Simosko & Cook, 1996: vi).

## **7.6. Conclusion**

In this chapter, the CBWCE&T model for participants as adopted from Harding et al. (1998: 59-61) and literature studies, and which is to be used in the programme design, was presented. Extreme weather events and the various climate change scenarios developed by Schulze (2012) justify the notion that the 21st century has extraordinary challenges and changes. Such changes require extraordinary leaders to manage effectively water resources by using innovative and appropriate technology in the globalised water environment. Given the current gaps with regard to water governance and leadership innovation for change on the part of LGSETA and EWSETA, human resources and development (HRD) and corporate governance units are faced with the challenges of developing both officials and councillors in water portfolios according to the Northern Cape Water Master Plan, Socio-Economic Water Adaptive Capacity (WAC) using tools such as CAR in WSAs. As the mankind's competitive advantage in the matter of water governance dwindles, the relevance of this study in the water sector increases. It proposes both the use of the SETA system and the alignment of elucidated possible qualifications with institutions of higher education such as the University of Stellenbosch School of Public Leadership, as was discussed on 15 July 2013 in Bellville. It must be noted that the guideline is a living documents. For this reason, CBWCE&T curriculum and course outlines are suggested and outlined in Appendix B. However, they would be useful for implementation and revision also at a later stage based on new training demands and the limited time left towards 2030 and potential 22nd century demands.

## CHAPTER 8

### CONCLUSION AND RECOMMENDATIONS

#### 8.1 INTRODUCTION

*The key to any change is the ability to transform a problem into an opportunity. It further implies that the organizational [political] leaders should display a positive commitment and a long-term approach towards continuing professional learning [in delivering sustainable water services] as the ad hoc approach offers [both councillors and] staff [in local authorities] nothing more than survival skills.*

(Cowan 1994: 149)

As a point of departure informed by Cowan's (1994) argument cited above, the researcher has demonstrated his knowledge of challenges, constraints and problems of implementing LGDA values in local administration systems under 33 water services authorities (WSAs) in the Northern Cape Province. Equally, it is in the context of the globalisation of water business and decentralisation of developmental water services to local authorities that a call to rethink the Northern Cape's hydropolitical economy and water governance is made. Such a rethink is timely because the current water governance and hydropolitical economy within the Northern Cape context, as outlined in Chapter 5, suggest that the practices relating to the deployment of councillors in water and infrastructure planning and development portfolios must be changed to meet the complex water governance requirements that continue to emerge from the geographic context and socioeconomic profile of the province, as well as the legislative framework.

This chapter provides conclusions derived from the literature review, documentary analysis and media assessment; the views of 15 focus group participants and a group of senior lecturers at the University of Stellenbosch School of Public Leadership; and empirical data on the 77 councillors as respondents from the Northern Cape Province. The chapter provides a situational analysis of LGDA and its requirements of councillors' skills and competencies in the water portfolio, in line with the objectives of the study. From the situational analysis, the key findings, conclusions and recommendations are arrived at (Holcombe, 1999:227-243; Hollander, 1992:43-54).

#### 8.2 SITUATIONAL ANALYSIS

Apart from their institutional weaknesses, the Northern Cape WSAs, which are part and parcel of distributive water governance, face a series of complex, yet interrelated socioeconomic, political and development constraints. Among these are abject poverty; 27,4% unemployment levels in 2011 and a population that includes 30% of youth under the age of 15 years (Stats SA, 2012: 11); a declining mining-based economy; low productivity; water shortages under the extreme dry weather conditions of the Kalahari desert; threats posed by climate change; erosion of ecological

systems; environmental pollution; and limited massive infrastructure programmes that would attract investors and boost the development of an alternative Northern Cape economic model.

Generally, the analysis of human resource needs in WSAs shows a shortage of specific skills, such as structural engineers, auditors and middle managers. When this occurs, the local authority should identify potential sources of supply and endeavour to attract likely candidates. The correct placement of incumbents in a local authority is also important in this regard, and efforts should be made to match individual job preferences and qualifications with institutional needs. However, the deployment of party loyalists in water portfolios at the expense of candidates with the required minimum competencies and skills is at the heart of this dissertation. Because of endemic factionalism in all political parties in South Africa, deployment in this context is about controlling and managing state resources for the benefit of factional groups. As a result, key essential services such as water, sanitation, electricity and municipal health services are fundamentally ignored or rendered unworkable. If there had to be minimum criteria such as relevant engineering and technical skills and competencies and a sound knowledge of the legislative framework pertaining to water and the environment, one could expect that there would be a greater appreciation of the complexities of water governance in the Northern Cape (which include responsibilities in terms of the SADC Water Protocol) and increased capacity to deal effectively with the challenges identified in this study.

Given the notions of water as a shared model, constitutive pluralism in South African politics and modern political equilibrium in local authorities, it would appear to be self-evident that elected councillors in water governance and related portfolios should have minimum qualifications in engineering and technical disciplines to enable them to engage professionally in debates about shared water and developmental interventions that are required to lead Northern Cape citizens out of the vicious cycle of abject poverty and unemployment. This might then lead to new economic and water governance models in the Northern Cape that would help to reduce structural poverty. Such new models would see municipalities adapting to climate change by adopting a forecasting analysis approach with regard to councillor leadership complemented by official resources.

It appears that the new LGDA water governance strategy requires, *inter alia*, government at all levels to be decisive, act coherently, and exhibit strong, focused and innovative leadership to deal with water scarcity as a strategic intervention to address the Poverty, Unemployment and Inequality (PUI) problem in South Africa, as outlined by Terreblanche (2012: 37-58). Dealing with the water scarcity, the PUI problem and the issue of deployment of councillors with minimum engineering and technical qualifications and relevant waterworks experience requires political will across political parties in South Africa. Despite criticism of the LGDA model, the LGDA and decentralisation of developmental water services are essential to respond to citizens' demands, and provide channels and required platforms for active socioeconomic, developmental and political

participation. The LGDA, depending on the circumstances and leadership capabilities, continues to be an integral component of administration systems of modern human settlements in the Northern Cape. The system of LGDA seeks to achieve effective and efficient provision of developmental water services as part of democratic consolidation and the unification of the diverse people of the Northern Cape.

International comparisons of decentralisation strategies in countries like Sweden, Norway, Denmark, Spain, Portugal, France and Italy reveal that local government was assigned new responsibilities and financial sources, and became more autonomous, and therefore less constrained by the uniformity imposed by central government control. Thus, local government, despite the weaknesses, challenges and problems outlined in this study in terms of the implementation of its mandate and core functions, is the only institution in the Northern Cape other than the provincial legislature and Parliament that can claim the electoral authority to represent the Northern Cape district and local communities, hydropolitical stakeholders and water users.

### **8.3 LOCAL GOVERNMENT DEVELOPMENT AGENDA OR NEW PUBLIC MANAGEMENT IN DEMOCRATIC SOUTH AFRICA**

It has been established that local government, as an institution of public administration and management, evolved from the ancient kingdoms, with increasing demand for reorganisation following the changes in jurisdiction, functions and political civilisation, which led to the transformation from the kingship model to the modern democratic model of government administration in the 19th century (Caiden, 1982: 7-11). In the early 1980s, the bureaucracy reform began. The administrative reforms developed into what we now know as new public management (NPM), which was adopted by the UK and USA governments (Hughes, 2003: 2-4) and driven according to LGDA requirements or values. Among the major characteristics of the NPM are performance-based and customer-centred systems (Stoker, 2006: 50; Borins, 2002: 191). Authors such as Moore (1994: 297; 1995: 22-23) argue that under the NPM, councillors must be more adaptive in terms of determining the means to achieve the broader ends of public organisations, namely, “public value” (O’Flynn, 2007: 360-363; Caiden, 1991: 74; Vigoda-Gadot & Kapu, 2005: 261). Therefore, a Competency-Based Water Councillor Education and Training (CBWCE&T) programme could be one of the means of a local government turnaround strategy to address the current water crisis in that it would meet the need for the required competencies and capacity under the NPM or LGDA in 33 WSAs in the Northern Cape. As discussed in Chapter 1, paragraph 1.3, water scarcity involves water stress, water shortage or deficits, and water crisis. Water stress refers to the difficulty of obtaining sources of fresh water for use in Northern Cape, because of the dwindling of resources. A water crisis is a situation where the available potable, unpolluted water within the Northern Cape Province is less than the province’s needs demand.



The systematic failures by strategic leaders in democratic South Africa to use macroeconomic policies collectively, such as the IPAP, NGP and NDP, to address the PUI problem may lead to a more threatening situation than the current violent service delivery protests and strikes present. Such an investment in the CBWCE&T will go a long way to solve the current “near-unsolvable PUI problem” in the Northern Cape (Terreblanche, 2012: ix; 37-58). Indeed, the origins of the PUI problem in the Northern Cape can be traced back to the British- and American-oriented system of colonial and racial capitalism in South Africa from 1795 until 1994, especially after the discovery of gold in 1886, as argued by Terreblanche (2002; 2012). The current living conditions of citizens in the Northern Cape call for the modernisation of leadership that would ensure the following:

- A critical, procedural, transformative, innovative and adaptable leadership style;
- Decisive leadership within the complex water governance system that seeks innovative solutions to PUI problems and consistently demonstrates a coordinated water infrastructure scheme or strategy to address water scarcity;
- Principle-driven leaders whose values promote socioeconomic development and the enhancement of public accountability, and who would hence be able to restore confidence, credibility and trust among the Northern Cape hydropolitical stakeholders, water users, voters and citizens.

The adage “Think globally, act locally” is an urgent call to put our house in order and focus on water flux models to address the post-Apartheid local government failures. It would be good to invest in significant bulk infrastructure to facilitate interprovincial growth and development and South-South trade flows, as the Northern Cape Province provides access to some of the provinces and SADC countries such as Lesotho and Namibia. Consequently, such a water flux model will have limited political risks, but will be able to accelerate economic diversification, and boost strategic infrastructure in the Northern Cape. Such a strategic decision and political willingness to uproot poverty in this water-stressed province will make the developmental state agenda become what former US president Woodrow Wilson described in 1912 as the purpose of government:

... an instrument of humanity, of social betterment. Its business is to establish and maintain every condition which will assist the people to a sound and wholesome and successful life (Wilson, 1994: 193).

From this definition of what the purpose of government should be, it is clear that innovative leadership is key to converting the Northern Cape from a desert-like and poverty-trapped province into an economic hub for the SADC region. Accordingly, the values of the LGDA, read with the NDP 2030 vision, require councillors to:

- create a shared vision of the LGDA using the Integrated Water Resources Management (IWRM) strategy and Water for Growth and Development, whereby the Northern Cape hydropolitical stakeholders become agents of change and will experience a sense of urgency;

- communicate the vision within and outside WSAs, wherein water allocations and targets will satisfy all parties involved and will open up other opportunities for stakeholders;
- model the LGDA developmental water targets using scientific knowledge and modern technology; and
- build commitment towards the LGDA vision by providing technical solutions and guidance to hydropolitical stakeholders and officials.

#### 8.4 STRATEGIES AND PROCEDURES

Today, the recruitment and selection of councillors without the required skills and competencies is probably the biggest obstacle to be overcome across the political spectrum before the following programmes and plans can be operationalised in the 33 WSAs: the DWA Water for Growth and Development Framework (2010), water governance as implicitly and explicitly explained by the DWA NWRS 2 strategy (2012), the *King III Report on Good Governance* (King Committee, 2002), the New Growth Path Framework (2010) and the National Development Plan (August 2012). Although various councillor-training programmes by SALGA, NDHS and DWA have been conducted from the first post-1994 local government elections to date, they have taken the form of presentations by consultants and junior officials who often have no idea of the roles and responsibilities of councillors in waterworks and asset infrastructure investment models for revenue enhancement. King and Pienaar (2011: 231) concluded that there is also poor understanding in the wider society of the need to protect water resources. This is characterised by weak buy-in to measure transboundary water reserves, leading to less meaningful contributions by hydropolitical stakeholders. This again points to the need for councillors to have appropriate and relevant water engineering and technical qualifications. According to King and Pienaar (2011: 231),

notification to the DWA Regional Office of approved Reserves is in a form that most do not understand or attempt to use. This may be due to the content of the document or due to a lack of relevant training and support. [Consequently], ... this is clearly an area needing sympathetic and dedicated attention.

The typical prototype of an ideal WSA under LGDA values should have the elements of 3Es, and 3Hs to overcome 3Cs. Accordingly, this will lead to sustainable services to give effect to the LGDA framework based on **3Es** (economic-viability, effectiveness and efficiency) guided by **3Hs** (Head, Heart and Hands) to minimise the **3Cs** (complex capacity constraints) suggested by the auditor-general (AG) and the SALGA CEO during the SABC 1 discussion on the AG's findings on South African municipalities that was broadcast on 29 July 2012. Ultimately, the ideal WSA under the LGDA framework provides **efficient, effective and economically viable (3Es) SERVICES**, guided and led by councillors who satisfy the requirements summed up by **3Hs**. Such councillors are technically competent in terms of intellectual development (**Head**). They have passion,

commitment and zeal to engage in inclusive consultation and persuasion of hydropolitical stakeholders (**H**eat) in order to implement sustainable programmes and projects (**H**ands-on delivery) in accordance with the provisions of the RSA Constitution, the National Water Act and the Water Services Act now incorporated in the DWA National Water Resources Strategy (NWRS 2, 2012). These concepts will be valuable for individual councillor development plans (**I**CDPs) in the water business sector for which skills development facilitators (SDFs) under Municipal Human Resources Development Units will be responsible. This framework further allows the researcher to interpret the word 'team' to mean:

- **T**ogether
- **E**veryone
- **A**chieving
- **M**ore.

