

The establishment of catchment management agencies in South Africa: An organisational design perspective

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DECLARATION

I, Konanani Christopher Khorommbi (Student Number 26449757), hereby declare that the thesis entitled:

The establishment of catchment management agencies in South Africa: An organisational design perspective submitted in fulfilment of the requirements for the degree, Masters in Public Administration, at the North-West University, is my own work and has never been submitted by me to any other university. I also declare that, as far as possible, all the sources used have been acknowledged by means of complete referencing.

I understand that the copies of the thesis submitted for examination will remain the property of North-West University.

Signed.....on this day.....of.....Month, 2016.

DEDICATION

This thesis is dedicated to:

The Lord, Jesus Christ my saviour who instilled in me, an enduring character, with which I do not accept defeat. Through him, I always have the courage to break boundaries in every vision that I pursue. With the gifts of the Holy Spirit, I will always represent him and continue to minister and fulfil his unique calling.

My family that never let me down and always rejuvenates me through their support so that I soar tirelessly like an eagle to even greater heights.

My parents who never had formal education, but passed a baton of life to me so that with their genetic makeup I should prosper to sustain their genealogy in the generations to come.

PREFACE

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ABSTRACT

South Africa is the 30th driest country in the world. While the country experiences sporadic rainfall patterns, its climatic conditions are characterised by seasonal droughts and floods. The effective management of water, as one of the country's most precious resource, is thus essential to secure social and economic development.

Prior to 1994, the apportioning of water resources was done along racial lines where the majority of South Africans were denied access to this resource. Among others, the white agricultural sector enjoyed the right of access to water through the so- called riparian rights, which allowed them the use of water in line with their land rights. While "state of the art" water-infrastructure were provided for in most parts of South Africa, prior to 1994, the former homelands, where the majority of the black population people lived were not high on the agenda of the then government. Access to water during that period was thus an issue in these areas that to this day has not been addressed.

After 1994, the new government brought with it the Bill of Rights (Chapter two of the constitution) which guarantees an environment that is not harmful to people and which is protected for the wellbeing of all South Africans. The Bill of Rights also guarantees the right of access to clean and sufficient water for all citizens. The constitution of 1996 (Act 108 of 1996) determines that environmental and water legislation and policies should be formulated and implemented to give effect to the Bill of Rights. Hence, the Water Services Act (WSA) (Act no108 of 1997) and the National Water Act (NWA) (Act no 36 Of 1998) were promulgated to address the water issues in the country in order to promote, for instance, the sustainable management of water resources while at the same time promote equitable access to water for all living in the country.

According to these legislations, the Minister of Water and Sanitation is the custodian of the nation's water resources. The Minister should, through his or her appointed director-general (and administration) ensure the sustainable management of the country's water resources, promote equal access to water for all citizens and redress the past imbalances regarding the provision of water. The said Acts also provide for the establishment of catchment management agencies (CMAs) to manage water at a regional level. The Department of Water and Sanitation (DWS) is mandated by government to act as a regulator and policy developer for the provision of water. Currently there are only two CMAs (out of an envisaged total of nine) CMAs are fully functional, namely the Inkomati-Usuthu and the Breede-Gouritz CMAs. The remaining seven proto-CMAs are at this point in time in various stages of development to become fully operational CMA's.

This study aims at investigating the establishment of CMAs in South Africa from an organisational design perspective. The study focuses only on a number of theories which one way or the other focus on organisational design such as the classical theory, Administrative management theory, Bureaucratic theory, Modern theories and Modern contingency theories. The study specifically addresses organisational design principles, such as departmentalisation, line and staff functions, division of work and work specialisation, centralisation and decentralisation, chain of command and span of control. Understanding these principles helped the researcher to identify problems in this regard in the two functioning CMAs as well as how they fit unto the broader organisational structure of the DWS and the provincial departments responsible for water management and provision.

KEY WORDS: Interim chief executive officers, catchment management agencies (CMAs), organisational theory, organisational design, organisational principles, Public Service and key terms.

LIST OF ABBREVIATIONS AND ACRONYMS

BGCMA	Breede-Gouritz Catchment Management Agency
CEO	Chief Executive Officer
CMA	Catchment Management Agency
CMS	Catchment Management Strategy
CSIR	Council for Scientific and Industrial Research
DWA	Department of Water Affairs
DWAF	Department of Water Affairs and Forestry
DWS	Department of Water and Sanitation
DPC	Delta Publishing Company
DPE	Department of Public Enterprises
DPSA	Department of Public Service and Administration
EIA	Environmental Impact Assessment
FAO	Food and Agricultural Organisation
GDP	Gross Domestic Product
ICMA	Inkomati Catchment Management Agency
IDP	Integrated Development Plan
IUCMA	Inkomati-Usuthu Catchment Management Agency
IWRM	Integrated Water Resource Management
LG	Local Government
LIMCO	Limpopo Watercourse Commission
MDG	Millennium Development Goal
MTEF	Medium Term Expenditure Framework
NCOP	National Council of Provinces, Land and Mineral Resources
NDP	National Development Plan
NEMA	National Environmental Management Act
NT	National Treasury
NWA	National Water Act
NWRMA	National Water Resource Management Agency
NWRS	National Water Resource Strategy
NW&SMP	National Water and Sanitation Master Plan
ORASECOM	Orange-Senqu River Basin Commission
PFMA	Public Finance Management Act
SALGA	South African Local Government Association
SDC	Southern African Development Community

SMCF	Senior Management Competency Framework
SOE	State Owned Entity
WMA	Water Management Area
WTE	Water Trading Entity
WUA	Water User Association
WWF	World Wildlife Fund

TABLE OF CONTENTS

DECLARATION	I
DEDICATION	II
PREFACE	III
ABSTRACT	V
LIST OF ABBREVIATIONS AND ACRONYMS	VII
LIST OF TABLES	XV
LIST OF FIGURES	XVI
CHAPTER 1: INTRODUCTION TO THE STUDY	1
1.1 Introduction.....	1
1.2 Problem statement	4
1.3 Specific research questions	6
1.4 Leading theoretical statements	6
1.5 Research Methodology	8
1.6 Research design.....	9
1.6.1 The literature review	9
1.6.2 Data collecting techniques	9
1.7 Data analysis.....	10
1.8 Ethical considerations in qualitative research	11
1.9 Contribution of study.....	12
1.10 Chapters.....	12
CHAPTER 2: CMAs AND WATER RESOURCES MANAGEMENT WITHIN THE CONTEXT OF LEGISLATION	15
2.1 Introduction.....	15
2.2 Current status of water in South Africa	16
2.2.1 Progress in the provision of water.....	16

2.2.2	Quality of water in South Africa.....	17
2.3	Water Resource Management before 1994	18
2.3.1	Riparian rights to water usage	19
2.4	Water resource management after 1994.....	20
2.4.1	International cooperation in the management of water.....	20
2.5	Water legislations after 1994	21
2.5.1	The Constitution and the provision of water resources.....	22
2.5.2	The White Paper on a National Water Policy for South Africa.....	22
2.5.3	The NWA (Act 36 of 1998).....	23
2.5.4	The WSA (Act 108 of 1997)	24
2.6	Water management strategies.....	25
2.6.1	The first NWRS.....	25
2.6.2	The second NWRS	26
2.7	Water Management Institutions	27
2.7.1	The role of the Minister of the Department of Water and Sanitation (Minister).....	28
2.7.2	The role of the Department of Water and Sanitation (DWS).....	28
2.7.3	The role of CMAs.....	29
2.8	Establishment of CMAs	31
2.8.1	Stages in the establishment of CMAs	31
2.9	The organisational structure of CMAs.....	33
2.9.1	The Governing Board	33
2.9.2	Catchment Management Committees.....	35