This **TEAM** collectivism may lead to excellent water **SERVICES** as required for an ideal WSA under the LGDA. It can be argued that the word **SERVICES** is an acrostic that represents the following aspects:

- **S**tatus of water quality complies with DWA Drinking Water Technical Regulations and WHO Guidelines.
- **E**xperienced technical team that provides efficient, energetic and effective leadership in performing a strategic oversight role with regard to water business.
- **R**espect clients and hydropolitical stakeholders or teams to ensure that innovative ideas are not suppressed. Instead, different views and opinions are embraced to enhance the goal of the LGDA.
- **V**aluable inputs and outputs by councillors as transformative agents to add value to the water sector, customers and team members within and outside the 33 WSAs.
- **I**mportance of meeting deadlines and targets in line with international declarations such as the MDGs, as contextualised and operationalised by the South African Parliament into the New Growth Path Framework and the National Development Plan 2030 Vision. This means that the councillors will sign performance agreements with their constituencies in line with provincial and national key strategic priority areas.
- **C**apability statement of the WSAs must be driven by engineering, mechanical and technical leaders and officials in order to ensure that local government as a vehicle to implement projects is not only operationalised in theory, but also that practical engineering and technical logistics are followed in detail in accordance with the principles of accountability, transparency and effectiveness to improve community needs.

- **Efficient** means that inputs or costs are minimised but outputs or outcomes are maximised. This can be achieved through collective team **Efforts**. The team “must govern the clock, not be governed by it”.
- **Sustainable** water resources and developmental water plans are incorporated in the catchment management area (CMA) water master plan for the province. If the CMA or provincial water master plan is input-driven, the technical councillors as transformative agents should be able to guide and advise the province on appropriate steps in order to attract investments to the Northern Cape.

## **8.5 BALANCING COUNCILLOR COMPETENCY WEAKNESSES, GAPS AND REQUIREMENTS**

The individual councillor development plan (ICDP) for councillors to be part of the aforementioned *team* and *services* includes competencies such as: learning agility and responsiveness, which focus on the ability to seek water governance and management information from a variety of sources and to deal with the uncertainty of water resources; the ability to balance work and non-work needs including delegation; and the ability to focus personal time and energy on the important issues regarding the portfolio. In assessing water governance and leadership competencies of the current councillors, it is significant that very few have relevant qualifications in public administration and management, let alone water qualifications. From what was established during the literature review, there is consensus on the strengths and weaknesses of councillors as well as the developmental gaps that should be addressed in a water councillor development programme by DWA, SALGA and other institutions, as shown in Table 8.1 below.

**Table 8.1: Current and future water governance competencies**

<b>Councillor weaknesses</b>	<b>competency</b>	<b>Competency gap and developmental needs under LGDA and water governance</b>	<b>Water portfolio under LGDA competency requirements</b>
Poor learning agility without numeracy, literacy and communication qualifications		Ability needed to provide oversight role in water governance and water provision whereby WSA officials are provided with a Road Map or Water Strategy	Demonstration of learning agility with strong numeracy, literacy and communication skills complemented by engineering and technical subjects required
Poor balance between party politics and waterworks priorities and needs, with centralisation of power and information to the political party represented		Alignment of WSA and DWA policies, strategies, guidelines and manuals with modernisation agenda and good enough water governance in the water sector needed	Ability required to delegate and balance water portfolio priorities and targets for the public good and to give effect to the RSA Constitution
Lack of self-control		Ability needed to enhance team efforts and management of stress and career guidance	Ability required to tolerate stress and maintain resilience
Lack of confidence and confusion about own roles and responsibilities, leading to political interventions in administration and issuing of illegal instructions on water programmes and projects		Ability needed to write, read, analyse, and communicate in a manner that is able to influence water sector stakeholders to agree on the plans, strategies and interventions	Ability required to provide strategic guidance and policy directives using own knowledge of water business and related technical designs within the competitive global environment
Lack of vision and drive to make water services into own core business and priority		Ability needed to develop, plan and execute practical steps to deal with water challenges, constraints and problems using own ability to think critically, and to provide intellectual oversight to both hydropolitical stakeholders and officials	Ability of logical reasoning required in dealing with water infrastructure as part of engineering and technical disciplines

## 8.6 RESTRUCTURING OF LGDA IN SOUTH AFRICA

Although documented evidence on LGDA and the competencies of councillors to fulfil their legislative responsibilities is scarce, there seems to be a general consensus among scholars and water sector stakeholders that councillors' characteristics are often resistant to change management, irrespective of their individual political affiliations. Montgomery (1987: 913), for example, is probably not exaggerating when he describes the local government system in Africa as "one of the most difficult administrative settings to be found anywhere in the world". Describing one of the few large-scale investigations to have been undertaken into organisational behaviour in public organisations (of which local authorities are a sub-set); Montgomery (1987: 913) details a number of assumptions about African organisations that were tested by his study. As Montgomery (1987: 924-926, cited in Blunt & Jones 1992: 227) observes,

the system cries out for administrative reform,... [yet] the changes that the administrative system needs are the hardest to bring about... Political realities tend to undermine the appearance of grand scope for administrative modernisation.

As recently presented by the South African auditor-general's Report (August 2012) and noted by the SALGA CEO on the SABC 1 live programme on 29 July 2012, the current PIG and MIG Funding Policy and the associated funding criteria do not promote an incentive-based model for the few municipalities that have taken internal administration resolutions to fund their operation and maintenance of water and wastewater treatment plants and assets. Like the approximately 300 policy clauses that are self-contradictory, the current sectoral norms and standards, strategies and guidelines often confuse municipal councillors and officials alike. From the above-mentioned SABC 1 live programme coordinated by Vuyo Mvoko, it was clear that the recent "diagnostic overview" published by the National Planning Commission (NPC) under the signature of minister in the Presidency Trevor Manuel correctly captured most of the critical problems with which service delivery in South Africa is faced. These can be summarised as follows:

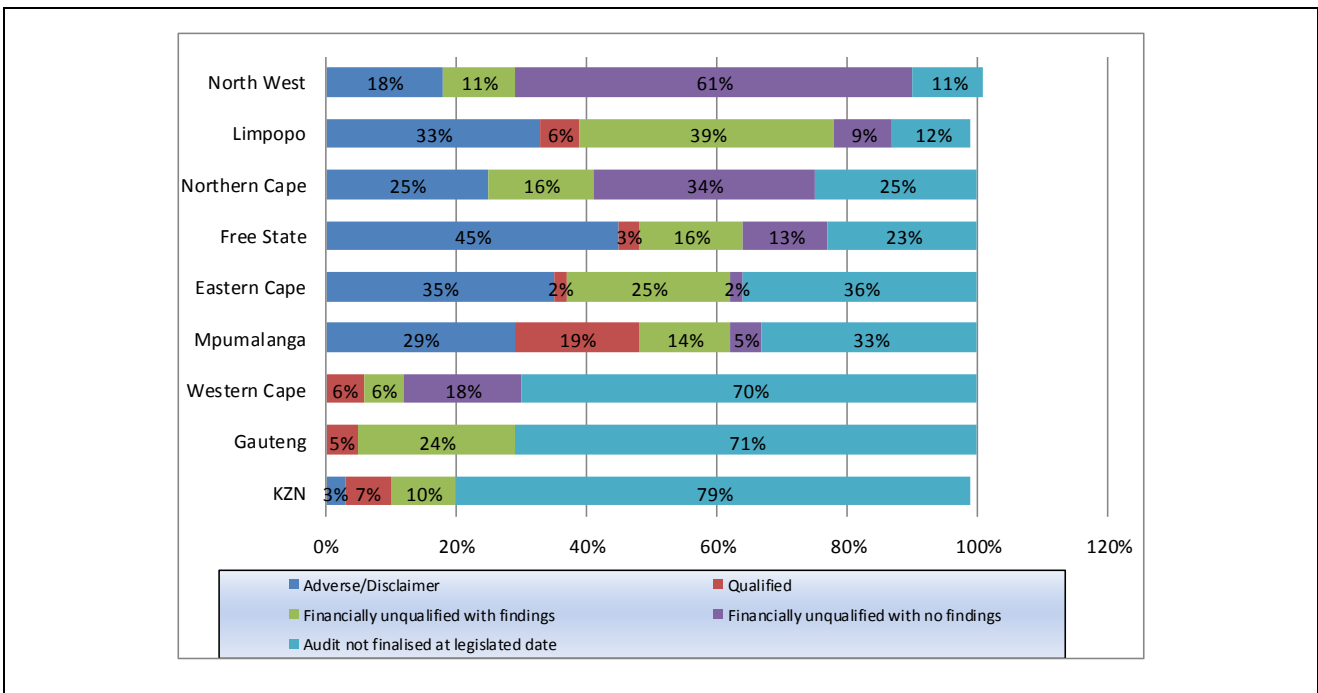
- Rising corruption;
- Weakening state and civil society institutions;
- Poor economic management;
- Increased gap between the rich and the poor;
- Increased get-rich-quick mentality using immoral and devious methods;
- People-centred society envisaged under the LGDA and Ubuntu philosophy replaced by a divided society where individuals are supposed to survive on their own;
- Moral and humane LGDA system replaced by post-Apartheid immoral and inhumane system of governance;
- Politics dominated by short-termism, ethnicity, or factionalism;
- Unacceptable levels of inter-party political intolerance and intra-party conflicts;
- Wide schisms remaining between councillors and traditional leaders, especially in the rural Eastern Cape;
- High levels of political interference in the management of municipalities; and
- Lack of maintenance of infrastructure and standards of service (see also Terreblanche 2012: 124-129, Chapter 1, paragraphs 1.2.5.-1.2.6.).

The problems are further exacerbated by a lack of revenue collection by municipalities, debts, and a culture of entitlement brought on by free basic services and the dependence of municipalities on grants. Notwithstanding the limits to income, the CSIR's *State of Municipal Infrastructure in South Africa and Its Operation and Maintenance: An Overview* (2006) concluded that:

The mismatch between, on the one hand, the often decades-long designed life of infrastructure, and the need for a municipality to manage the associated costs and revenues over that life, and, on the other hand, the much shorter time spans of the MTEF, and the period between municipal elections, results in financial tensions that are not easy to resolve.

As a result, it was established by the DWA long ago that most municipalities become reluctant to prioritise sanitation, related issues, which have an impact on water quality, with the result that failed sewage pump stations [for example] often remain inoperative for weeks before money, and resources are allocated (DWA 2005).

The most common problems experienced with waterborne sanitation reticulation systems are spillages resulting from overloading of the system, and from blockages caused by roots of trees, foreign objects, breakages and deterioration of the network. Routine maintenance of sewers is required to minimise these sewage spills, whereas municipalities do not have the financial and human resources to carry it out. The literature evidence reveals that South Africa undoubtedly has many instances of adequate municipal sanitation infrastructure and developmental water service delivery, but also an increasing proportion of deteriorating infrastructure, together with poor and often unacceptable quality of services. Similarly, while some municipalities have exemplary practices in place in respect of many of the aspects of infrastructure maintenance, gross shortfalls in management policies and practices exist in many others. Between these two extremes, a wide range of capacity and competencies can be found, as seen in Figure 8.1 below (taken from the Auditor General’s Report, August 2012).



**Figure 8.1: Auditor General’s Report on South African Municipalities, August 2012**

Figure 8.1 indicates that there are serious financial management issues at various municipalities, which means that basic services such as water and sanitation will be more affected. From Figure 8.1, it is clear that the support programmes such as Siyenza Manje and Project Consolidate were not effective, albeit that there has been some improvement in municipalities. Additionally, it can be argued that the CoGTA Turnaround Strategy objective to achieve “clean audit targets by 2014” will not be met. As noted by Siddle (2012: 34),

the really alarming thing is that audit outcomes reveal only a very small part of the picture of municipal dysfunction. Many other aspects (compliance, service delivery, performance of functions, basic management issues) are not subject to audit .... The solutions proposed by the auditor general’s office rely unrealistically on performance-based approaches, appeals to leadership, demands for compliance, alignment of organisational structures, the magical improvements of skills and competencies, and so on.

The solutions above referred to by Siddle have been provided by all reports including those of CoGTA (2009a) and other sectoral departments, and are therefore not new in the administration and management of public entities in general, and local government in particular. In sharp contrast to the auditor-general, Siddle (2012: 34) noted that these solutions fail to bring about improvements to the current system of governance that is overregulated with often conflicting pieces of legislation, making the services delivery environment more complex. The end result is that more complex systems are introduced without “good enough governance” systems being provided. What is required is that these solutions must appreciate the fact that South Africa is

inarguably a less developed country, which simply lacks the technocratic skills to meet the demands on municipalities made by our complex local government framework .... Combine this complex framework with factors such as inept political leadership, corruption, elite capture, and clientelism, which prevail in local government. Add to this mix the peculiar inability of the political corrective usually provided by the democratic process to change things ... and we have the makings of the perfect storm now wreaking havoc (Siddle: 2012: 34).

Given the violent protests seen in South Africa over basic services such as water supply and sanitation, the country needs to ensure that such services are delivered in a sustainable manner and strive to achieve the 2030 vision presented by the Presidency via Minister Trevor Manuel in Cabinet in August 2012. It is concluded that there is a need for creating “good enough governance” to deliver water for growth and development strategy for the Northern Cape to attract investors.



## 8.9 REQUIREMENTS OF COUNCILLORS IN WATER PORTFOLIOS

From the reports by the auditor general (2012), supported by the SALGA CEO (SABC 1 live programme, 29 July 2012) and the CoGTA report on the state of local government (2009a), it is clear that there is an urgent need for “good enough water governance” for delivering basic services such as safe drinking water and adequate sanitation. The concept of good enough water governance is

concerned with holding the balance between economic and social goals and between individual and communal goals ... the aim is to align as nearly as possible the interests of individuals, corporations and society (World Bank Report 2000).

Since the first dawn of the democratic South Africa, basic water supply and sanitation has been conceptualised as a “symbol of human dignity and equality of rights” by central government. Accordingly, water is life and sanitation is human dignity, whereby households are living a better life and enjoying the fruits of LGDA values such as sustainable job opportunities, and socioeconomic and developmental interventions to address the systematic poverty inherited from colonialism and Apartheid. While the role of local government may have changed and evolved since 1994, it is now readily apparent that

good [enough water] governance is key to achieving sustainable socio-economic development. States [as well as municipalities] are being challenged as never before by the demands of the global economy, new information and [water and sanitation] technology, and calls for greater participation and democracy (Kusek & Rist, 2004: 1).

Based on Kusek and Rist (2004: 4-5) and in terms of the Auditor General’s Report (2012) (see Figure 8.1), as well as the information provided by Sausi et al. (2012: 12), and Mjoli (2012), there are increasing financial management constraints and challenges for overcoming the service delivery backlogs in South Africa. Backlogs are estimated to be 19,3% in water, 32,6% in access to sanitation (11% of households have no sanitation and 28% have inadequate sanitation), 27,3% in access to electricity, and 40,1% in access to refuse removal. Between 18 million and 24 million South Africans (35-46%) are living in poverty, and there was a social housing backlog of approximately 2,2 million units in 2012. With a population of 51,7 million,

the South African government does not have the necessary resources to meet the increasing demands placed on it, and there is an increase in the gap between what people expect and what government is realistically able to deliver. It is unable to meet the growth targets required to meet increasing demands and its constitutional obligation to provide such services (Sausi *et al.*, 2012: 23).

Although the reasons for service delivery protests are often complex, these backlogs have certainly contributed to the perceptions of poor service delivery and the consequent civil unrest as

evidenced by more than 600 service delivery protests (Vuyo Mvoko, SABC 1, 29 July 2012). Of course, in the face of such challenges, the state should not add further impediments to its own progress. From the Auditor General's Report (August 2012) and Sausi et al. (2012: 23) it can be concluded that unless the recruitment, selection and deployment of South Africa's councillors are based on merit, it is unlikely that they will attain good enough water governance and developmental goals in order to give effect to the Constitution. Rather, and unfortunately so, councillors without the required skills and competencies and their inappropriately appointed and non-technical officials in waterworks contribute to the picture of a public service that is

characterised by poor governance, lack of accountability and transparency, massive failures in planning, budgeting and implementation, incompetent and unqualified [councillors and] officials, and widespread corruption .... These have given rise to service delivery failures, massive underspending, and negative audit opinions; and significant cases of unauthorised, fruitless, wasteful and irregular expenditure by government structures [such as WSAs] (Sausi et al. 2012: 23).

A key contributing factor to service delivery challenges is the deteriorating state of infrastructure in many municipalities. This can at least partly be attributed to the exodus of engineering and technical professionals from municipalities. According to research conducted by Allyson Lawless (2005) as early as 2005, more than one third of local municipalities already did not have a single civil engineer, technologist or technician, and vacancies in local government for engineering practitioners exceeded 1 000.

Since then, the situation has deteriorated even further. It is also noted that there is an overall scarcity of engineering professionals in South Africa, a country with only half as many engineers as doctors. Makgoe (2012: 39), using South-South methodology, adds that

currently South Africa is lagging behind in the number of competent engineers it produces, in comparison to other BRICS nations and developing nations .... In South Africa, there is one engineer servicing 3 166 citizens, compared to Brazil's one engineer for every 227 citizens, and Malaysia's one engineer for every 543 citizens.

In many municipalities, budgets and staffing policies are severely inhibitive of sound infrastructure maintenance, thereby placing much infrastructure (including a significant proportion of that commissioned between April 2005 and December 2009) at risk. PR and WC confirmed this study's findings in Figures 6.29 to 6.32. The great majority of municipalities are not making adequate provision for the long-term preventive maintenance, refurbishment and eventual replacement of their infrastructure. Inductively, it is clear that many municipalities will not be able to improve their waterworks operation and maintenance policies and practices without strong direction and assistance from national government. If municipal infrastructure maintenance is to be adequate, a

great deal needs to be done by national government, including policy review of basic services such as sanitation services.

Notwithstanding the above, it is therefore imperative that South Africa increases the number of engineers and technical skills it produces to narrow the ratio of required engineer to citizens serviced (Makgoe, 2012: 39). This can be achieved, inter alia, through an intensive SETA education and training programme for councillors in the water and related infrastructure, planning and development portfolio in various waterworks, on the one hand. On the other hand, the EWSETA and LGSETA developed a structured recognition of prior learning (RPL) programme for councillors who have finished terms so that they may mentor and coach new councillors in collaboration with sectoral departments such as DWA, DEA, NDHS, CoGTA and SALGA. As discussed in Chapter 3, if former councillors do not have career paths, which include structured skills transfer plans to newly elected councillors, the observation is that they get involved in party factionalism. It is rather better to use their experience optimally to strengthen good governance and best practices than to allow them to be involved in destructive efforts. In such a programme, skills gaps would be identified and presented to train councillors in municipalities to ensure that water purification processes, wastewater treatment processes and sanitation services are implemented in accordance with DWA regulations as part of democratic discourse.<sup>2</sup>

#### **8.10 LACK OF COORDINATION FOR TRAINING OF COUNCILLORS**

There is some lack of coordination and communication both within the DWA (between divisions dealing with water services and water resource management) and between the DWA and the WSAs. It was reported that there are currently no specified procedures and rules that guide cooperation between water institutions such as catchment management agencies (CMAs) and WSAs. With the majority of councillors and officials lacking fundamental water engineering skills and competencies, the existing cooperation is based on capacity and levels of understanding of legislation and strategies on the part of individuals within these water institutions.

#### **8.11 DETERIORATING OF WATER QUALITY**

The main factors contributing to the deterioration of water quality in South Africa are salinisation, eutrophication, disease-causing microorganisms and acidification. South Africa is facing a water supply crisis caused by a combination of low rainfall, high evaporation rates, an expanding

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<sup>2</sup> In the words of Julius Nyerere (1978: 27), "The ideas imparted by education, or released in the mind through education, should therefore be liberating ideas; the skills acquired by education should be liberating skills. Nothing else can properly be called education. Teaching which induces a slave mentality or a sense of impotence is not education at all."

economy and a growing population whose geographical demands for water do not conform to the distribution of exploitable water supplies. In the CSIR, report (2010) titled *A CSIR Perspective on Water in South Africa*; Dr Paul Oberholser reported that in 2005, more than 95% of the country's freshwater resources had already been allocated. Ashton et al. (2008), supported by Rietveld et al. (2009), argue that the exacerbating factors are South Africa's outdated and inadequate water treatment and sewage treatment plant infrastructure and unskilled water and wastewater treatment process controllers.

Of concern for human and ecosystem health are the occurrence, transport and fate of contaminants in the aquatic environment. The major problems are health-threatening microorganisms, numerous persistent and toxic metals and organic compounds. Contamination of groundwater by toxic and persistent compounds can cause irreversible pollution, influencing water users long after the original release into the environment has ceased.

Given the current and anticipated future growth rates of the population, and expected trends in socioeconomic development now subsumed under the NGP and the NDP, South Africa's natural resources are unlikely to sustain current patterns of water use and waste discharge. Even with zero population growth in South Africa, pollutants will continue to accumulate in freshwater systems. According to the above-mentioned CSIR report (2010), the deteriorating water quality can adversely affect human health and the aquatic ecosystem and has economic implications for various sectors of the economy, including agriculture and industry (Oberholster & Ashton, 2008).

Therefore, it is critical for the councillors to be empowered with knowledge of water quality and the consequences of poor sanitation and poor water quality. This conclusion is based on the notion that

without a radical improvement in water quality management approaches and treatment technologies [for both water and wastewater], progressive worsening of water quality will continue to decrease the benefits and increase the costs associated with use of the country's water resources (CSIR, 2010).

## **8.12 IDEAL OR MODERN COUNCILLOR IN THE LGDA**

As the LGDA is an integrated set of planning and review procedures which cascades down through five district municipalities in the Northern Cape to provide links between these district municipalities and 28 local authorities, it is clear that the LGDA or NPM system links the councillors with the water governance strategy and national priorities with regard to safe drinking water quality and adequate sanitation services in terms of the DWA's Blue and Green Drop programme. The emphasis put across by the LGDA is that through performance management, individual councillors will:

- have greater clarity about what their WSA is trying to achieve;

- understand what is expected of them in their water portfolio;
- receive feedback from water users and hydropolitical forums in terms of their performance in providing an oversight role on water governance and developmental water services;
- have continuous support from provincial and national spheres of government in accordance with sections 152 and 153 of the RSA Constitution (1996) and section 7 of the Strategic Framework for Water Services (2007); and
- have an opportunity to assess their overall performance achievements during their term of office using investment, revenue collection, and good enough water governance as measures.

The above competencies for LGDA water councillors are now contextualised and operationalised with the context of Local Government Development Agenda (LGDA) Framework and Adult Basic Education paradigm as depicted in Tables 8.2. and 8. 3. respectively. In Tables 8.2 and 8.3. , these competencies are referred as ICE habits or traits and ACES. From Ngambi's **ICE**, an '**ACES**' Water Councillor Development Programme Leadership Model, which has a long-standing theoretical and academic research, can be applied in 370 councillors in Northern Cape using the adopted guideline in Chapter 7.

**Table 8.2: ICE Habits of Water Councillors**

ICE	Capability/Habits of Councillors
<b>I</b>	Insight, Integrity , Intelligence, inspiration, innovation, ideapreneurship, invigoration and influence in waterworks and active participation with hydropolitical forums
<b>C</b>	Creativity, conceptualization, cooperation, communication, connecting, compassion, commitment, constructiveness, competence, courage, and confidence in dealing with complexity of water resources and ecological systems
<b>E</b>	Engagement, example, enthusiasm, empowerment, empathy, ethics and effectiveness in terms of good enough water governance for growth and development

Source: Ngambi, 2011:94.

**Table 8.3: ACES leadership Model**

Skill	Paradigm or Theoretical Relevance from Literature and Documentary Reviews
Analytical	<ul style="list-style-type: none"> <li>• Scientific management (Taylor, 1911)</li> <li>• Theory X management (McGregor, 1960)</li> <li>• Agency theory (Jensen &amp; Mecking, 1976)</li> </ul>
Conceptual	<ul style="list-style-type: none"> <li>• Cooperative systems (Barnard, 1938)</li> <li>• Organizational social psychology-based systems (Katz &amp; Kahn, 1978)</li> <li>• Systems thinking and organizational learning (Senge, 1990a; Schwella, 2012 –Leadership Presentations December 2012)</li> </ul>
Emotional	<ul style="list-style-type: none"> <li>• Transformational leadership (Bass, 1985, 1997, Burns, 1978)</li> <li>• Emotional intelligence (Goldman, 1995)</li> <li>• Hawthorne studies (Mayo as described by Roethlisberger and Dickson, 1966)</li> </ul>
Spiritual	<ul style="list-style-type: none"> <li>• Self-actualisation in the workplace (Maslow, 1965)</li> <li>• Institutional theology and servant leadership (Greenleaf, 1970)</li> <li>• Value-based leadership (House &amp; Aditya, 1997).</li> </ul>

Source: [http://www.sel.eesc.usp.br/.../developing\\_holistic\\_leaders\\_four\\_domains\\_f...](http://www.sel.eesc.usp.br/.../developing_holistic_leaders_four_domains_f...) accessed: 04 May 2013)

In view of Tables 8.1 to 8.3., an ideal councillors will be able to understand that the 'water crisis' is mainly a governance crisis in the Northern Cape (Terreblanche, 2012; Pillay *et al.*, 2012; Siddle, 2012). Managed correctly, there is a possibility for sufficient water to address Northern Cape water shortages if there is the political will to do so by the current democratic government, which was founded on the principles of good enough governance. Yet, water governance is a complex issue involving multiple stakeholders from all levels of government with different views and objectives. A lack of effective water governance and management of interdependencies across these hydropolitical stakeholders can hamper the efficient design and implementation of water policy reform.

In Tables 8.2. and 8.3, it is deduced that there is a pressing need for a paradigm shift from the water sector common idea that accredited training is not relevant for executive councillors in bulk infrastructure planning and development on one hand. On the other hand, there is also a need for the water sector realise that the climate changes and modelling impacts of climate changes, extreme weather conditions, and water scarcity- all required portfolio leaders in the bulk infrastructure planning and development to have minimum engineering and technical experience to make informed decisions using both **ICE** and **ACEs** . It appears that the CBWCE&T Model is not about improving individual councillor skills and expertise, but improvement of WSAs performance systems within the context of increased public scrutiny of councillors. In other words, the CBWCE&T Model is based on the fact that councillor training programme is about improvement of WSAs water business models to attract investors for socio-economic development. In effect, the water stakeholders should view CBWCE&T as an investment to address current and future challenges in the water sector and ensure that Infrastructure Planning and Development Portfolio councillors are investing to the needs of the 22nd century and beyond. It is therefore concluded that the CBWCE&T Model should be designed and planned with the same careful consideration as any other investment decisions, i.e., creating synergism with LGDA values, performance areas and targets beyond the 22nd century as depicted in Tables 8.2 and 8.3. respectively. Linking CBWCE&T Model to LGDA paradigms such **ICE** and **ACES**, values, principles, performance areas, and targets necessitates that WSAs take a system view of water governance and leadership training programmes as depicted in Figures 2.4. and 2.5. in Chapter 2. read with Figures 3.5 and 3.6. in Chapter 3, and Figure 5.13. in Chapter 5. In the final analysis, this study demonstrates that real life problems or water governance challenges under LGDA administration system have to be addressed using systems methods and inter-disciplinary approaches to resolve them rather than using singular approach as a common practice in the water sector education and training programmes and initiatives at the time of writing this dissertation.