2.9.3	Chief executive officer (CEO) of a CMA (CEO).....	35
2.9.4	The staff component.....	36
2.9.5	Appointment of managers and staff	36
2.10	Conclusion.....	37
CHAPTER 3: ORGANISING AND ORGANISATIONAL DESIGN IN PUBLIC INSTITUTIONS: A THEORETICAL PERSPECTIVE		38
3.1	Introduction.....	38
3.2	The study of organisations.....	38
3.2.1	Defining the concept organisation.....	39
3.2.2	Organisational structures and design.....	39
3.3	Role of theories on organisation studies	40
3.3.1	Defining the concept organisational theory	40
3.3.2	Reasons to understand the term organisational theory	41
3.4	Theories on organisation and organisational design	43
3.4.1	The classical organisation theories and Taylor (1900 to 1920)	43
3.4.2	Frederick Taylor's scientific management theory or approach	44
3.4.3	Henri Fayol's administrative management theory or approach.....	46
3.4.4	Max Weber's bureaucratic management theory.....	47
3.4.5	Modern Organisational Theory	48
3.4.5.1	The systems approach to organising	48
3.4.5.2	The contingency theory	49
3.5	Organisational design.....	50
3.5.1	Meaning of the concept organisational design	51
3.5.2	Benefits of an effective organisational design	52

3.6	Principles/pillars on which organisational design is based	52
3.6.1	Specific organisation design principles	53
3.6.1.1	Departmentalisation.....	53
3.6.1.2	Line and staff functions.....	55
3.6.1.3	Centralisation and decentralisation	56
3.6.1.4	Division of work and work specialisation.....	57
3.6.1.5	Chain of command (scalar phenomenon)	59
3.6.1.6	Span of control	60
3.7	Conclusion.....	62
CHAPTER 4: EMPIRICAL PHASE AND FINDINGS ON THE ESTABLISHMENT OF CMAs		64
4.1	Introduction.....	64
4.2	Research Methodology.....	65
4.2.1	Preparation for fieldwork.....	65
4.2.2	Data collection and analysis	65
4.2.3	Population and sampling	67
4.3	Assembling the focus groups interviews and their role.....	67
4.3.1	Establishment of the focus groups	67
4.3.1.1	Establishment of the Netherlands Focus Group.....	68
4.3.1.2	Establishment of the Gauteng Focus Group	69
4.3.1.3	Establishment of the Limpopo Focus Group	70
4.4	Compilation and role of the semi-structured interviews.....	71
4.4.1	Identification of participants in the semi-structured interviews.....	71
4.5	Results of the focus groups discussions and the semi-structured interviews	72

4.5.1	Departmentalisation and organisational design.....	73
4.5.1.1	Response of participants	74
4.5.2	Line and staff functions.....	74
4.5.2.1	Response of participants	75
4.5.3	Division of work and work specialisation	75
4.5.3.1	Responses of participants	76
4.5.4	Centralisation and decentralisation	77
4.5.4.1	Response to the findings by the participants.....	78
4.5.5	Chain of command	78
4.5.5.1	Responses of participants on the chain of command principle.....	79
4.5.6	Span of control	81
4.5.6.1	Findings from the participants.....	81
4.5.7	Uncertainty amongst employee's	82
4.5.7.1	Responses of participants	83
4.6	Conclusion.....	83
CHAPTER 5: CONCLUSION, SUMMARY AND RECOMMENDATIONS		85
5.1	Introduction.....	85
5.2	Achieving the objectives of the research.....	86
5.2.1	Achievement of the research objectives.....	86
5.3	RECOMMENDATIONS	88
5.3.1	Departmentalisation and organisational design.....	88
5.3.2	Line and staff functions.....	89

5.3.3	Division of work and work specialisation	89
5.3.4	5.3.4 Centralisation and decentralisation	89
5.3.5	Chain of command	90
5.3.6	Span of control	90
5.3.7	Personnel uncertainty in the CMAs.....	91
5.4	Conclusion.....	91

LIST OF TABLES

Table 4-1: Members of the Netherlands Focus Group 68

Table 4-2: Members of the Gauteng Focus Group..... 69

Table 4.3: Members of the Limpopo Focus Group..... 70

Table 4.4: Participants in the semi-structured interviews 71

LIST OF FIGURES

Figure 5-1: Water management areas of South Africa 92

CHAPTER 1: INTRODUCTION TO THE STUDY

1.1 Introduction

The Constitution of South Africa, Act 108 of 1996, determines the following regarding water affairs:

The government must pass laws that:

- Prevent the pollution and damaging of our natural resources (including water resources)(Section 24: Right to a safe environment).
- Secure citizens' access to health care, food, water and social security (Section 27: Right of access to health care, food, water and social security).
- Ensure enough food, shelter, basic health care and social services (Including the provision of clean water)(Section 28: Children's rights).

Prior to 1994, the institutional structure and the management approach of water resources in South Africa were centralised. Consequently, all citizens could not fully participate in the management of this important resource. Gorgens et al.(1998:4), noted that with the democratisation of South Africa after 1994, the philosophy of the government regarding the management of water resources has drastically changed. Among others, the need for water users to participate in decision making processes, planning and development of water resources was embraced. This means that the management of water resources has been decentralised (Gorgens et al. 1998:4).

The White Paper on National Water Policy for South Africa, 1997 (DWAF, 1997: 29) formalised the centralised approach for the protection, use, development, conservation, management and control of South Africa's water resources. The White Paper states specifically that water management should be delegated to a regional level to enable water users to participate in its management. In this regard, the White Paper stipulated that the DWS should promote the establishment and functioning of CMAs in every water management area (WMA) in South Africa (Karodia & Weston, Undated:13-14).

The establishment of the CMAs was based on government's premise that state owned enterprises are the best mechanisms for service delivery. The CMAs thus present to government a vehicle to change from a centralised to decentralised approach regarding the management of water resources, which was in line with the National Water Policy of 1997 (DWAF, 1997; Department of Public Enterprise, 2002). The White Paper sets out new integrated policy positions for the

protection, use, development, conservation, management and control of South Africa's water resources. It explains how this would be implemented (DWAF, 1997; Department of Public Enterprise, 2002).

The National Water Act, 39 of 1998 gives effect to the White Paper on a National Water Policy for South Africa (1997). At the national level, the Act provides for the Minister to progressively develop a National Water Resource Strategy (NWRS). This strategy should set out the objectives, plans, guidelines and procedures of the Minister and his or her administrative arrangements relating to the protection, use, development, conservation, management and control of water resources. The NWRS that was developed in 2004 (the first NWRS) determined that water would be managed at regional or catchment levels by nineteen CMAs in South Africa. As water management institutions, CMAs are not responsible for water services functions.

The second NWRS was put in place in 2012, which consolidated the original nineteen water management areas into nine. This decision was taken after the water sector institutions were realigned in order to improve the functioning, management, funding, human capacity, procedures and oversight of the CMA-system (DWA, 2012: 20). The decision was also an attempt to improve integrated water resource management at catchment level (Karar, 2012:15-29; DWA, 2012: 20).

The boundaries of the water management areas in which the nine CMAs would operate have also been reconfigured, based on financial viability, population numbers, interests of the population and equity considerations. As in the past, water management area boundaries are not aligned with provincial or local government boundaries (CMA, 2012:63). Some water management areas are larger than some provinces and their boundaries cut across provincial and local government boundaries (CMA, 2012: 9).

The establishment of the nine CMAs and the adjustment of the boundaries of the water management areas were published in the Government Gazette number 35517 of 27 July 2012. The second NWRS paved the way for the establishment of the following nine CMAs in South Africa (DWA, 2012:20):

- Inkomati-Usuthu (Operational)
- Breede-Gouritz (Operational)
- Limpopo-North West
- Berg-Olifants
- Pongola-Umzimkulu
- Vaal
- Orange

- Mzimvubu-Tsitsikamma

The geographical areas of the nine CMAs are indicated in attachment A. The primary focus of the study is the two operational CMAs, but in certain instances the study will also refer to the seven CMAs that are still in various stages of development. The seven CMAs that are still in development are called proto-CMAs. They currently fall under the jurisdiction of the respective regional offices of the DWS (Karar, 2012:15-29). The proto-CMAs are, as is the case with the two fully operational CMAs, also responsible for the management of water resources in their respective water management areas, albeit in a less structured way (DWAF, undated; CMA, 2012:12-13).