It is concluded that there is no one-size-fits-all solution to these water governance challenges. However, there is a need for a new policy on councillors in the bulk water infrastructure planning and development portfolio in the Northern Cape to provide a policy directive to the water sector regarding water scarcity in the province as an economic risk and constraint for future growth and development. While the 33 WSAs are at different stages in their water management development, they have many common challenges, as identified in this study, which require proper responses and interventions. What matters in the Northern Cape today, and which is the obstruction that blocks out the view to the horizon, is the need for a distribution of wealth to Northern Cape citizens. The Northern Cape stakeholders will have to address the challenge of wealth distribution and

socioeconomic growth that will benefit the majority of citizens, no matter how devastating the consequences may be for some.

The study concludes by looking at the 'new' water portfolio councillor role under NPM or LGDA in meeting the water demands, water governance, and developmental water services requirements in accordance with the DWA NWRS 2, IPAP, NGP and NDP targets as a potential area for further research. The dissertation proposes that the water sector should adopt minimum technical and engineering qualifications for councillors in the bulk water infrastructure planning and development portfolio and an accredited water governance councillor learning programme as national remedies for improving developmental water services thereby creating a LGDA governance and stability. The hydropolitical stakeholders and water sector must come to realise the importance of appropriate recruitment, selection, and deployment of councillors in Bulk Water Infrastructure Planning and Development is an investment to water governance as shared responsibility in Northern Cape. Therefore, there must be a connection between the LGDA values, principles, and requirements and benefits of appointing a suitable qualified councillor for 'good enough governance' in general and 'water governance' in particular.

### **8.15 RECOMMENDATIONS**

Given the vast amount of compelling evidence and the deductions made by the researcher, it is difficult to single out some recommendations as being more important or even more fundamental than others, for they all form part of a carefully integrated set of recommendations concerning the leadership role of councillors of the Northern Cape local authorities in meeting the challenges imposed by various pieces of legislation within the context of the LGDA. In the light of the problem statement as provided in Chapter 1, paragraph 1.2, and as described in the conclusions above, the following recommendations are made:

- The minister of Higher Education and Training (DHET) should consider supporting the Sol Plaatje University in the Northern Cape Province by ensuring that the university has an Institute for Water and Energy that can serve as a regional centre of excellence for executive education in water and energy innovation. The focus of the Institute for Water and Energy should be on strengthening the knowledge and skills of the Northern Cape's decision-makers to address and manage the region's water and energy crisis and challenges effectively. State-owned entities (SOEs) such as the IDC, the DBSA and Eskom, as well as LGSETA and EWSETA, should fund the institute to accelerate the development of scarce and critical skills (especially for both WSA officials and councillors) as a pragmatic step to address the current and future water and energy demands. It is highly recommended that funds are made available for research on scientific solutions in order to ensure that the Northern Cape will be able to adjust and adapt to extreme weather and climate changes.



- In view of the great and rapidly increasing water-demand needs throughout the Northern Cape and the need for improved standards of basic community services such as water services, a comprehensive functional role of local authorities for the coordination and water governance oversight role must be approved as prerequisites for deployment of water councillors by all parties involved in local government affairs.
- The Water Councillor Leadership Programme proposed in this study should focus on developing water portfolio councillors in the areas of human, conceptual, engineering and technical, communication, emotional intelligence, and water sector stakeholders and water industry skills. Because communication skills emerged as one of the strategic skills for interacting with households, citizens and hydropolitical stakeholders both within and outside the Northern Cape Province, communication skills programmes must be developed to enable councillors to enlighten communities and water users about their rights and responsibilities, including the participation of communities and water users in WSDP and IDP review processes.
- Many councillors lacked basic core and foundational skills (including numeracy and literacy) that would enable them to perform effectively. They were reported to be unable to read and write comments on council documents, policies and plans in preparation for council resolutions and meetings, which compromises their ability to exercise an effective oversight role. Local authorities' financial and human resources must be enhanced in order to equip councillors to make informed decisions within the water sector, if socioeconomic development is to take place in accordance with the IPAP, the NGP and the NDP vision beyond 2030.
- The recruitment, selection and deployment of future councillors should take into account the expanded role of local government, which requires engineering, technical and professional expertise in making decisions and reasonable judgements regarding water services delivery mechanisms or options. Within the context of globalised water resources management and water allocation, especially with the Northern Cape Province sharing boundaries with a number of other South African provinces and with countries such as Namibia, it should be a prerequisite for councillors selected for water and infrastructure portfolios to have a minimum qualification of a diploma or degree in water and engineering in order to give effect to the LGDA that is now subsumed under the IPAP, NGP and NDP beyond 2030 vision.
- The Independent Electoral Commission (IEC), in collaboration with the Water and Infrastructure Planning and Development Portfolio Committee in Parliament, DWA, NDHS, CoGTA and SALGA, should develop a guide for the recruitment and appointment of councillors from all political parties in South Africa. This guide should be a working document that represents good legal practices, including moral and ethical principles, and the competencies and skills required for various outcomes of the LGDA in the water business. Such a guide, though, should not be prescriptive and could help political parties to identify the best councillors

for serving in local authorities, while at the same time providing fair and effective procedures that could guide them in their individual political recruitments. Additionally, councillors need to familiarise themselves thoroughly with the councillor handbooks, namely the *DWA Red Book* and the *DWA Black Book* on the roles and functions of councillors. In order to be able to perform their duties honestly and in good faith in the interests of the public good, councillors must be trained on topics such as the disciplinary code of conduct, water governance and infrastructure planning processes, project management, budgeting and water tariffs, and various delivery models using the build, operate, train and transfer (BoTT) framework for implementation of water programmes and projects.

- The existing skills gaps among councillors call for a fresh look at the entire corpus of human knowledge in Northern Cape municipalities and how this can be studied and extended in a holistic fashion. If the proposed integrated education, training and development programme for councillors in local authorities in the Northern Cape can be implemented, it is assumed that councillors as decision-makers would be able to lead development towards sustainability, thereby becoming agents of positive socioeconomic development for their constituencies. However, implementing such an integrated education, training and development programme through unit standards approved by a relevant ETQA or ETQCO body will require a strong partnership between civil society and public institutions. The above requires, inter alia, an adoption of Northern Cape Water Adaptive Capacity and Climate Change Adaptive strategies for complementing the CBWE&T Model thereby able to proactively respond to the rise of services delivery protests and current water crises in most of the WSAs in South Africa.

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## APPENDIX A: STRUCTURED QUESTIONNAIRE



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The questionnaire used for the study is attached as Appendix A for allowing the reader to see the types of questions and instruments used by the researcher to collect, process, analyse, and interpret data in accordance with the research question of the study.

QUESTIONNAIRE SURVEY: WATER SERVICE EDUCATION AND TRAINING NEEDS OF COUNCILLORS

**RESEARCH PROJECT: WATER SERVICES EDUCATION AND TRAINING NEEDS OF COUNCILLORS: A CASE STUDY OF NORTHERN CAPE LOCAL AUTHORITIES**

### AIM OF THE STUDY

- To establish the water services education and training (E&T) needs of Local Authorities councillors in order to empower them to play a significant role in the management of their water services;
- To identify training gaps, which may impede them from fulfilling their legislative requirements in performing water services; and
- To formulate means of overcoming such identified training gaps.

Information aids, material, modules, courses and Learnerships may be returned to the researcher together with the questionnaire.

If you require more writing space use the reverse side of the questionnaire. If you do this, the researcher would appreciate your indicating it with “PTO” or “see attached additional information” etc.

NB: You can be assured that your response/s will be strictly confidential and your name will not be recorded nor linked to the data.

Instructions and guarantee of anonymity:

Please answer all the questions honestly and read the completion instructions and explanatory notes carefully before filling in the questionnaire. You do not need to identify yourself. The researcher will uphold the anonymity of the questionnaire and no respondent will be identified or linked in any way to the research findings in the research report. Please indicate your answer with a cross (X) in the appropriate box.

**SECTION A: (Demographic details)**

Indicate your choice by marking the appropriate selected blank block with an "X".
---

The following questions are for statistical purposes only.

Your municipality

1. Old Name of Municipality \_\_\_\_\_
2. New Name of Municipality \_\_\_\_\_

Category A	Metropolitan	1	
Category B	Local Municipality	2	
	District Management Area	3	
Category C	District Municipality	4	

- 2.1. Local Municipality Name \_\_\_\_\_
- 2.2. District Municipality Name \_\_\_\_\_

- 2.3. Category of a councillor (Please mark with X in an appropriate Box)

EXECUTIVE/MAYORAL COMMITTEE COUNCILLOR	1
PUBLIC RELATIONSHIP COUNCILLOR	2
WARD COOUNCILLOR	3

3. In which of the following age categories do you fall?

Below 30 years	1	
30 – 39 years	2	
40 – 49 years	3	
50 – 59 years	4	
60 years and above	5	

4. Gender:



Male	1	
Female	2	

## 5. What is your Home Language?

English	1	
Afrikaans	2	
Setswana	3	
Sesotho	4	
Sepedi	5	
IsiNdebele	6	
IsiZulu	7	
IsiXhosa	8	
Siswati	9	
Tshivenda	10	
Xitsonga	11	
Other (specify)	12	

## 6. How many years have you served as a councillor?

At most 1 year	1	
2 – 3 years	2	
4 – 5 years	3	
6 – 7 years	4	
8 – 9 years	5	
10 + years	6	

## 7. Do you have any post-matric qualifications?

Yes	1	
No	2	

8. If YES to Question 7, please list all the qualifications obtained in the table below

Type of qualification	Item No.	Name of qualification	Type of institution where obtained			Year obtained
			Technikon	Technical/Community College	University	
Certificate	1					
	2					
	3					
	4					
	5					
COMMENTS						
<b>DIPLOMA (EQUIVALENT TO THREE YEARS OF STUDY AT A TERTIARY LEVEL)</b>						
Diploma	1					
	2					
	3					
	4					
	5					
<b>DEGREE (EQUIVALENT TO THREE YEARS OF STUDY AT A TERTIARY LEVEL)</b>						
Degree	1					
	2					
	3					
	4					
	5					
<b>HONOURS (EQUIVALENT TO A FOUR YEARS OF STUDY AT A TERTIARY LEVEL)</b>						
Honour	1					
	2					
	3					
	4					
	5					

<b>POST HONOURS QUALIFICATION</b>						
Masters	1					
	2					
	3					
	4					
	5					
<b>POST MASTERS QUALIFICATION</b>						
PhD OR DOCTORAL DEGREE	1					
	2					
	3					
	4					
	5					

**SECTION B: (Water Resource Management and Water Services training and identification of Gaps)**

9. Have you attended any training in water resource and water services?

Yes		No	
1		2	

10.1. If no, list any NON-ACCREDITED water resource management and water services training courses/modules you have attended from January 2005 to March 2012.

Qualifications/ Courses/Modules	Institution/s	Year obtained
Water Services Regulation Policy: Contracts, Agreements, By-Laws and Acts		
Water Services Development Plans and Planning for Waterworks: Free Basic Water, Infrastructure and Sanitation Facilities		
Financial Management of Water Services: Tariffs Setting, Cost Recovery Systems of Municipalities		
Water Services Business Plans or Proposal Writing		
Community Participation and Community Development Processes in Water Management		
councillor Induction of Local Government Polices, Finance and Delivery Services by SALGA		
councillor Induction on Human Settlement Policies and Compliances		
councillor Induction by DWA in Water Policy and Management		
Other, please specify		

10.2. If Yes, list any accredited water resource management and water services training courses/modules you have attended from January 2005 to December 2012.

NB: Please list ONLY training/courses that are accredited in terms of the South African Qualification Authority (SAQA), NOT certificates of attendance.

Qualifications/ Courses/Modules	Institution/s	Year obtained
Water Resource and Water Services Regulation Policy: Contracts, Agreements, By-Laws and Acts		
Water Master Plans and Water Services Development Plans, Planning for Waterworks: Free Basic Water, Infrastructure and Sanitation Facilities		
Financial Management of Water Services: Tariffs Setting, Cost Recovery Systems of Municipalities		
Water Master Plans and Water Services Business Plans or Proposal Writing		
Community Participation and Community Development Processes in Water Management		
Water Governance and Learnership		
Bulk Water Infrastructure and Assets		
Water Care, Water Quality and Assessment		

11. Out of the courses/modules you mentioned in questions 10.1. and 10.2 above, rate them in the scale 1 - 4 where 1=least helpful and 4=most helpful. (Please mark your rating of the modules and courses with an X in the relevant block below).

Qualifications/ Courses/Modules	1	2	3	4
11.1 Water Resource Management and Water Services Regulation Policy: Contracts, Agreements, By-Laws and Acts				
11.2 Water Master Plans and Water Services Development Plans and Planning for Waterworks: Free Basic Water, Infrastructure and Sanitation Facilities				
11.3 Financial Management of Water Resources, Water Services: Tariffs Setting, Cost Recovery Systems of Municipalities				
11.4 Water Master Plans and Water Services Business Plans or Proposal Writing				
11.5 Community Participation and Community Development Processes in Water Management				
11.6. Water Governance and Learnership				
11.7. Bulk Water Infrastructure and Assets				
11.8. Water Care, Water Quality and Assessment				

12. In your opinion, what factors, (as listed below) hinder the development of adequately trained councillors in water services in your municipality?

Please rank them in the scale 1-3 where 1=not a problem; 2= slight problem and 3= serious problem. (Please read the description carefully before ranking).

Item	Rating		
	1	2	3
12.1 Inadequate education and training facilities			
12.2 Lack of sufficient number of water resource management and water services trainers within the municipality			
12.3 The quality of existing water resources management and water services training providers (outside the municipality)			
12.4 Lack of appropriate water resources management and water services accredited courses/modules			
12.5 Inappropriateness of existing water resources management and water services courses/ modules			
12.6 Lack of sufficient information on existing water resources management and water services training programmes.			
12.7 Expensive fees for studying at tertiary institutions (Technicons, technicals, universities, etc)			

GIVE COMMENTS ON COURSES, MODULES AND QUALIFICATIONS ATTENDED. WE APPEAL TO COUNCILLORS TO GIVE COMMENTS AS LEADERS.

13 The following is a list of duties some councillors are normally involved in. Indicate how often you perform the functions in each category by marking one of the boxes (0, 1, 2, 3) with an X.

Rating scale used:

0 = never

1 = seldom (twice per month or less)

2 = regularly (at least once weekly, but not every day)

3 = daily

Item	0	1	2	3
13.1 Computer Work: How often do you use a computer to perform you Water Portfolio Committee key objectives?				
13.2 Legal Issues on Water Resources Management and Water Services: How often do you deal with legal issues, legal framework, etc.?				
13.3 Planning: How often does your Portfolio Committee require you to plan e.g. Water Master Plans, Water Services Development Plans ?				
13.4 Problem Solving: How often does your Portfolio Committee require you to solve problems related to water delivery or disruption?				
13.5 Project Implementation: How often are you involved with water services community project or programme implementations?				
13.6 Community Programme or Project Control: How often are you involved in any monitoring & evaluation water services community programmes or projects?				
13.7 Operation and Maintenance (O&M) of Water Services and Water Infrastructure: How often are you involved in any water services O&M activities?				
13.8 Sustainability and Cost Recovery: How often do you deal with water services cost recovery issues e.g. water tariffs?				
13.9 Technical Skills: How often do you use technical skills in your Portfolio Committee e.g. assessing technical water business plans to comply with Groundwater Protocol?				
13.10 Information Processing: How often do you need to deal with written information e.g. reporting Blue and Green Drop Compliance or Drinking Water Compliance with DWA standards and norms?				
13.11 Communication: How often do you communicate with water services customers and stakeholders such as Water User Associations, water Boards and Water Providers?				
13.12 Interactive Skills (interacting with fellow councillors, customers, other departments, etc): How often do you use interactive skills?				
13.13 Initiative: How often do you use your own initiative when performing your Portfolio Committee activities or tasks?				

14. In your view, which courses or education and training modules do you personally need as a councillor in order to perform better in your municipality's bulk water infrastructure and water services priority plans? Please rate them in the scale 0-2 where:

0= not needed

1= can be of some assistance

2= most needed (M/N)

Please read the descriptions before you rank the courses.

Item	0	1	2
14.1 Budgeting of Water Services and Water Resource Management: Understanding budgetary processes: Budget estimating techniques, budget formulation and execution, budgeting for revolving funds, operating funds, capital funds.			
14.2 Water Resource Management and Water Services Programme Evaluation and Need Assessment Skills to evaluate existing water services programs: Basic research design, and cost-benefit analysis.			
14.3 Equal Employment Opportunity (EEO) Skills to comply with procurement systems, tendering, regulations, laws pertaining to equal employment opportunity, and affirmative action issues.			
14.4 Water Resource Management and Water Services Contractual Management Understanding negotiations on contractual services regarding water services provisioning: Measuring contract effectiveness and managing internal contracts.			
14.5 Writing Skills Understanding of writing memorandums and reports in accordance with National Water Act and Water Services Acts and related compliance requirements			
14.6 Capital Programme/Capital Financing Understanding financing for capital needs: financial means for major water services and infrastructure development			
14.7 Local Government Data Bank Access to "raw" data from National Departments, Development Bank of Southern Africa (DBSA) and organs of state about your area, including raw data on amounts, sources, assets, needs and categories of annual revenues and expenditures.			
14.8 Employee Benefits Understanding of administration procedures and skills to administer a variety of employee benefits and water service programs. How to select/develop flexible benefits programs and plans.			
14.9 Labour Relations in Water Works Understanding of the Labour relations for the management team: Compliance with basic conditions of employment organised labour agreements, resolving grievances, and presenting arbitration cases.			
14.10 Legislative and Legal Framework in Water Services Understanding of legislative framework of water services programmes and laws affecting local government water services delivery: Division of Revenue Act and Transfer of Water Assets from Department of Water Affairs and Forestry (DWA) to municipalities.			
14.11 Personnel Hiring Understanding recruitment procedures for personnel within legal framework of municipalities: Identification and selection of best-qualified personnel, interviewing/advertising techniques.			
14.12 Accounting Understanding of accounting and accounting procedures for municipal programmes and projects: Bookkeeping, fund accounting, analysis, interpretation of financial statements, cost accounting, selection procedures for attaining an automated accounting system.			



14.13	<p><b>Statistical/Data Analysis</b></p> <p>Understanding statistical/data analysis for planning and decision making: Use of statistics and quantitative analyses for communicating program results and job performance in line with Department of Provincial and Local Government's Key Performance Indicators (KPIs).</p>			
14.14	<p><b>Local Government Documents/Reports</b></p> <p>Access to documents, government reports, and studies conducted by other municipalities. Examples include other local governments' budgets, master plans, job descriptions, position classifications, contracts, municipality charters, personnel handbooks, etc.</p>			
14.14	<p><b>Computer Literacy</b></p> <p>Understanding of computer concepts, terminology, hardware, and software. Understanding of basic functions of microcomputers. Computer applications in data processing, word processing, office information systems, management information systems, data-based management systems.</p>			
14.16	<p><b>Cash Management</b></p> <p>Understanding of cash management. Examples include how to improve debt collection practices, payroll record keeping and procedures or cost recovery from water consumers, and customer management.</p>			
14.17	<p><b>Office and Inter-Office Communication and Work Relations</b></p> <p>Development skills to improve working relations: the communication process, human relations problems in the workplace, problem-solving techniques, building an effective team environment between local, provincial and national government (including NGOs, Donor Agencies, etc.).</p>			
14.18	<p><b>Grant Proposal Writing and Administration</b></p> <p>Understanding of techniques for writing grants proposals to National Departments and Donor agencies for water services and private foundation funding sources. Examples include selection of appropriate fund source, researching proposal ideas, the grants-process, financial aspects of contracts and reporting requirements.</p>			
14.19	<p><b>Maintenance Functions</b></p> <p>Education and training or assistance in developing maintenance schedules and procedures to prolong waterworks infrastructure or capital life.</p>			
14.20	<p><b>Managing Personnel Performance</b></p> <p>Education and training or assistance that focuses on personnel performance and productivity improvements: Development of performance appraisal instruments and performance review techniques.</p>			
14.21	<p><b>Working with Appointed Officials</b></p> <p>Education and training or assistance in working collaboratively with appointed officials: Building consensus with elected officials and political parties on establishing realistic goals, objectives, and indicators to measure performance in water services.</p>			

## 15. Municipal Education and Training needs in the next ten years (2012 - 2021)

In your opinion, of the areas listed above (items 14.1 - 14.21), in which five (5) areas do you think your municipality will have the greatest education and training needs for bulk water infrastructure and water services during the next ten years? (Please fill in the blocks provided below in any order)

Item		Education and Training needs for next ten years (2012 - 2021)
E.g. Answer: Accounting		Please write the item number below. e.g. 14.12. = Accounting under question 14 above
15.1		
15.2		
15.3		
15.4		
15.5		

## 16. To what extent do you agree or disagree with the following statements on a scale of 1 - 5?

Rating scale used:

1=strongly agree (SA)

2=agree (A)

3=unsure or don't feel strongly either way (U)

4=disagree (D)

5=strongly disagree (SD)

		1 SA	2 A	3 U	4 D	5 SD
16.1	Water Services Education & Training can assist councillors to be competent leaders and strategic managers in formulation of water services development plans and their implementation.					
16.2	Education & Training can empower councillors to allocate scarce resources in the most effective way in order to meet water services priorities of municipal customers including communities and customers.					
16.3	The Executive Council should ensure water services education and training of councillors through its council resolutions.					
16.4	Councillors should actively participate in water services delivery mechanisms and endeavour to meet water services demands from customers.					
16.5	The council should prioritise water services as a basic service.					
16.6	The municipality should seek to learn the public's views about water services through its relevant structures such as Ward Committees and Portfolio Committees.					
16.7	Executive Council should take into account community needs when making decisions around water services.					
16.8	A water services manager must be appointed in the municipality to drive the municipality's water services development plans (WSDP) and integrated development plans (IDPs).					
16.9	The role of community participation in water services development plans (WSDPs) and integrated development plans (IDPs) is important for sustainability of water services and operation and maintenance of waterworks.					
16.10	Public-Private Partnerships (PPPs) and contracts between the municipalities and private/ public partners require technical, financial, legal and managerial skills on the part of councillors					
16.11	Executive Council should reinforce support for the importance of water services education and training for councillors.					
16.12	All councillors should be able to evaluate water services, water services development plans and community needs.					
16.13	Councillors must address problems and complaints from their constituents.					
16.14	Councillors must take into account the expressed needs of electors, ward interests and party's views on water services in the municipality's area of jurisdiction in taking decisions					
16.15	Councillors must put party's views above the interest of electors when making decisions about water services.					
16.16	Party politics is a better way of running council/municipal affairs such as water services.					
16.17	It is important for councillors to carry out party programmes in delivering water services rather than the interests of the people or inhabitants in a municipality.					
16.18	Any candidate nominated by a political party may serve in a municipality even if he/she does not represent any ward.					
16.19	Ideally the electors see a councillor as a local representative.					

16.20	Ideally councillors should be educated to deal with electors' needs in a professional manner.					
-------	---	--	--	--	--	--

17. Indicate the name of your political party in the box below

PARTY		
ACDP	1	
AZOPO	2	
SOPA	3	
ANC	4	
NNP	5	
DA	6	
UCDP	7	
PAC	8	
UDM	9	
ANC	10	
IFP	11	
FF	12	
OTHER	13	

18. Any other comments on:

(a) Water services training needs

.....  
 .....  
 .....  
 .....

(b) Training gaps that may hinder you from fulfilling your legislative requirements in performing water service as a councillor

.....  
 .....  
 .....

(c) State ways you can overcome such identified gaps

.....  
 .....  
 .....

**PLEASE RETURN TO:**

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Once again, thank you for completing this questionnaire. You can be assured that your response/s will be strictly confidential.

Yours sincerely

**FUMENE GEORGE TSIBANI (PhD Candidate)**

**PROMOTER: Professor CJ Groenewald**

## **APPENDIX B1: COMPETENCY-BASED WATER COUNCILLOR EDUCATION AND TRAINING PROGRAMME**

### **B1. INTRODUCTION AND BACKGROUND**

As discussed in Chapters 4 and 7 of the study, Appendix B provides the reader with the options and descriptions of possible courses for councillors within the context of extreme weather conditions, climate changes, globalised water governance and related services using advanced technology and increased requirements of skills and competencies of councillors under modernisation agenda or New Public Management System, now subsumed as Local Government Developmental Agenda (LGDA) in terms of the White Paper on Local Government (March, 1998) in South Africa.

Since the discovery of gold in Kimberley, the Northern Cape has suffered from severe water scarcity. Water stress has increased in the province since that time, with adverse effects on the water industry and communities. With rising water demands by the private and public sectors, and the need to address poverty in Northern Cape, water availability remains a socioeconomic and developmental constraint.

Despite the region's diversity of landscapes and climates, most of the Northern Cape WSAs cannot sustainably meet current water demand. By 2050 per capita water availability will fall by half, with serious consequences for the province's already stressed aquifers and natural hydrological systems.

The distinguished hydraulic history of the Northern Cape is long and impressive and water professionals in the DWA Northern Cape Regional Office recognise the need to focus more on integrated management of water resources and on regulation rather than on provision of services. A Northern Cape Water and Energy Institute should be established to address water scarcity and assemble the required skills and competencies as part of adjusting and adapting water management and governance strategy within the context of extreme weather conditions and climate change.

Future water leaders and councillors in water portfolios thus require a modern understanding of water governance, as well as the skills and tools to develop ideas for changes to reflect the new needs in accordance with the Dublin Principles, SADC Water Protocol, DWA Integrated Water Resources Management Strategy (IWRM), Water Master Plan for the Northern CMAs, Water Services Development Plans for the 33 WSAs – being sub-chapters of the five district municipalities and 28 local municipalities – and Integrated Development Plans (IDPs). This interdisciplinary water and technical training programme has been designed to help water portfolio councillors to explore, in depth, the nature and complexities of water governance and its implications for addressing key water issues under the LGDA model in South Africa. It has been

asserted that the 'water crisis' is mainly a 'governance crisis'. According to Professor Anthony Turton (2012), there is a need for water flux in South Africa in general, and in the Northern Cape Province in particular. South Africa's fundamental development constraint is the conversion of precipitation (MAP) to runoff (MAR). South Africa has the lowest conversion ratio of MAP to MAR. In South Africa, 97,3% of the streamflow was a high assurance of water supply by 2004. With developmental water services and provision of safe drinking water, streamflow is now becoming a major and sensitive issue, partly due to water pollution by the mining sector (Abbot, 2012). Water allocation in the Northern Cape has reached a point where future economic development is potentially constrained. With water pollution by the Gauteng mines in the Vaal River, combined with extreme weather conditions, it is apparent that South Africa and the Northern Cape Province, through both Vaal and Orange River water allocation and distribution, are on a transition from IWRM to integrated salts management. Dr Henry Abbot (26 April 2012, email received by the researcher at 10:04) argued that

[t]he main problem in future will not simply be if we have enough water available, but whether the quality of the available water is acceptable. If all the poor quality mine-water in Gauteng is released into the Vaal and Orange system, after only cursory treatment to correct the pH, there will be massive amounts of water available downstream, but the poor quality will mean that it is not fit for a number of uses, and that the high cost of making it fit for use will stifle development.