In an interim stage, proto-CMAs have to focus more on building the capacity of the entity to manage water resources effectively and to strengthen the organisation and its structures to become fully functional CMAs. This implies strengthening of systems within the organisation, including fiduciary management and governance of the CMAs as well as the establishment of information and implementation systems (CMA, 2012:14).

The CMAs derive their mandate and general powers and functions from sections 79 and 80, of the NWA , 1998. It was established that all CMAs must attend, upon establishment, to certain core activities (Karodia and Westons, Undated: 16). It is important to note that the functions that will be identified next, are not only applicable for the two operational CMAs, but also for the seven proto-CMAs that are still in their development phase (CMA, 2012:12-13; DWAF, 2004: 40)(NWA, 1998 sections 79/80):

- To play a co-ordinating role regarding water-related activities of organisations in water management areas;
- To developing and implement a Catchment Management Strategy;
- To encouraging public participation;
- To investigate and advise interested persons and stakeholders on water resource management activities.
- To create effective organisational structures, taking financial and human capacity into account; and
- To create organisational structures within the power that was delegated to them.

The Minister of the DWS has delegated to CMAs powers and further functions of water resource management. Delegated functions under schedule three are the monitoring of water usage, control measures on how water should be used, consultation guidelines with stakeholders and

water users, measures to monitor water usage, the administration of water licence applications, directives for compliance with the water legislation, enforcement of restrictions on water use during drought, in general, to promote sustainable water resource management (DWA, 2010). These functions will only be delegated progressively by the Minister of the DWS as CMAs develop the capacity to implement them successfully. It is thus a phased in approach concomitant with institutional maturity of a specific CMA. This also means that “higher order” responsibilities, such as the allocation of water usage and establishment of a strategy for water pricing, will be delegated when a CMA is fully operational (DWA, undated: 20; CMA, 2012:12-13; Pegram and Palmer, 2001: iii). The formal establishment of the CMAs’ organisational structures, will among others, include the establishment of functional CMA boards, the appointment of CEOs and interim CEOs and the establishing of administration entities to implement the decisions made by policy-makers. The role, purpose and functions of the CMAs will be discussed in chapter two.

The researcher, after preliminary discussions with primary stakeholders, became aware of certain problems and challenges that CMAs encounter every day. Because these problems are in theory the reason for the study to be undertaken, the next section will elaborate on them.

1.2 Problem statement

The water sector in South Africa faces the problem that there is no surplus water in the country and that all available water resources are at their limit. Climate change will worsen the situation in future. A study of 905 towns (excluding Metros and large cities) found that 28% of them have inadequate water resources (DWA, 2013:68).

CEOs and interim CEOs are currently, for a number of reasons, experiencing specific problems when it comes to the management of this scarce resource. The primary problem is that the seven CEOs in the proto-CMAs are only in interim positions and this leads to a situation of uncertainty where they are not fully capacitated to take crucial decisions in the management of these CMAs. Although the two fully operational CMAs have the authority to manage their respective CMAs, it is not always clear to what extent they are authorised to manage their CMAs, which creates an environment of uncertainty (DWA, 2013:68).

There is also a perception among CEOs and their subordinates that they are working for organisations are not adequately empowered by government and the DWS to plan and undertake their daily functions effectively. This problem is exacerbated by the fact that CMAs and their CEOs report to more than one government entity at the same time. According to one of the principles of organisational design, “unity of command”, if organisations do not take this principle into account it will lead to uncertainty, conflict and misunderstanding of instructions. Corkindale, (2011) calls

this scenario the “unworkable job” where the role and work of the manager is so vaguely defined that it becomes impossible to do his or her work successfully. In the case of CMAs this in itself has a negative impact on the effective management of the country’s water resources.

Currently, the CEOs also work in a milieu of constant change and uncertainty because of the fact that the role they have to play in the management of the CMAs is uncertain at best. The result of this is that they cannot use their management and leadership strengths to guide their subordinates to achieve the objectives of the CMAs successfully.

When employees were identified in 2015 to be transferred from one institutional entity (the DWS) to another entity (the CMAs under discussion) to strengthen the human resource contingency in the new entity, they were unwilling to do so and laid a grievance to stop the transfer (DPSA, 2016:1-11). This action had a detrimental effect on the effective functioning of the CMAs. It hampers the providing of efficient water services to the water users in the regional areas of the CMAs.

It has also been established that many of the problems between the DWS and the CMAs are organisational design related. This includes unsatisfactory communication channels, chain of command, delegation of authority, division of tasks and unity of command, to mention but a few. The functional boards, which are responsible for making policies to ensure sustainable water resource management under their jurisdiction are dysfunctional (Department of Public Enterprise, 2000: 93). Currently the situation is that the CMA-boards lack the experience and the correct mix of skilled members that can assure that these boards are addressing the purpose for their establishment. The preliminary investigation revealed that the reasons for this particular situation and subsequent problems are the poor design of organisational structures.

The result of this is that CEOs must, to a large extent, take the responsibility of managing the CMAs without the expertise of board members. From a more holistic picture this is a serious problem that stands in the way of the development of CMAs, especially the proto-CMAs (Department of Public Enterprise, 2000: 93).

With the knowledge gained through the analysis of scholarly literature, relevant theories and with the results of the empirical study the researcher will attempt to make recommendations to address the identified problems to improve the current situation in which the two CMAs under investigation are functioning. With this in mind, the researcher will also attempt to make further recommendations to improve the organisational design of the CMAs in which CEOs can operate more effectively.

With the discussion so far at hand, the following general research question can be asked:

Can an analysis and implementation of the principles of organisational studies and organisational design assist CMAs and their CEOs to manage their respective water management areas more effectively so that a better service can be rendered to water users?

1.3 Specific research questions

The following specific research questions are applicable to this study:

- On which theoretical principles is the phenomenon 'organisational design' founded within the context of organisational studies?
- What is the history of the establishment of CMAs in South Africa and which legislations lay the foundation of water management?
- What is the current situation of the CMAs and their CEOs in South Africa with the focus on Inkomati-Usuthu and Breede-Gouritz CMAs?
- How can the organisational structures of CMAs be re-designed, based on theoretical principles and the findings of the empirical study, to assist CEOs to manage their organisations more effectively?

The theoretical statements for this study will be discussed in the next section. According to Abend & Swanson (2008:173) theoretical statements consist of concepts, their definitions and references as found in scholarly literature and existing theories, which is relevant to a particular study.

1.4 Leading theoretical statements

The Constitution, Act 108 of 1996 states that every person has the right to access to "sufficient water and food", and to "health care services". This means that every person living in South Africa has the right to, among other things, sufficient and affordable clean water (Sections 24, 27 and 28). In the public service, public institutions such as the CMAs should implement relevant legislation and government policies to give effect to such legislation and policies. Legislation and policies will give organisations the powers and authority to operate and deliver services to the citizens (Auriacombe & Van der Waldt, 2015: 18-20).

CMAs are established in specific areas to represent local communities at a regional level which means in theory that certain water resource management functions are "delegated" to local communities that should be empowered to take decisions. The idea is that while the process allows the participation of communities and stakeholders, it also addresses the historical legacy as it pertains to access to water. It reverses the situation of the past in which the white minority enjoyed access to water while the black majority were excluded (DWAF, 1997: 29; Gorgens et al, 1998: 4).

Organisational studies focuses on the structures, processes, practices and human activities in organisations. It lays the foundation for organisational entities such as CMAs to effectively organise their structures and human resources to reach organisational goals (University of Exeter, undated).

Organisational theory studies organisations to identify the patterns and structures they use to solve problems, maximise efficiency and productivity, and meet the expectations of stakeholders. Organisational theoretical knowledge provides the basis on how organisations and their employees function at their best. Therefore, organisational theory can be used in order to establish the best organisational structures and design to manage an organisation in such a way that they are likely to be successful (Boundless, undated).

Organisational theory studies organisations to identify how they solve problems and how they maximise efficiency and productivity. Correctly applying organisational theory can have several benefits for the organisation, its employees and society in general (Boundless, undated).

Organisational design is a step-by-step methodology which identifies dysfunctional aspects in organisational structures, which includes an analysis of work flow, procedures, structures and systems with the purpose of aligning them in an organisational structure to assist business or organisations to reach their stated strategic plans (Allen, 2012).

The Minister of the DWS appoints CMA boards to act as policy-makers which in turn appoint CEOs to act as managers of the CMAs (DPE, 2002: 9; DWS, 2017: 70). The CEOs are responsible for planning and running the day to day operations of a CMA (DPE, 2002: 9; Naidoo, 2009: 193).

Operational CMAs and their CEOs have the capacity (financial and personnel) to adhere to all the requirements to effectively manage water resources. They also have the capacity to implement legislation and policy guidelines from government institutions (DPE, 2002: 9). The CEO of an operational CMA is a full time functionary (DPE, 2002: 9).

Proto-CMAs are water management branches of the DWS that are in the process of development in order to become fully operational CMAs (DPE, 2002: 9). Their interim CEOs are appointed on a temporary (contractual) basis to manage this transitional process. An interim appointment is not an acting appointment as an acting incumbent fills the post until the regular incumbent returns to his/her regular position (Oregon State University, 2012).

1.5 Research Methodology

The overall intent of a research methodology is to put in place a research strategy that will map the research process logically and which will pave the way to address the research problem and study objectives (De Vos, 2011: 17). According to Denscombe (2011: 3-4) a research strategy should provide an overview of the bigger research picture and should provide a research plan to address the identified problems of a phenomenon in the real world. Punch (2011: 61-65) argues that the research methodology should include the research strategy and the methods that will be followed to collect relevant information and how this information will be analysed.

Three research approaches that can be used in social science research are namely: quantitative, qualitative or a mixed-method approach. A mixed method approach is where the quantitative and qualitative approaches are combined into one approach (Babbie & Mouton, 2006: 229-330; Cresswell, 2003: 14-30). When selecting the research design, the researcher should ensure that it helps in achieving the research aim and objectives in the best possible way (Babbie & Mouton, 2006: xxv; Webb & Auriacombe, 2006: 601).

For the purpose of this study, the qualitative research approach was used to uncover the current situation of the CMAs and their CEOs in South Africa. Although different authors define qualitative research from their own perspectives, most of them depart from the same premise thereby displaying a sense of convergence of their views. Cresswell (2013: 45) defines qualitative research as follows: "Qualitative research begins with assumptions and the use of interpretive/theoretical frameworks that inform the study of research problems addressing the meaning individuals of groups ascribe to a social or human problem".

According to Denzin and Lincoln (2000:2) qualitative research consists of a set of interpretive mechanisms that makes the world visible to the researcher and which will help the researcher to interpret an occurrence in the real world better and to make more sense of it.

The choice of qualitative research design takes into account that people and their behaviour in their natural setting are the focus of the subject matter. It is also based on the assumption that people and their behaviour can best be established and analysed at the hand of this research approach. Qualitative research gives a better understanding of the behaviour of people as they function in their respective communities and societies (Webb & Auriacombe, 2006: 601; Babbie & Mouton, 2006: 53).

1.6 Research design

Research design refers to the manner and methods that will be undertaken to obtain information to address the objectives of the study. Any study will always start with an analysis of literature to understand the phenomenon under discussion better. Literature study includes the analysis of scholarly books, articles, and other relevant material (Denscombe, 2010: 237-239).

1.6.1 The literature review

Bryman (2008: 81) maintains that an analysis of literature is the most important part of the research process. Researchers should undertake a preliminary review of literature to establish whether there is enough literature available to undertake the study successfully and to see if the study is viable. A preliminary review of scholarly sources will help researchers to focus the study and to determine on which theory (ies) the study will be founded. Productive literature review will provide researchers with existing knowledge and in this regard Mouton (2008:86) is of the opinion that researchers should make sure that they analyse the most reliable sources.

Such an approach will allow researchers to understand previous work done by scholars and open up knowledge on particular related issues, problems and ideas (Densecombe, 2011: 314; Mouton, 2008: 86). During literature review, researchers should not only prove that they can engage in analysing literature, but that they will be able to establish a theoretical framework that will provide them with a step by step plan on how to undertake the specific research they are pursuing (Bryman, 2008: 81).

The researcher has already reviewed some of the leading resources to determine that there is enough literature to undertake this study successfully. This includes an analysis of relevant legislation, policies, regulations and strategic documents (Mouton, 2008:86). Official documentation of the DWS and nine CMAs as well as the offices of the CEOs were explored to obtain first-hand information on the functioning of the CMAs and their CEOs.

1.6.2 Data collecting techniques

Typical qualitative data collecting techniques are interviews, focus group discussions, observations and the analysis of legislation, policies and official documentation (Webb & Auriocombe, 2006: 5928; Jarbandhan & Schutte, 2006: 677). Focus groups, observations and the analysis of legislation were used as data-collecting techniques to obtain the necessary information to undertake the study.

Research participants were selected purposefully for their knowledge and experience on the subject matter, namely the functioning of CMAs and how effectively they are structured. The

specific mentioned data collecting techniques, as stated above, helped researchers to gather only relevant information and thus avoid the collection of unrelated information. This is also an important factor in validating a study (Wessels, 2010: 544).

A description of the data-collecting techniques used in this study will briefly be discussed (Webb & Auriocombe, 2006: 5928; Jarbandhan & Schutte, 2006: 677):

- Semi-structured interview: This format of interviews consists of open-ended questions in which both the researcher and the respondents enjoy a great level of flexibility and freedom to answer questions that have been asked. Of value for the researcher is that he can ask participants to elaborate on their answers.
- Focus groups: This data-collecting technique is of great importance in a study as it creates the opportunity for participants to air their opinions, ideas, perceptions and concerns freely under the supervision of the researcher. The interaction between the members of the focus group will, in theory, produce information that cannot be obtained through the other data-collecting techniques.
- Analysis of legislation, policies and official documentation: This technique to obtain information does not focus on the people working in a specific organisational entity but it focuses on legislative guidelines that employees should adhere to. Information gathered through this technique is especially of value when studies are undertaken in government institutions. Insight in this will assist a researcher to establish how an organisation should be operated regarding the implementation of government legislation and policies.

A discussion on the total population of the people that could participate in the study, as well as how sampling were undertaken to identify the actual number of participants that will provide information, will be elaborated on in chapter four, which is the chapter that discusses the empirical findings.

1.7 Data analysis

All data obtained from focus group discussions, observations and the analysis of relevant legislation were processed in order to come to conclusions. According to Neuman (2006:467) "...data analysis involves examining, sorting, categorising, evaluation, comparing, synthesising and contemplating the coded data as well as reviewing the raw and recorded data." Qualitative data analysis involves the "breaking up" of data into manageable themes, patterns, trends and relationships (Neuman, 2006:467)

Raw data from the interviewee's responses have been reviewed, examined, sorted and categorised according to themes. The content of the data were analysed by means of thematic analysis and the output of the analysis it provided were coded, synthesised and interpreted. Results were presented in a narrative form supported by tables and figures. The advantage of this approach to data analysis is that it provides significant knowledge and insights on the findings of the empirical phase of the study. It also ensures that data is scientifically analysed, which provides viability to the results and the study (Cloete, 2007: 514).

The results and the interpretation of data have been discussed in chapter four and explanation thereof is presented in a narrative format.

1.8 Ethical considerations in qualitative research

One of the challenges facing both quantitative and qualitative studies in Social Sciences is to ensure that the study adheres to ethical requirements. The ethical guidelines of the NWU Research, Innovative and Ethics Committee have been followed in this study to make sure that all the activities undertaken adhere to ethical principles.

- Special attention was given to follow the ethical aspects (Faculty of Humanities (Arts) Ethics Committee)
- All participants were over the age of eighteen and no participant was selected from any vulnerable group.
- Recruitment and selection of participants were handled in an open manner and no-one was bribed to participate.
- The participants who were selected to participate in the study were clearly informed of the purpose of the study and the role that they would play in reaching the goal of the study.
- The environment in which the study would take place as well as any physical danger they may encounter during the study have been explained.
- The level of emotional stress that they may experience during the study was also explained.
- That they will have to complete a consent form before they can participate.
- That the information they will provide will be handled as confidential and that all the results and information given by participants will be presented in a collective manner and no-one will be named or identified directly.