Dr Abbot's (26 April 2012) response is supported by Professor Anthony Turton that South Africa has reached the limit of the resource so what is required is to deliver alternative water flux solutions for future generations' water demands. If South Africans regard water as a stock, then the current IPAP, NGP and NDP 2030 vision and beyond, subsumed under DWA NWRS 2 (2012), are in serious trouble, because by 2004 South Africa had already allocated 98% of the national resource at a high assurance of supply level (National Water Resource Strategy). There is a need for new partnerships between Government, organised business and the National Science Councils to develop and resource a fresh strategic vision (Turton, at al 2007: Trialogue Model of Governance). Yet, if water is regarded as a flux then South Africa can continue to grow its national economy in a sustainable way. This will need a fundamental paradigm shift by all significant hydropolitical stakeholders in South Africa in general, and the Northern Cape in particular (Turton, 2012, email received by the researcher, 28 June 2012 at 13:18).

For the water flux paradigm to work, the Northern Cape Province needs a combination of infrastructure and ingenuity to create the assurance of water supply for socioeconomic growth and development as part of creating an alternative economic model to attract investors, on one hand. On the other hand, the water flux paradigm requires innovative, mature, skilled and experienced leaders and councillors in Northern Cape WSAs. In other words, the water flux depends on proper water governance and management. Yet, managing water is a complex issue involving multiple

stakeholders from all levels of government with different views and objectives. A lack of effective management of interdependencies across these hydrological stakeholders can hamper the efficient design and implementation of water policy reform and strategies to use water for growth as part of providing an alternative economy to the current Northern Cape mining-based economy.

Literature evidence revealed that a large number of the smaller municipalities lack the necessary skills capacity to plan adequately for periods of water shortages. From the EWSETA Sector Skills Plans (2012), there is a severe shortage of qualified water managers in both DWA and 33 WSAs. Consequently, more than 63% of the WSAs in Northern Cape do not comply with the drinking water quality standards by DWA and WHO International Guidelines. The skills vacuum is further exacerbated by the low financial resource base to cover the capital and running costs for clean water supplies. This is compounded by unaffordable running costs within the context of high unemployment, dependence on grants by the 33 WSAs and households, inability of most WSAs to recover water costs incurred or to have revenue enhancement strategies except on paper. Paradoxically, if LGDA values are considered, the WSAs are faced with insufficient local revenue to guarantee water security to water users, investors and hydropolitical stakeholders. As recruitment, selection and deployment of councillors in water and infrastructure planning and development portfolios are not based on minimum qualifications in technical and engineering qualifications or relevant and sound experience in working in water governance and bulk water infrastructure programmes and projects, it appears that there is an urgent need for water flux methodology, and for good enough governance complemented by a competency-based water councillor education, training and development programme beyond the 2030 vision.

Dr Henry Abbot in his submission to the researcher advised that

As my function is the management of resource Water Quality in the Lower Orange Catchment area, your questionnaire falls outside my field of expertise and I cannot fill in your questionnaire. I have, however, included some general comments that may be of interest to you.

One should carefully consider the sustainability of water supply to, and the limits of expansion versus financial feasibility and return on investment, of towns such as Springbok, which already have a shortage of water and that is far away from available surface water. Piping water over 200 km is expensive and requires massive investment in infrastructure and maintenance. Can we afford this? Can the country afford this? Obviously the Springbok Municipality will think that money should be spent on this, but does it make economic sense; and

It is concluded that the Competency Based Water Councillor Education and Training Programme (CBWCE&T) must also address some of the main challenges to good water governance. These include:



- Qualifications on Water Governance and Water Quality for councillors are not registered with SAQA;
- Institutional support programmes are fragmented, with silo interventions;
- Multilevel governance is poorly managed, with inappropriately deployed councillors and officials;
- There is limited capacity at local level in the Northern Cape, with low revenue base;
- There is unclear allocation of roles and responsibilities between officials and councillors. In this case, although policies are clear, there are many political interventions on technical administration level;
- Lack of integrity and transparency is evident in WSAs, characterised by high public violence and services delivery protests;
- Water allocation is still based on Apartheid water governance, and water was already over-allocated by 2004, leaving limited room for additional water allocation for economic growth and development;
- Poor financial management has been identified as per Auditor General Reports between 2000 and 2013;
- There is a lack of long-term financial planning as WSAs are dependent on grants from National Treasury;
- Poor economic regulation is evident owing to hydrohegemony between Northern Cape WSAs and CMAs, on one hand, and, on the other hand, hydrohegemony is biased on water diversion from the Orange River to the Eastern Cape, and Vaal River to Gauteng. Instead of using Douglas as a site for a potential water scheme programme, the South African government focused on Lesotho which ... “underneath apparent cooperation, there lies a world of intense conflict and glaring asymmetry” (Tlali, *Mail & Guardian*, 7 December 2012: 17); and
- Water legislation is poorly drafted, without focusing on the water flux paradigm as articulated by Professor Anthony Turton.

## **B.2. RATIONALE FOR THE CBWCE&T PROGRAMME FOR NORTHERN CAPE**

Although these course outlines, unit standards, skills programmes and learnership programmes are not prescriptive, they are necessary skills to address water governance, and water investment schemes and flux solutions to the Northern Cape Province. These are necessary skills for LGDA or modernisation agenda under LGDA or NPM to deal proactively with the current water crisis in the Northern Cape and required water governance CBWCE&T leadership skills and competences. While these skills sound more technical or are meant for engineers in waterworks, i.e. experts and/or specialists in the engineering discipline, the CBWCE&T programme is designed for continuity of a councillor's career after his or her term of office has expired. These short courses, skills programmes, and unit standards will be able to prepare councillors learning how to operate in

the water sector. The skills programmes or courses include self-knowledge and adaptability which enhance a councillor's ability to assume an identify and one's career path development suitable in the water and infrastructure planning and development portfolio. The ultimate objective of acquiring these skills and/or short courses is to enable the individual councillor to manage himself or herself effectively within the municipality or WSA. The programme designer has considered that the CBWCE&T programme must be essential for effective water governance and management for water portfolio councillors. In the literature on career path development, self-knowledge, interpersonal knowledge, and environmental knowledge are identified as the skills set needed to enhance career path development and management. In developmental water services, water governance and water demand management as career path development for appropriately recruited, selected and deployed water portfolio councillors, it is thought that certain skills are critical to advance water governance and CBWCE&T leadership to address water scarcity in Northern Cape.

### **B. 3. CBWCE&T OBJECTIVES**

The programme is for water portfolio councillors with a minimum of two years of relevant experience in water governance and infrastructure planning and development, who are seeking to strengthen their existing leadership skills, deepen their understanding of water governance within the context of water shortages and extreme weather conditions, and become part of a water governance network of leaders working for positive change. The SADC dimension of the CBWCE&T programme makes it particularly relevant to those working in the CMAs and SADC countries for exchanges programmes and in the peer review or learning environment. Water portfolio councillors will develop an understanding of the concepts, roles and practices of effective water governance. They will identify and analyse critical water governance-related problems in the water sector, design ideas and develop a vision and CBWCE&T leadership capabilities to bring about changes that balance economic, social and environmental values. The purpose of the Competency-Based Water Councillor Education and Training Programme (CBWCE&T) is to provide water portfolio councillors and political parties with water governance skills training on topics including:

- Water Councillor Roles and Responsibilities: Executive Functions vis-à-vis King III Framework
- Water for Public Good and Councillors as Political Representatives
- Integrated Planning and Development (LED, WSDP, IDP, Water Master Plan, Spatial Development Plans, EIAs, etc.)
- Water and Wastewater Treatment Operations and Control
- Local Government Administration and Management and Economic Growth and Development
- Water Governance and Future CBWCE&T Leaders in Water Utilities
- Water Governance and Climate Change
- Water Security and Hydrohegemony Agreements under SADC Water Protocol

- Water Flux and Water Scarcity and Water for Growth and Development
- Water Financial Management and Water Utilities Financial Management Models
- Bulk Water Infrastructure Planning and Development
- Water Asset Management, Operation and Maintenance of Water Infrastructure
- Water Quality and Assessment and DWA Technical Regulations
- Water Monitoring and Evaluation (Key Focus Areas or KFAs, and Key Performance Indicators or KPIs)
- Macroeconomic Development and Poverty Eradication Strategies (GEAR, RDP, DWA NWRS 2, NGP and NDP) and Local Economic Development and Enterprise Development

The CBWCE&T has been designed to complement the efforts of other organisations in the Northern Cape that have conducted councillor development programmes. The programme course outline is developed as a response to the challenges facing water portfolio councillors as executive leaders in WSAs. The Water Portfolio councillors are expected to develop and implement water policies and strategies that improve the quality of Northern Cape hydropolitical stakeholders and water users. Such water policies and strategies for socioeconomic growth and development of the Northern Cape as a water haven for alternative investment models, rather than being the current declining mining-based economy, should transcend the traditional boundaries between sectors, disciplines, cultures and generations to include modern councillors under New Public Management (NPM) or Local Government Developmental Agenda (LGDA) values with water as a major constraining factor for socioeconomic growth and development. Under NPM and LGDA values wherein the 'water crisis' is seen as a 'governance crisis', water portfolio councillors must have technical and engineering qualifications complemented by reasonable experience in water governance and CBWCE&T leadership. To achieve this national call for minimum technical and engineering qualifications for councillors in Water and Infrastructure Planning and Development, the country requires innovative thought, sensitive and creative water governance CBWCE&T leadership and management under the NPM or LGDA values.

#### **B. 4. BENEFITS OF CBWCE&T**

The benefits include:

- Enhanced water governance leadership skills;
- Strengthened knowledge and understanding of key sustainable development issues;
- A deeper understanding of complex leadership challenges in terms of LGDA values;
- First-hand experience of sustainability challenges through project work, case studies and field visits;
- Collaborative, cross-sector, cross-cultural working skills;
- Problem-solving techniques in dealing with waterworks and policy directives;

- Tools for effective decision making;
- Negotiation and advocacy skills on wise use of water and water conservation strategies; and
- Strong personal connections to the water sector career path development disciplines.

## **B. 5. TRAINING AND FACILITATION METHODOLOGY**

During the training sessions facilitated by registered and experts facilitators and assessors, councillors will be introduced to the Water Governance and Water Security concepts under the SADC region Water Protocol, Water for Economic Growth and Development, and developmental challenges in Northern Cape with extreme weather, climate changes, globalisation and economic recession, water security and water as shared responsibility, Poverty Unemployment Inequality (PUI) problem, integrated water resources management, hydraulic water and management, and operation and maintenance of waterworks and infrastructure, water consumers and hydropolitical stakeholder management and participation strategies, Northern Cape population trends and the Northern Cape topographic and geographic resources, etc. The CBWCE&T programme includes presentation by water practitioners, experts, registered assessors and facilitators with both EWSETA and LGSETA, in various aspects of Water Governance and CBWCE&T leadership, field and site trips to both water and wastewater treatment plants, water and sanitation programmes and projects, and special or flagship projects for best practices and to illustrate challenges, and applied theory into practice type of technique. These will be complemented by individual and group tasks, exercises, use of simulation techniques, and assignments. The CBWCE&T programme is (must be) highly participatory, integrating a number of councillors at different levels, and provides an environment for peer learning and sharing.

## **B. 6. ASSESSMENT AND MODERATION**

Each course, skills programme, or unit standard is structured to have

- Target: learners or councillors;
- Duration of the course or learnership or qualification;
- National Qualification Framework level;
- Objectives and exit outcomes;
- Assessment criteria; and
- Assessment and moderation.

Using SAQA Assessment Criteria, the following recommendations are made:

- Anyone assessing a learner or councillor or moderating the assessment of a learner or councillor against this CBWCE&T programme must be registered as an assessor with the relevant ETQA as prescribed by SAQA;

- Any institution offering learning that will enable the achievement of this unit standard must be accredited as a provider with the relevant ETQA as prescribed by SAQA;
- Assessment and moderation of assessment will be overseen by the relevant ETQA according to the ETQA's policies and guidelines for assessment and moderation; and
- Moderation must include both internal and external moderation of assessments at exit points of the qualification, unless ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described both in individual unit standards as well as the integrated competence described in the qualification.

## **B. 7. TYPICAL SKILLS PROGRAMMES OR QUALIFICATIONS FOR WATER PORTFOLIO COUNCILLORS**

Some of most critical skills programmes for councillors include:

- Sustainable Water Services and Planning
- Water Governance and Leadership Innovation and Change Management Strategy
- Water and Wastewater Systems
- Water Supply Engineering
- Water Security: Case Study of a Province
- Flood Risk Management and Vulnerability Indices
- Hydrological Processes and Modelling
- Planning and Governance of Large Dams
- Water Infrastructure and Asset Management
- Climate Change and Modern Technology in Waterworks
- Public and Private Sector Participation in Water
- Designing and Implementing Successful Utility Reform
- Orientation to Community Needs Assessment and Report Writing
- Customer Relations and Market Approach to Water Governance
- Effective Water Services Authority Behaviours and Structures
- Change Management and Leadership Innovation in waterworks
- Managing the Workplace Ramification of HIV and AIDS
- Effective Communication and Negotiations in Water Governance

- Local Government Water and Sanitation Services
- Sustainable Community Models and Planning Processes
- Integrated Planning and Water Business Models
- Water Provisions and Environmental Management Practices
- Promotion of Water Quality to Communities and Customers
- Labour Relations and Employment Opportunities
- Conflict Management and Hydropolitics
- Financial Management and Water Investment Models
- Management of Urban and Rural Development Policy
- Sanitary Engineering
- Urban Water Engineering and Management
- Urban Water Management
- Water Supply Engineering
- Water Legislation and Policy in South Africa
- Water Cycle and Wastewater Processes and Systems
- Environmental Management Legislation
- Water and Municipal Finance Management
- Urban Water Systems
- Service-oriented Management of Irrigation Systems
- Urban Flood Management and Disaster Risk Mitigation
- Project: Water Resources and Irrigation Management Capacity-building Network Project
- Participation of the Public in Water Governance
- Water Governance and Institutional Oversight Roles and Responsibilities of Executives

## **B. 8. CONCLUSION AND RECOMMENDATIONS**

### **B. 8.1. Conclusion**

The CBWCE&T Programme is one of the most dynamic, engaging and innovative water leadership and sustainability courses in the Northern Cape. The programme can be designed around learner-centredness approach, participation and fun.