The study has ethically been approved by the Faculty of Humanities (Arts) Ethics Committee and the NWU-Research Innovation and Ethics Committee awarded an ethics number for the study.

1.9 Contribution of study

The study will contribute to the body of knowledge of organisational studies, the subject Public Management and Governance and science in general. The DWS and CMAs and their CEOs will also benefit from the study as a clearer picture will be provided on how their organisational entities should be structured to manage water resources for communities living in their water management areas. The findings of the study will also be of value to the communities themselves as promote access to water resources. The communities will also benefit from a managerial point of view as they can now represent their interests on CMA-boards.

Relationships between the CMAs, the DWS, the provincial departments and municipalities responsible for the provision of water will be clarified at the hand of the identified principles of organisational design. The CEOs will have to play effective management role to ensure that government legislation and policies on water resources management is implemented.

The findings of the study will thus not only be of value to the scientific community, but also to the DWS and CMAs as well as their CEOs when it comes to the better design of their organisational structures. As stated before, the functioning of the CMAs needs attention and the researcher identified certain organisational design problems and indicated how these problems can be addressed, based on the knowledge gained from the theoretical analysis.

1.10 Chapters

The research study consists of the following chapters.

CHAPTER 1: INTRODUCTION

This first chapter introduces readers to the entire research focus and includes the Introduction/orientation, problem statement, general research question, study questions and objectives, general theoretical statements and the methodology to be followed. In addition, it indicates how ethical principles were followed and the impact that the study will have on relevant stakeholders.

CHAPTER 2: CMAs AND WATER RESOURCES MANAGEMENT WITHIN THE CONTEXT OF LEGISLATION

This chapter explores how CMAs have developed since 1994 and explains how the CMAs have been structured over the years. Through this; the origin of the CMA-system has been highlighted as well as the role they play in the management of water resources. The purpose and goals of water resource management in South Africa and the DWS and its CMAs have been analysed.

With it are the organisational structures of the CMAs identified to get a better picture of how the entities are structured. With this knowledge it was possible to identify gaps in their structural design that can be addressed.

Important government legislation and policies on water resource management were analysed and discussed to establish on which legislative grounds the CMAs are founded.

These documents are, from a scientific point of view, regarded as primary sources of information and every study should include a discussion of this kind. The manner in which CEOs should manage their respective CMAs has also been explained.

CHAPTER 3: ORGANISING AND ORGANISATIONAL DESIGN IN PUBLIC INSTITUTIONS: A THEORETICAL PERSPECTIVE

In this chapter the researcher explored literature on organisational theories and more specifically organisational design. These theories laid the foundation for the empirical study. This is an important chapter as it supports the process of gathering data by strengthening the understanding of the research theme and the fundamental concepts in the study. Organisational theory studies organisations to identify how they detect and solve problems and how they maximise efficiency and productivity. Correctly applying organisational theory can have several benefits for the organisation, its employees and society in general (Boundless, undated)

Organisational design is a step-by-step methodology which identifies dysfunctional aspects in organisations which include defective work flow, procedures, structures and systems with the purpose of realigning them to fit current business problems/realities/goals and then develops plans to implement the new changes. The process focuses on improving both the technical and people side of the business (Allen, 2012).

CHAPTER 4: EMPIRICAL PHASE AND FINDINGS ON THE ESTABLISHMENT OF CMAs

In this chapter the empirical study has been undertaken to determine how CMAs are structured and currently functioning and to establish the role played by interim CEOs in the functioning of these CMAs. The empirical study includes the Inkomati-Usuthu and Breede-Gouritz CMAs. The methodology that has been followed was explained and more light has been shed on the data-collecting techniques that the researcher has followed to reach the objectives of the study.

The researcher used observations and established three focus groups where he acted as convenor. The results of the observations, focus group discussions, and analysis of legislation were analysed and organisational design problems have been identified, as well as managerial problems that the CMAs and CEOs have to grapple with. With this knowledge the researcher

could make recommendations, based on theoretical principles, to restructure the organisational design to address the challenges that have been identified during the empirical study.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

This chapter presents the conclusion of the study and elaborates on the way the research questions were addressed and objectives of the study achieved.. A summary of each chapter has also been provided to contextualise the entire study. Through the entire process, the researcher always kept the focus of the study in mind.

The challenges identified during the empirical study were discussed and followed by possible solutions to address them. Specific recommendations were made to rectify the identified organisational design problems and recommendations on how CEOs of the CMAs can manage their entities more effectively were made.

The next chapter will focus on the establishment of CMAs in South Africa after 1994. The chapter will also identify and elaborate on relevant legislation that determined that CMAs should be established to focus on the management of water at a catchment level.

CHAPTER 2: CMAs AND WATER RESOURCES MANAGEMENT WITHIN THE CONTEXT OF LEGISLATION

2.1 Introduction

Water is an important but also a scarce commodity in South Africa and this hampers the quest to pursue social and economic development. In the past century the South African government could provide its citizens with enough water to satisfy their basic needs. After 1994 the demand for more water became more pronounced as the government strived to satisfy the water needs of all citizens. It also became clear that the country could no longer depend on the traditional approaches of water supply and that new approaches and technologies were necessary. Over time the existing water infrastructure aged as demand for water grew exponentially and became more expensive to maintain.

As mentioned before, the Constitution's Bill of Rights (B) guarantees every South African citizen the right to access to sufficient clean and safe water. Water legislation promulgated after 1994 focused on this requirement and the principles of equity, efficiency and sustainability when it comes to the management of water resources. Government policies on water management and supply also adopted the principle of sustainability to ensure water security to all. Sustainable water resource management requires effective institutional capacity of authorities responsible for water resource management. In order to implement the legislation and policies at regional level the government took a decision at the beginning of the twenty first century to establish nineteen CMAs (DWAF, 2004), which were reduced to nine in 2012 (DWA, 2012).

This chapter looks at how catchment management agencies were founded, what their purpose and functions are and how they are structured to manage water resources in their regions. In order to do this, the chapter sets the background of water management before and after 1994 up until 2017. Specific focus will be given to the current water legislative framework as it reflects how the nine water management areas should be managed.

The chapter will also focus on the current functioning of national and regional water management institutions where the roles of the Minister of Water and Sanitation, the DWS and the CMAs will be clarified. With this knowledge, any weaknesses identified in the organisational structures of water management institutions which may lead to inefficiencies in the management water management areas, will be identified.

2.2 Current status of water in South Africa

South Africa is, as mentioned, a water scarce country and special action is necessary to protect its water resources as best as possible. The situation is exacerbated by periods of intensive draughts and severe floods. The unevenly distribution of dams over the country is also problematic as most of the larger dams are built in industrial areas and centres of development in urban areas (Goldin, 2010: 8). The country has to cope with this anomaly to ensure that the future water needs of its citizens are looked after (WWF and SANLAM, 2013: 8). It was already projected in 2011 that South Africa's water demand will increase from 15 billion cubic meters to 17 billion cubic meters by 2025. This suggests that the country will experience water shortages by then, if water resources are not effectively managed today (NT, 2011: 124).

Effective water management is necessary for South Africa's social and economic development and in 2006 the water sector contributed about R6.4 billion to the country's annual gross domestic product (GDP). This is 0.4 per cent of South Africa's annual GDP and an indication that water contributes for 0.4% of the total value of everything produced by all the people and companies in the country (NT, 2011: 123). This figure increased to 1.0% in 2016 (Statistics South African, 2016:10).

2.2.1 Progress in the provision of water

Having committed to strive towards achieving the Millennium Development Goals, South Africa has to an extent made good progress in the supply of water to its citizens. Statistics South Africa (2016: 94) reports that in 1994 only 76.6% of the South African population had access to water, but that that figure had risen to 88.3% in 2015 (latest figures after 2015 were not yet released when this dissertation was compiled). The National Treasury (NT, 2011:123), however cautioned that these figures may decrease in future because it is expected that the national demand for water is projected to increase by 32% (to 17 700 million m³) by 2030. It is supposed that the projected demand will mainly depend on factors such as future growth in the population of the country and an expansion in industrial activity.

To ensure that the country makes progress in providing water to all its citizens, the following needs to be addressed (Goldin, 2010; WWF and SANLAM, 2013: 8):

- The provision of more quality water and sanitation infrastructure should be provided to previously disadvantaged households as promised in 1994.
- Areas that are still underserved, such as remote rural areas and fast growing informal settlements should be priorities when infrastructure is developed.

- Increasing water provision in these areas needs a new way of thinking and management. Decentralising water provision systems and point-of-use household treatment technologies should be developed and implemented.
- The maintenance of newly laid infrastructure that is responsible for progress in the delivery of water resources should be in place.

Water supply will be ensured if catchments are well managed with the involvement of water users. Institutions such as the CMAs should focus their management capabilities on ensuring that progress is made in improved access to water by those who are living in water management areas for which they are responsible.

In this regard, new technologies, approaches and management models must be explored and implemented.

Progress in the delivery of water services to the marginalised people will however be of no value if the quality of the water is not fit for human consumption.

2.2.2 Quality of water in South Africa

Not enough progress has yet been made to promote access to sufficient clean water, and the NT indicated in a report that lack of access to sufficient clean water to households has been the main cause of death in children under the age of five in sub-urban areas (NT, 2011: 123). The main reason for this is that in rural areas of South Africa, a significant portion of water used for domestic consumption is from groundwater sources. The quality of groundwater as a drinking-water source can however easily be compromised due to various factors which include microbiological contamination, which can have severe public health implications. It is often assumed by people in rural areas that groundwater is free of harmful substances, but the opposite is in many instances true as some severe illnesses result from poor water quality (DWA Report, 2016: No 13:97).

It is expected that this will progressively deteriorate in future as ground water will become more and more contaminated (NT, 2011: 123). Since the supply of domestic water vests with Local Government, it is this sphere of government that should ensure that it is supplied at an acceptable quality. The DWS has the mandate to regulate water supply (DWS, 2014:9ii).

The 2012/13 National State of Water Resources Report (DWA, 2014: ii) noted that strategic management of the primary water quality has specific challenges and that these challenges can only be addressed by the following: (DWS, 2016:14):

- The responsible government institutions at all the three spheres of government must drastically intensify cooperation among themselves and that strategic management actions should be taken in a cooperative manner.
- Policies to upgrade the quality of water should be developed in an integrated manner with other government institutions.
- Decision-making processes on how to implement legislation and policies should be undertaken by all the various relevant government entities.
- Engagement with all the stakeholders and water users should be ensured to enhance proper decision making and to bring everyone on board.

Sound relationship among government institutions is thus evident in the protection of the quality of water resources in the country.

The sustainable delivery of good quality water to those living in rural areas and the so-called locations near towns and cities was not on the agenda of the government before 1994. This will be elaborated on in the next section.

2.3 Water Resource Management before 1994

Prior to 1994, water management represented a skewed picture as the available water resource was apportioned along racial lines. Like many other natural resources, water was provided along racial lines. Funke et al (in Meissner et al, 2016: 1) note that black people in South Africa were to a large extent denied access to quality water and sanitation, due to the racially divisive policies of the government of the day and the then Department of Water Affairs and Forestry. Establishment of separate government institutions and administrations, the so called self-governing states or black homelands is seen as the root cause of depriving the black population in these regions of access to adequate volumes of clean and safe water as a basic human right. The black communities in these “independent states” had to negotiate with the South African Government to obtain water rights (Funke in Meissner et al, 2016: 1).

Goldin (2010: 195) states that the inequitable distribution of water in South Africa was also caused by the fact that government prioritised water provision and distribution to large industrial and agricultural users, outside the rural areas. Government made huge investments on the development of the water infrastructure such as dams, reticulation systems and inter-basin transfers in areas occupied by the minority white population. These areas had adequate water supplies which attributes to the social and economic development of mainly white South Africans. On the other hand, rural areas and townships that were inhabited by black people were as a rule poorly serviced (Goldin, 2010: 195).

An important aspect that led to this situation was the system of riparian right to the usage of water.

2.3.1 Riparian rights to water usage

Riparian right refers to a system where water is generously allocated to those who possess land. All water sources that run over the land were also regarded as owned by the landowner. More specifically, all landowners whose properties adjoin a body of water, such as a river or dam have the right to make use of it (Guerin, 2003: Working Paper). In effect, in South Africa this mostly meant white landowners such as farmers and it excluded black people who to a large extent did not own land.

Before 1994, most water use sectors such as large scale farmers, mining activities, forestry activities and tourism had permanent access to water resources based on their riparian rights. The riparian rights were instituted by laws such as the Irrigation and Conservation Act of Waters of 1912 and the 1956 Water Act. These two laws differentiated between private and public water users and were linked to the right of water to people who owned land. Thus the owner of land riparian to public water could have access to the water that flows over his or her land (Pienaar & van der Schyff, 2007: 183). As most of the land belonged to white people, they benefitted more than others that did not have riparian rights (Pienaar & van der Schyff, 2007: 183).

In the former homelands, water usage and management were under the control of the South African Government, but certain water rights were delegated to the relevant chiefs and tribal councils in specific areas (Van Koppen, et al., undated: 5). The actual management of water was thus vested in the hands of the traditional leadership and leadership structures, such as tribal and territorial councils. By default, chiefs and headmen were the entry point for any discussions on water management or when water supply issues had to be addressed (van Koppen et al, undated: 5-6).

In order to promote agricultural development and access to irrigation water, homeland governments initiated state subsidised irrigation schemes. In the process, the homeland governments adopted a disempowering approach in which agricultural schemes were managed by the development corporations that were from outside the communities. This meant that the management of water resources was in the hands of large corporations without the involvement of the chiefs, the local councils and the farmers themselves. In the same breadth, the ownership was in the hands of the corporations and the only role that chiefs played was to allocate land (Van Koppen et al, undated: 5-6).

Through the promulgation of the 1956 Water Act (Act no 54 of 1956), the Minister of Water Affairs had the power to take such steps as he may consider necessary for the development, control, utilisation as well as the provision of water in government controlled areas. Water legislation is however dynamic and is changing continuously, especially after 1994 (Uys, 2008: iii).

The period before 1994 focussed on one important issue and that is that government legislation and policies were established to benefit the white population of South Africa. This whole approach changed after 1994 when the new democratic government came into power.

Changing from the old apartheid water provision model that was followed before 1994 and a new democratic water management and supply approaches were introduced after 1994. The change in approach was possible when new legislation and policies were promulgated after 1994 to guide and facilitate the transformation process.

2.4 Water resource management after 1994

The management of water resources and development of the relevant legislation in South Africa after 1994 was influenced by international debates such as the 1992 United Nations Conference on Environment and Development in (Rio de Janeiro One of the items of discussion was “the growing usage and limited supply of water” in the world (UNCED, 1992). South Africa is not immune as it one of the countries that have limited water supply.

2.4.1 International cooperation in the management of water

After 1994, South Africa could not ignore the international principles and guidelines set by the United Nations on integrated water resources management. These principles and guidelines focussed on the way forward for efficient, equitable and sustainable development and management of the world's limited water resources (Kasrils, 2001: 43).

These principles include the following (Smith and Clausen, undated: 7):

- That fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment and should be managed in cooperation with foreign countries.
- That the management of water should be based on a participatory approach, involving the participation of all water users, including adjacent states.
- That the international management of water should be included in government policies and implemented by government administrations in all three the spheres of government.
- That water management should regard water as an economic value and that it should be managed as an economic good by all states adjacent to shared river basins.

South Africa also ascribes to these principles that encourage states sharing river basins to respect each other's rights of equal access to the shared water resources. This committed South Africa to collaborate with all geographic regions, countries and multilateral organisations on water resource management. It was envisaged that this commitment is a vehicle to facilitate access to clean water and sanitation services by partner states. In fostering international cooperation in the management of water, South Africa is a signatory to the following international conventions (UNDP, 2000, undated; CSIR, 2017: 1):

- The Convention on the Law of Non-Navigational Uses of International Watercourses (United Nations, 2014)
- The Revised Protocol on Shared Water Courses in the Southern African Development Community (SADC) (2000).