The Competency-Based Water Governance Councillor Education and Training Programme (CBWCE&T) can be carefully designed to provide the best possible learning environment for all participants. The learning journey is planned to balance the key dimensions of knowledge input, skills development and self-awareness. It is firmly based on CBWCE&T's framework of competencies for effective sustainability leadership. Each course or qualification will have

- Introduction to the course
- Expectations from the Facilitators, Assessors, and Moderators
- Assessment Criteria to be used for Learner/Participant/ Candidate
- Assessment Flow Chart
- Rationale for the course, skills programme or qualifications
- Set of objectives;
- Exit specific Outcomes (SOs);
- Assessment criteria (CAs) per specific outcome (SO)
- Range and embedded knowledge

### **B. 8.2. Recommendations**

It is recommended that the training agencies must ensure that the identified skills programmes and qualifications must be registered with the QCTO or ETQA under SAQA. The EWSETA, LGSETA, DWA, CoGTA, MISA, and SALGA including State-owned Enterprises (SOEs) such as DBSA, ESKOM and IDC should review the current Councillor Induction Programme and adopt the CBWCE&T Programme.

## **APPENDIX B2: EXAMPLE OF A COURSE STRUCTURE**

### **STUDY IMPACT IN THE WATER SECTOR AND ACADEMIC INSTITUTIONS**

The short course is attached to demonstrate the impact of the study in influencing the School of Public Leadership, DWA and other local government support agencies such as DBSA, IDC, CoGTA, MISA, SALGA, LGSETA, EWSETA and DHET. Most of the sector stakeholders were geared up to plan a structured and accredited training for councillors.

### **WATER GOVERNANCE AND LEADERSHIP COURSE APPROVED IN THE WORKSHOP ON 15 JULY 2013**



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#### **THE SCHOOL OF PUBLIC LEADERSHIP**

at

#### **STELLENBOSCH UNIVERSITY**

in collaboration with the

#### **CENTRE FOR GOOD GOVERNANCE**

at

#### **STELLENBOSCH UNIVERSITY**

Present the:

#### **TITLE: LEARNING PROGRAMME ON WATER GOVERNANCE FOR LOCAL COUNCILLORS**

A 4-day Learning Opportunity

**15 July 2013**

#### **B. 2.1. INTRODUCTION**

This 9-credit HEQF (2007) level eight short course covers knowledge of a formal postgraduate programme, approved and quality controlled, as required by the South African Qualification Authority (SAQA) and the Higher Education Quality Committee (HEQC).

Therefore, successful completion of this course grants to participants exemption from the Leadership and Change Management modular course in related postgraduate programmes, such



as the BPA Honours degree, offered by the School of Public Leadership at Stellenbosch University.

## **B. 2.2. BACKGROUND AND CONTEXT**

Water is a scarce commodity in sub-Saharan Africa. In fact, reputable sources report that the next world war will be about water, and not about ideological or conquest issues. Turning our attention to the governance of this vital component of South African life has become an urgent issue.

This learning opportunity aims to develop an understanding of the theory and practice of water governance from a public management and leadership perspective. It does so in an executive short course over a period of four days. The course is grounded within a set of contexts, concepts, challenges and competencies found in water governance.

## **B.2.3. OVERVIEW OF THE COURSE**

On Day 1 the course provides an orientation to the context and concepts found in water governance, with specific application to the South African context. The relevant legislation, policies and strategies are unpacked. The DWA Drinking Water Quality Regulations, New Growth Path Framework (NGP), Industrial Policy Action Plan (IPAP) and National Development Vision beyond 2030 will receive attention. The concept of leadership receives foundational attention in preparation for the subsequent learning days.

Day 2 focuses on the leadership content. Among others, it is based on the seminal academic work of Covey (1989), Goleman (1995), Cashman (2008) and Smith (see, for instance, Smith, 2008). The centre is found in Covey's (1989: 255) exposition of the Greek philosophy of influence, as explained by the sequential arrangement of the words ethos, pathos, and logos. Participants start with the self, then focus on others, after which the role of the individual in organisations is explored. This is the holistic view of leadership, and the course does not emphasise one of the three parts above the other. Rather, it combines the three parts into one whole. Validated psychological instruments are used and participants are guided through their journey of inside-out discovery. The course interrogates inside-out leadership by focusing on the following:

- Leadership of the self (ethos): the principle-centred approach to leadership. Key elements are personal integrity and character. In the literature this is often linked to the term spiritual intelligence (SQ). The Meyers-Briggs Type Indicator (MBTI) is used here;
- Leadership among others (pathos): the empathy-based approach to leadership. Empathy, effective relationships and compassion for others are key elements. In the literature this is often explained in terms of emotional intelligence (EQ). The EQ-i instrument is used here; and
- Organisational leadership (logos): the competence-based approach to leadership. Key elements are knowledge (and wisdom), skills and an effective attitude conducive to good governance, good public leadership and good service delivery. Although based on the value of

the intelligence quotient (IQ) in competence, this part of Day 2 will stress the importance of the holistic approach to leadership referred to above.

Day 3 focuses on challenges in the area of South African water governance, covering both individual and institutional challenges, as well as the development of a set of competencies supportive of an effective water governance environment.

Finally, on Day 4, application is tested through a group presentation focused on organisational strategic thrusts, institutional options and implementation challenges for effective water governance practices for South Africa.

#### **B. 2.4. TARGET PARTICIPANTS**

This course is primarily aimed at empowering and capacitating local councillors in South African society. Councillors are change catalysts and innovators. An understanding of the water governance crisis and adaptive strategies will improve the institutional oversight role in local government and increase municipal performance.

Presented in collaboration with water sector experts, the course connects the fields of leadership development, practices in water governance and leadership innovation in public water utilities and institutions by way of comparative studies, or particular case studies. The andragogical approach (the adult learning approach, as opposed to the pedagogic approach) will support participants to understand continuous water adaptive strategies and plans in line with water policies and poverty eradication strategies under the Local Government Development Agenda in South Africa. Evolving and complex water governance problems demand difficult choices by those empowered to make them. Developments in the water sector in recent years, such as decentralisation, the increasing involvement of the private sector and greater environmental and community awareness, have led to many hydropolitical stakeholders influencing policy development.

Councillors as local political operators, thus require a modern understanding of water governance, as well as the skills and tools to develop ideas for changes to reflect the new needs within and beyond the sector. This interdisciplinary programme has been designed to help councillors explore, in depth, the nature and complexities of water governance and its implications for addressing key water issues in their respective constituencies. The course provides an opportunity to identify water governance challenges and municipal constraints that may stimulate leadership innovation and change management strategies, and plans.

## **B.2.5. WORKSHOP GOAL, OBJECTIVES, OUTCOMES, TOPICS AND WORKSHOP CONTENT**

### **GOAL**

The goal of this course is to:

- Develop an understanding of the theory and practice of water governance in South Africa.

### **OBJECTIVES**

Several objectives have been set for the course. These are:

- To provide a foundational orientation to the concept of leadership;
- To interrogate inside-out leadership by focusing on leadership of the self, leadership among others and organisational leadership;
- To focus on the contextual and conceptual issues of water governance;
- To focus on challenges in the water governance environment in South Africa, covering both individual and institutional challenges;
- To focus on the development of a set of competencies supportive of an effective water governance environment in South Africa;
- To develop the competency of participants in an experiential learning style, thereby installing andragogy's as the preferred style of learning facilitation on advanced leadership development programmes in the South African context; and
- To assess participants' progress against the standards required for a declaration of competence on the outcomes of the course.

### **B.2.6. EXIT LEVEL OUTCOMES**

In order to achieve the objectives, participants are assessed against the exit level outcomes set for the course. These are described as follows:

- Offer a critical discourse on the concept of leadership;
- Provide evidence of a thorough understanding of the self, interpersonal relations and cognitive application of leadership in the workplace;
- Offer a critical discourse of the context, concepts and challenges in the water governance environment in South Africa, covering both individual and institutional challenges; and
- Develop a set of competencies supportive of an effective South African water governance environment.

Specifically, and seen against the exit level outcomes set out above, it is expected that councillors will be able to:

- Explain and interpret water governance policies, strategies and plans;

- Integrate the principles of sustainable development into water policies and programmes and reverse the loss of environmental resources, including water loss;
- Provide an oversight role on water governance and the ‘business unusual’ approach to developmental water services in accordance with the International Water Declaration, New Growth Path Framework (NGP), Industrial Policy Action Plan (IPAP), National Development Plan (NDP), and Water Master Plans per Catchment Management Agencies (CMAs);
- Apply leadership innovation and change management principles, strategies and plans to advance the Local Government Developmental Agenda (LGDA) and the New Public Management (NPM) approach in an economically viable, effective, efficient and transparent manner;
- Understand modernisation of water governance within the context of globalised services and advanced technological designs, plans and solutions; and
- Provide in-depth institutional analysis within the contexts of climate change and the need for water flux solutions.

### **B.2.7. TOPICS AND COURSE CONTENT**

The topics and course content of the workshop are unpacked in the daily programme below and described in terms of Learning Units (LU) as follows:

- LU 1: A contextual and conceptual interrogation of water governance;
- LU 2: Leadership: an introductory interrogation;
- LU 3: Inside-out leadership;
- LU 4: Challenges for water governance in South Africa; and
- LU 5: Competencies for effective water governance advancement in South Africa.

### **B.2.8. SCHEDULE**

The workshop is delivered over a period of four residential days. A typical learning day will consist of approximately eight hours of learning. Participants will be required to work on assignments after completion of learning days.

A variation, to cater for the demands of participant’s executive level schedules, splits the four days into two sessions of two days each.

### **B.2.9. ASSESSMENT CRITERIA**

Each participant must, through the assessment structure, provide proof that he/she is able to integrate the theory and practice of water governance in South Africa in a professional manner.

Class-based assessments will contribute 40% to the final mark. An individual assignment will contribute 60% to the final mark.

Individual assignments have to be submitted on or before the due date as agreed upon by way of class consensus. No late assignments will be accepted under any conditions.

#### **B.2.10. ASSESSMENT METHODS**

Participants will be individually assessed by means of the following methods:

- Participation in class activities;
- An individual overnight reflective assignment on a leadership topic after completion of Day 1;
- An individual overnight reflective assignment based on the inside-out approach to leadership after completion of Day 2;
- A formally assessed class-based group project to be presented on Day 4; and
- An individual assignment post-workshop.

#### **B.2.11. DAILY PROGRAMME OF ACTIVITIES**

The daily programme activities will be a minimum of four days. The learners or delegates or participants will be provided opportunity to be provided theory on water governance and leadership. This phase is referred as developmental assessment . After the delegates or participants have completed the theory, they are expected to applied theory to their work environment. They are expected to take assignments and tasks for class presentations as part of development assessment. Once the delegates or participants finished developmental phase, they are expected to be given assignment to be submitted within a period of a month.

This assignment which will be applied in water governance, integrated water resources management and planning processes will have 60% of work. The delegates or participants are expected to demonstrate their understanding of water governance and related concepts of leadership within their work environment.

<b>DAY 1</b>	
<b>Time</b>	<b>Programme</b>
08:00 – 08:30	Registration
08:30 – 09:00	Ice-breaker Introduction and orientation Setting the scene (including course outline)
09:00 – 09:30	Tea & Coffee
09:30 – 12:30	LU 1: Water governance: context and concepts (The current reality of water governance context & concepts in South Africa)
13:00 – 13:45	Lunch
13:45 – 16:00	LU 2: Leadership: an introductory interrogation LU 3: Inside-out leadership: An introduction
16:00 – 16:30	Interactive feedback and conclusions Preparation for Day 2: overnight assignment
<b>DAY 2</b>	
<b>Time</b>	<b>Programme</b>
08:00 – 08:30	Tea & Coffee
08:30 – 10:30	LU 3: Inside-out leadership: Leadership of the self
10:30 – 11:00	Break
11:00 – 12:00	LU 3: Inside-out leadership: Leadership among others
12:00 – 13:00	LU 3: Inside-out leadership: Leadership among others
13:00 – 13:45	Lunch
13:45 – 15:00	LU 3: Inside-out leadership: Organisational leadership
15:00 – 16:00	Interactive reflection
16:00 – 16:30	Preparation for Day 3: overnight assignment
<b>DAY 3</b>	
<b>Time</b>	<b>Programme</b>
08:00 – 08:30	Tea & Coffee
08:30 – 10:30	Facilitated discussion: Issues of water governance in South Africa
10:30 – 11:00	Break
11:00 – 13:00	LU 4: Challenges for water governance in South Africa
13:00 – 13:45	Lunch
13:45 – 16:00	LU 5: Competencies for effective water governance advancement in South Africa
16:00 – 16:30	Preparation for Day 4: group presentations
<b>DAY 4</b>	
<b>Time</b>	<b>Programme: Conclusions</b>
08:00 – 08:30	Tea & Coffee
08:30 – 10:30	Group presentations and feedback

<b>DAY 1</b>	
<b>Time</b>	<b>Programme</b>
10:30 – 11:00	Break
11:00 – 13:00	Group presentations and feedback
13:00 – 13:45	Lunch
13:45 – 16:00	Summary and consolidation Discussion of individual assignments Closure

**COST**

The course is delivered at a cost of R9 700.00 per participant. Cost per participant includes the cost of the MBTI and EQ-i instruments.