South Africa has established international bodies to manage the following international river basins that it shares with neighbouring countries (DWS, Undated: 2):

- The Orange/Senqu which is shared with Lesotho (trans boundary), Botswana and Namibia (contiguous); Limpopo River shared with Botswana, Zimbabwe (contiguous) and Mozambique (trans boundary);
- Inkomati system which is shared with Swaziland and Mozambique (trans boundary); and
- Usutu/Pongola – Maputo system which is shared with Mozambique and Swaziland (trans-boundary).

South Africa based its management of water resources after 1994 on the discussed principles and guidelines set out by international organisations that were entrenched in its water legislation and policies (DWAF, 1997).

This means that South African institutions are faced with national as well as international management challenges while promoting sustainable water management and the supply of this resource (Kasrils, 2001: 43).

2.5 Water legislations after 1994

South Africa facilitated the water law review process after 1994. Most of the legislations for the management and supply of water and sanitation were based on the country's Constitution of 1996.

2.5.1 The Constitution and the provision of water resources

The Constitution of the Republic of South Africa, especially Sections 24 and 27 of the Bill of Rights, states that everyone has the right to an environment that is not harmful to them and that all people have the right to access to sufficient food and water. According to the Bill of Rights, it is imperative that the state should develop legislative and other measures to ensure that these rights are adhere to.

The result was that the White Paper on a National Water Policy for South Africa (1997: 36) was promulgated in 1997. This white paper gave effect to the constitution and created an enabling environment for the management and delivery of water and sanitation services to all living in South Africa, including rural areas.

2.5.2 The White Paper on a National Water Policy for South Africa

This document served to, inter alia, direct the management of water in South Africa, as from 1997.

The purpose of the white paper included the following (DWAF, 2001: 5; Thompson, 2015: 174):

- To provide a historical background regarding access to and the management of water in South Africa;
- To provide explanation on the developmental context in which South Africa found itself;
- To explain the environmental and climatic conditions which affect the availability of water in South Africa;
- To outline the proposed institutional framework for water management functions;
- To indicate the steps which should be followed to translate the policy into law and action.

The White Paper for South Africa (1997: 29) promotes integrated water resource management in South Africa. It states that water management should take place vertically (three spheres of government) and horizontally (organisations at the same level). Each of these spheres must have different roles, interests and functions on the management and delivery of water services.

The White paper also encourages geographical integration which replaces the old top down approach of the previous government. This approach was used as a transformational tool that assists in addressing the past inequalities as it seeks to include people that were excluded in water resource management (Golding, 2010: 199). Integrated Water Resource Management is based on the organisational design principle of decentralisation where authority to deliver services are delegated to lower entities in an organisation. The decentralisation of functions encourages

participation and cooperation of users in the management of water resources (Golding, 2010: 199).

The White Paper proposes that since water does not recognise political boundaries, it should be managed on the basis of geographical boundaries in the form of water management areas. According to this, the country was initially divided into nineteen water management areas (CMAs) (DWA, 2013: 64). As management experience and capacity grew (Thompson, 2015: 163), the nineteen water management areas were consolidated into nine in 2013 to create a platform for better management (DWA, 2013: 64).

Two important pieces of legislation were developed in line with the recommendations made in the white paper and they are:

- The Water Service Act (Act no 108 Of 1997)(See par 2.4.5)
- The National Water Act (Act 36 of 1998)(See par. 2.4.4)

These two acts will be briefly discussed with the focus on the management of water resources.

2.5.3 The NWA (Act 36 of 1998)

The NWA preamble, inter alia provides that government recognises the need for the integration of management of all aspects of water resources and, where appropriate, the delegation of management functions to a regional or catchment level (CMAs) so as to enable everyone to participate in water resource management (NWA. Chapters 2: Part 1). Chapter 2, (Part 2) recommends the following:

- That a national water resource strategy should be developed;
- That the contents of a national water resource strategy should be established;
- That the manner in which the strategy should be implemented explained;
- That a strategy for every catchment management agency be developed;
- That the contents of a catchment management should be described; and
- That guidelines for consultation with water users in catchment management strategies be established.

The Act's aim and purpose is to fundamentally reform the past laws relating to water resources which were discriminatory and not appropriate of South African conditions. Government wanted to establish a platform on how water resources in future should be strategically managed. Central to the National Water Act is:

- The recognition that water is a scarce and precious resource that belongs to all the people of South Africa.
- The recognition that the ultimate goal of water resource management is to achieve the sustainable use of water for the benefit of all South Africans.
- The protection, use, development and effective manage and control of the countries water resources.
- The promotion of an integrated management of water resources approach where the users and other stakeholders can participate.

The Act (chapter 2: Part 2) elaborates on how the water resources should be managed strategically. It describes in detail how, inter alia, catchment management strategies should be structured and how the contents of such water management strategies should be developed.

This Act makes provision for (Chapter 7: Part 1and Part 2) the establishment of CMAs, which is the focus of this study. The Act determines that CMAs should be established and be given powers and functions to operate. Regarding the establishment of CMAs, the chapter has the following provisions:

- Procedure for establishment of CMAs should be developed;
- Duties of CMAs should be determined;
- Initial functions for CMAs to deliver be indicated;
- A governing board for each CMA been appointed;
- Appointment of a chairperson, deputy chairperson, chief executive officer and committees of CMAs and the determination of the operational activities of its administration.

As can be seen, this particular Act played a guiding role in the establishment of CMAs in order to involve users in water resource management.

2.5.4 The WSA (Act 108 of 1997)

The WSA is more relevant to water services institutions, which include municipalities and water boards. As a result, its objectives are mainly on water supply, which is the mandate of local government and excludes CMAs whose mandate is water resource management. The main objectives of the WSA are the following:

The right of access to basic water supply and the right to basic sanitation necessary to secure sufficient water and an environment not harmful to human health or well-being;

- The setting of national standards and norms and standards for tariffs in respect of water services;
- The preparation and adoption of water services development plans by water services authorities;
- A regulatory framework for water services institutions and water services intermediaries;
- The establishment and disestablishment of water boards and water services committees and their duties and powers;
- The monitoring of water services and intervention by the Minister or by the relevant Province;
- Financial assistance to water services institutions;
- The gathering of information through a national information system and the distribution of that information;
- The accountability of water services provider; and
- The promotion of effective water resource management and conservation.

2.6 Water management strategies

The NWA (Act 36 of 1998: 11-12) provides specifically for the progressive development of the NWRS and the catchment management strategies (CMS) for CMAs, under the guidance of the DWS.

2.6.1 The first NWRS

The first NWRS was developed in 2004. This strategy provided for the framework for the protection, utilisation, development, conservation, management and control of South Africa's water resources. It also provided a framework for management of water resources at a water management area level.

The first NWRS (DWAF, 2004: ii) focused on the following aspects:

- Effective provision of water services;
- Identification of opportunities to use water for productive uses;
- Facilitate inter departmental collaboration at all spheres of government;
- Water allocation reform and subsidy to schemes to the marginalised groups;
- Environmental protection and conservation to encourage water use efficiency;
- Decentralisation of water resources management to catchment management agencies to enable the participation of stakeholders in water management; and

- Ensure financial investment to develop water resource infrastructure.

According to the NWA (1998) the NWRS should be revised every five years. After nine years, the NWRS was revised (DWA, 2013) and the second NWRS has been developed to address new water issues in South Africa. Among others the second NWRS recognises the growing population and the impact of climate change that threaten water security.

Guidelines to assist the CMAs in the development and preparation of their catchment management strategies have been developed by the DWS. The guidelines are meant to achieve the following aims (DWAF, 1998: 12):

- To provide an overview of integrated water resource management (IWRM) in South Africa and how it can be implemented at the level of the water management areas where CMAs are situated;
- To provide a framework for developing the CMS;
- To create an understanding of the contents and level of detail needed in a CMS;
- To support the understanding of the process entailed during the development of the CMS
- To clearly indicate the procedures to be followed when the CMS is developed; and
- To provide an overview of the approval process of the strategy.