**COURSE LEADER****PROFESSOR ERWIN SCHWELLA**

BA (Law), BA (Hons), BPA (Hons), MPA, PhD

Erwin Schwella is professor of Public Leadership at the School of Public Leadership (SPL). After working in the public administration profession as, among others, a personnel training officer, he was appointed to the University of Stellenbosch as a junior lecturer. Subsequently he became professor and director of the School of Public Management. He is involved in many other national and international matters concerning public and development management. He has delivered numerous papers at national and international conferences. He also served as a consultant to the British Civil Service College on South African public administration and has spent time working and studying in the Scottish Office, Edinburgh, United Kingdom. Erwin is a visiting professor at the Catholic University of Leuven in Belgium and spent some time at the Kennedy School of Government, Harvard University. He has published widely in academic journals and is co-author of well-known academic textbooks in Public Management. He has held numerous high-level national, provincial and local government advisory and consultancy briefs, among others as adviser to the erstwhile Ministry of Safety and Security.

**PRINCIPAL COURSE FACILITATORS****CHRIS BOTHA**

Nat Dip (Public Administration), BA (Pol), Honns BA (cum laude), SOE

Chris Botha served in the former South African Police (SAP), at the University of South Africa (Unisa) as a lecturer in the Department of Criminology and in the South African Police Service (SAPS) until retirement at the end of June 2006 in the rank of assistant commissioner (the current rank of major general). He has completed forty years in the field of policing with specific interest in

policing education, training and development. Botha was involved in the transformation of policing as well as education, training and development in South Africa during the years before and following the first democratic election. He has extensive experience in the design, development, implementation and evaluation of learning and is a qualified assessor and moderator of outcomes-based education, training and development. Botha has three books in print and is the author of several academic articles. He is a peer reviewer for international as well as South African publications. On general and further education level, he functions as a moderator for Umalusi. He is a professional associate of the Public Leadership Forum at the School of Public Leadership at Stellenbosch University and regularly delivers papers at national and international conferences and facilitates learning in the country and the region and on the continent.

### **TOBIE ENGELBRECHT**

MPhil (Education and Training for Lifelong Learning) (Stellenbosch University), BA Hons, BA, Senior Diploma in Ethics, Master Certificate in Education, Training and Development, Master Professional (Learning and Development) (SA Board for People Practices) (P5165), Registered Facilitator, Assessor, Moderator and Mentor

Tobie Engelbrecht is an experienced lecturer, moderator, assessor, mentor, consultant, facilitator of learning, people developer and analyst delivering service to several higher education institutions, public management institutions, international consultancies through European Union-funded programmes and organisations involved with safety and security as well as risk analysis/assessment. His qualifications and experience lead to a broad theoretical, practical and holistic competence concerning distance learning, workplace learning, education, training and development, management and leadership in the private sector and public sector, ethics, policing, criminal justice and safety and security.

Policing – 15 years and rank of senior officer. Involved in fields of intelligence gathering and evaluation as well as education/training and development

Higher education – 15 years as lecturer in Police Management and Leadership

Senior consultant – 10 years in fields of policing, safety and security, risk assessments and analysis, public management, management and leadership, evaluator/analyst for European Union-funded programmes in Africa (Malawi and Ethiopia) and South Africa and facilitator at several higher education institutions (South Africa, Lesotho and Namibia) in Policing, Research Methodology, Police Management/Leadership and Management and Leadership, as well as Ethics.

Senior risk analyst in Safety and Security – 5 years and involved with several high-profile international sport tournaments as well as high-profile business visits to sensitive areas and countries such as Rwanda, Kenya and Mozambique.

### **B.2.12. TEAM OF COURSE FACILITATORS**



The course leader and principal course facilitators will be supported by professionals from the water governance environment, as well as the following facilitators for the Stellenbosch University depending on availability:

Professor (emeritus) Cornie Groenewald; Professor Rob van Eijbergen (the Netherlands); Dr Dirk Burger; Mr David Daniels.

### **B.2.13. BIBLIOGRAPHY**

Cashman, K. 2008. Leadership from the inside out: Becoming a leader for life. San Francisco: Berret-Koehler.

Covey, S.R. 1989. The 7 habits of highly effective people: Powerful lessons in personal change. New York: Simon & Schuster.

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Smith, D.P.J. 2008. Perspectives on leadership: The third alternative. Johannesburg: Minuteman Press.

**APPENDIX C : WORKSHOP WITH EXPERTS AND EXPERT TECHNICAL  
ADVICE ON THE WATER GOVERNANCE AND LEADERSHIP  
CURRICULUM DEVELOPED IN CHAPTER 7**



**SCHOOL OF PUBLIC LEADERSHIP, STELLENBOSCH UNIVERSITY**

CARL CRONJE AVENUE,

BELLVILLE 7530

SOUTH AFRICA

Tel: +27 (0) 21 918 4122

DATE: 16 July 2013

**MEMORANDUM**

TO: Honourable President of the Republic of South Africa  
Honourable Ministers  
Honourable Premiers  
The Honourable MECs for the Department of Cooperative Governance and Traditional Affairs  
Honourable Executive Mayors and Mayoral Committees  
Office of the Speakers in various Municipalities  
The Honourable President of South African Local Government Association (SALGA)  
Head of Department (HOD), Department of Cooperative Governance  
And Traditional Affairs (Northern Cape)  
The Director Generals, Chief Directors, Directors and Project Managers  
Chief Executive Officer (SALGA)  
Chief Executive Officers of the Energy and Water Sector

Education and Training Authority (EWSETA) and Local

Government Sector Education and Training Authority (LGSETA)

FROM: Professor Erwin Schwella (BA (Law), BA Honours, MPA, PhD)

Professor of Public Leadership, School of Public Leadership, Stellenbosch University

**STRATEGIC INITIATIVE: WATER GOVERNANCE AND LEADERSHIP FOR INNOVATION AND CHANGE FOR GOVERNANCE LEADERS INCLUDING LOCAL GOVERNMENT COUNCILLORS**

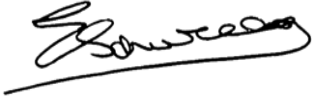
The School of Public Leadership (SPL) at Stellenbosch University (SU) has been providing short courses to governance leaders and senior managers in public institutions since its establishment. The SPL in its local government research has identified Water Governance and Leadership Innovation as a critical knowledge area for South Africa. This importance also relates to courses to capacitate and empower, amongst others, councillors to provide strategic direction to water governance leadership. Such capacity building could result in informed decisions and actions within the water sector functioning in a context of extreme weather conditions, climate change and in an essentially arid country.

Feedback on our programmes and supporting significant evidence shows that water governance and developmental water services in South Africa require well performing municipalities led by innovative and creative councillors overseeing water governance complemented by technically qualified municipal officials. This approach will steer the provision and maintenance of water infrastructure in accordance with the required water resources demands and result in attracting investments to this crucial infrastructural sector. Councillors leading the new Local Government Developmental Agenda (LGDA) are meant to ensure efficient, effective and economic viable water provision to hydropolitical stakeholders and water users in order to give effect to the RSA Constitution. There is a need to train current and future water governance leaders, including local government councillors on topics including: Bulk Infrastructure Water Programmes and Projects, Water Governance and Leadership Innovation and Innovative Water Adaptive Strategies to deal with water deficits, extreme weather conditions and climate change. With these Water Governance and Leadership Innovation and Change Management courses as one of the interventions under this initiative, the councillors especially in Water-related portfolios, will be exposed to a business unusual approach in terms of their institutional oversight in order to sustain our national economy and retain our social cohesion where *“water is life and sanitation is human dignity”!*

The impact of climate change is potentially disastrous for the whole of South Africa and also holds serious implications for the national economy, with vulnerable communities likely to be most seriously affected. Its councillors should attend this course as local political leaders of water adaptive strategies in their municipalities.

The SPL at SU works in association with Mr F.G. Tsibani, a seasoned water services professional since 1994, as project manager for the Water Governance and Leadership Innovation and Change Management Initiative.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Erwin Schwella', with a horizontal line underneath it.

**Prof Erwin Schwella**

**Professor of Public Leadership**

**School of Public Leadership**

**University of Stellenbosch**

**Professorial Fellow**

**Leiden Leadership Centre**

**Leiden University**

**The Netherlands**

**APPENDIX D: LETTERS AND CORRESPONDENCES WITH  
RESPONDENTS AND STAKEHOLDERS REGARDING THE PHD  
DISSERTATION AND RESEARCH ETHICS**



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**MEMORANDUM**

**DATE:** 09 November 2011

**TO:** Office of the Premier, Northern Cape Provincial Legislature

The Honourable MEC for the Department of Cooperative Governance and  
Traditional Affairs in Northern Cape

Honourable Executive Mayors and Mayoral Committees

Office of the Speakers in various Municipalities

The Honourable President of South African Local Government Association  
(SALGA)

Head of Department (HOD), Department of Cooperative Governance and Traditional  
Affairs (Northern Cape)

The Director Generals, Chief Directors, Directors and Project Managers

Chief Executive Officer (SALGA)

Northern Cape Provincial Local Government Association and Provincial Capacity  
Building and Training Forum Representatives

Civil Organs of Society and Development Agencies in Northern Cape

**FROM:** Professor. Cornie Groenewald (Promoter), University of Stellenbosch

**TOPIC:** Doctoral Thesis in Water Services Education and Training Needs of Councillors in  
Northern Cape by FG Tsibani (PhD Candidate, Pretoria)

## **MESSAGE TO ALL IN THE WATER AND LOCAL GOVERNMENT SECTORS IN NORTHERN CAPE PROVINCE**

Mr FG Tsibani has registered for PhD with the University of Stellenbosch. He is conducting research among local government councilors to identify the water services education and training programs that are currently offered to councilors and the education and training (E&T) needs of the councilors.

This research is driven from the perspective of the “local government developmental agenda” or LGDA and has two objectives, first, to establish the water services Education and Training (E&T) needs of councilors in local authorities of the Northern Cape, and second, to identify E&T gaps in order to inform any future design of an appropriate E&T program. While this research will assist Mr. Tsibani in his doctoral program in Social Science Methods at the University of Stellenbosch, the findings will be used to assist sector partners in designing a councilor education and training program that will respond to LGDA requirements and performance values in support of the consolidation of service delivery and good governance.

Your participation and contribution to the research, as may be requested, will ensure that the database is complete and accurate to design a guideline for an E&T programme for councilors.

Any questions or enquiries can be directed to the researcher (Mr. Tsibani) by fax or post. Mr. Tsibani’s contact details are:

PO BOX 4129  
THE REEDS  
0158  
CENTURION, CITY OF TSHWANE  
Tel: +27 12 3366545 (w) /6616738 (A/H)  
Mobile: +27 82 809 2162  
Fax: +27 12 336 7283  
Email: [tsibanig@mthenganya.co.za](mailto:tsibanig@mthenganya.co.za)

Yours sincerely

**Prof. Cornie Groenewald**  
**Promoter: University of Stellenbosch: Department of Sociology and Social Anthropology**  
**University of Stellenbosch**



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jou kennisvenoot • your knowledge partner  
**MEMORANDUM**

**DATE:** 31<sup>ST</sup> October 2012

**TO:** Doctoral Registrar  
University of Stellenbosch

**FROM:** George Tsibani (PhD Candidate)  
PO BOX 4129  
THE REEDS  
0158  
CENTURION, CITY OF TSHWANE  
Tel: +27 12 3366545 (w) /6616738 (A/H)  
Mobile: +27 82 809 2162  
Fax: +27 12 336 7283  
Email: [tsibanig@mthenganya.co.za](mailto:tsibanig@mthenganya.co.za)

**TOPIC:** Doctoral Thesis in Water Services Education and Training Needs of Councillors in Northern Cape by FG Tsibani (PhD Candidate, Pretoria)

### 1. PURPOSE

The purpose of this memorandum is to request extension of PhD registration until December 2013 for Mr. Fumene George Tsibani (PhD candidate, US Student No: 12643858) as motivated hereunder.

### 2. MOTIVATION

Mr. George Tsibani has completed Chapters 1 to 5 of his study and empirical (field) research was only collected in October 2012. He has captured the data and busy with the analysis between 31<sup>st</sup> October 2012 to February 2013. He has further met his supervisor, Professor Cornie Groenewald on 30<sup>th</sup> October 2012 discuss the reasons for delays in collecting data with his population, i.e., councillors.

Some of the negative factors which has severely affected his study including announcement of local government elections in May 2011. This meant that he needed to wait for the newly elected councillors to be deployed by their respective councillors and induction programmes thereof.

He then participated in the SALGA Conference held in ICC Durban in August 2011 where he made necessary arrangement with the SALGA organisers for the conference and leadership. Unfortunately, whilst the questionnaires were distributed to the conference attended by councillors, they were none responses.

He then made a follow up with Northern Cape SALGA where he visited councillors during the Induction Programmes hosted by SALGA, DWA and National Department of Human Settlement respectively. In all these programmes, Mr. Tsibani received none response from the councillors.

He then appointed a fieldworker, Mr. January Gavin to assist with the collection of questionnaires. Unfortunately, he paid close to R79 000 for getting 77 completed questionnaires by October 2012.

Mr. Tsibani further enquiries by the poor none response from University of Stellenbosch School of Public Leadership and Local Government SETA who conducted a similar study of councillors. It appeared that there was a similar problem with the data collection as discussed with Dr. Adele Burger of the University Of Stellenbosch School Of Public Leadership.

With these challenges, Mr Tsibani and his supervisor have agreed to work with Professor Martin Kidd (University of Stellenbosch Statistics) to work with the collected sample which is unequal distributed as planned. However, this is complemented by in-depth documentary and literature review in chapters 3 and 4 and more recent reports on the same topic.

### **3. RECOMMENDATIONS**

Given the above circumstances beyond Mr. Tsibani's control including none response from his population (councillors), it is recommended that he must be granted permission to complete and submit his dissertation by October 2013 for December 2013 graduation.

We trust that this is in order for you.

Yours Sincerely

**Fumene George Tsibani ( US Student No: 12643858)**

**RECOMMENDED BY PROFESSOR CORNIE GROENEWALD**

**DATE:**