Acknowledging that it will take a long time to establish all CMAs and they will have to develop their own water strategy, the DWS developed broad internal strategic perspectives (ISPs) for each of the former 19 water management areas. The ISPs represent the manner in which the DWS manages water resources in water management areas before the actual nineteen CMAs were established (DWAF, 2004). Up to date only the two mentioned CMAs are fully operational and they developed their catchment management strategies in harmony with the first NWRS.

2.6.2 The second NWRS

The second NWRS of 2013 was developed within a new business paradigm and a new era in water management. The second NWRS focuses on the following main water resource management pillars:

- Achieving equity including water allocation;
- Enhance water conservation and water demand management;
- Establishment of water management institutional institutions and their governance;
- Planning infrastructure development; and
- Infrastructure operation, maintenance and refurbishment.

When developed, the CMS of CMAs should be in harmony with the NWRS. In developing its strategy, a CMA must seek the cooperation of all water users. It is a requirement that the strategy should include the principles of effective water allocation, but should contribute to the protection, use, development, conservation, management and control of water resources in the respective water management area in which CMAs are operating in (DWAF, 1998: 12).

In giving effect to the NWRS, the Inkomati-Usuthu and the Breede-Gouritz CMAs, which are the focus of this study, considered the following three strategic goals when developing their CMSs (DWS, 2012: 28-29):

- The protection of the water resources in their water management areas;
- The allocation of water resources in an equitable manner in order to redress the past imbalances; and
- To promote cooperation among water users and other stakeholders in the management of the water resources.

The philosophy on which the water strategic plans are founded is that water is scarce in South Africa and that it requires careful strategic management to enable the provision of basic water services in an equitable allocation manner.

In order to adhere to the discussed legislation and policies on water affairs and specifically the management and provision of water to people living in rural communities, the government created specific organisational entities responsible for doing so.

2.7 Water Management Institutions

The first NWRS (DWAF, 2004: 90) acknowledges that water management institutions will be used to achieve decentralisation of water resource management to a regional level. This is in line with what the White Paper on Water Policy for South Africa states on this matter (DWAF, 1997: 29). As an approach, an institutional platform to enable people's participation in decision-making processes on water management should be created.

Apart from creating new institutions, there was also a requirement to transform existing government institutions, such as the DWS, in order to reflect the new approach in water resource management. The broad framework constitutes three tiers, namely the first tier consisting of the Minister and the DWS, the second tier consisting of the CMAs and the third tier consisting of water user associations. In addition, a number of international water management institutions have been established to manage river basins that South Africa shares with neighbouring countries.

The role that each of these entities play in water resource management will be elaborated in the next sub-sections.

2.7.1 The role of the Minister of the Department of Water and Sanitation (Minister)

The Minister of the Department of Water and Sanitation is part of the government's executive and in this regard he/she is the national custodian and responsible for water resource management in the country. The Minister delegates most of his/her functions to the Director-General of the Department and his/her administration (public officials) to implement water resource management legislation and policies. Although the Minister will delegate most of his/her responsibilities to the DWS, he/she will retain, inter alia, the following responsibilities that cannot be delegated (DWAF, 2004: 90):

- The development of policies that influence the process of legislation making and the way in which policies are formulated to implement such legislation.
- The budgeting process, including the monitoring of the implementation of the budget.
- Specifying the requirements for international rights and obligations.
- Specifying a "contingency" to meet projected future water needs.
- Authorising any transfers of water between water management areas.
- Authorising water uses of strategic importance.

The Minister is thus responsible for a broad spectrum of functions of water and sanitation for the government and as such, he/she is part of the Cabinet, which is under the authority of the president.

In order to develop and implement policies, strategies and plans on water management and supply, the government of South Africa established the DWS.

2.7.2 The role of the Department of Water and Sanitation (DWS)

The national office of the DWS performs strategic functions that are delegated by the Minister. It plays an important role in developing policies, strategies, operational plans and implementation procedures of the Department (DWAF, 1997: 29). The functions that the DWS must, inter alia, perform are as follows (DWAF, 1997: 29; DWA, 2011: 5):

- The formulation of the department's strategic, operational and technical plans to ensure that water is provided to its users.
- To ensure that the plans are effectively implemented.
- To ensure that the departments joint management activities of shared river basins are in place.

- To make sure that the department's water resource management information systems are in place.
- To make sure that the functions of CMAs are effectively undertaken.
- To ensure that the CMA structures are in place to accommodate the participation of stakeholders and users in the management and decision-making process.

In giving effect to principle 23 of the White Paper on National Water Policy for South Africa (1997: 36), the DWS must facilitate the establishment of CMAs in order to delegate water resource management functions to a regional level. Second, the DWS should see to it that the activities of the CMAs are based on sound financial principles. Third, DWS is responsible of assisting the CMAs to develop their human resources capacity and to support them to establish the technical infrastructure to undertake their tasks (DWAF, 1997: 29). Fourth, DWS should monitor the CMAs' activities to ensure that their management of water resources is indeed delegated to a regional level (DWAF, undated: 7).

According to the NWRS (DWAF, 2004: 91-92) the role of the DWS will change to the effect that only the following functions will be undertaken by the DWS: the development of water provision policies, to act as a regulator, to manage international water relations and to oversee the performance of the water sector institutions, such as the CMAs (DWS, 2016: 25).

To realise their goals, CMAs require efficient and scientifically developed organisational structures and organisational designs.

2.7.3 The role of CMAs

CMAs are statutory bodies that are established in each water management area under the NWA of 1998. Their primary responsibility is the management of water resources in a specific area. CMAs are governed by governing boards that should be representative of water users in the water management areas (Mazibuko & Pegram, 2006: 3).

CMAs derive their mandate and general powers and functions as defined in sections 79 and 80, of the National Water Act, 1998, as well as additional functions that the Minister or DWS may delegate. Upon establishment, CMAs have five initial functions, but additional functions are added over time as they become more matured (DWA, undated: 17; Mazibuko & Pegram, 2006: 5). The initial functions of the CMAs (proto) are the following (CMA, 2012:12-13; DWAF, 2004: 40):

- To investigate and advise stakeholders, such as people living in the water management areas, on how water management activities should be undertaken;

- To develop the catchment management strategy;
- To co-ordinate general activities of the CMAs with that of stakeholders;
- To promote the participation of people from the region; and
- To determine the water resource needs of the region.

The Minister may also delegate to CMAs functions related to the general management of water resources in their regions. These are the following (DWA, 2010)(Pegram & Palmer, 2001: iii):

- Control over the usage of water;
- Giving directives on the usage of water;
- Consultation with stakeholders over the provision of water;
- Administration of water use license applications;
- Determination of water use restrictions; and
- Establishment of local water management institutions

The delegation of these is a phased-in approach concomitant with institutional maturity and capacity of the CMA (DWA, 2002a: 13; DWA, undated: 20).

A CMA can thus carry out a range of powers related to the planning and conduct of the routine administrative and institutional business of the CMA. In addition, a CMA can levy charges, in terms of the Minister's pricing strategy for water use charges to cover the cost of executing their mentioned functions (CMA, 2012:12-13; Pegram & Palmer, 2001: iii-iv).

This section excludes water services institutions as they are not governed by the NWA and therefore do not qualify as water management institutions. Although the water management (CMAs, WUAs) and water services institutions (municipalities, water boards) are governed by different legislation, they are linked through the water value chain. The NWA mandates the water management institutions to manage water in rivers, streams fountains, canals and dams that should be made available to water services institutions to supply to consumers. Based on the provision of the Water Services Act, the water services institutions supply water to consumers through infrastructure such as pipes, reservoirs and taps. Water services institutions also manage sanitation services.

With the legislation, policies and roles of the water institutions in place, the actual establishment of CMAs becomes a reality.

2.8 Establishment of CMAs

The establishment of a CMA in a specific area could, according to the NWA, 36 of 1998, be initiated in the following ways (Bofilatos & Karodia, 2000: 2; DWAF, Undated: 12):

- In the first instance, the Minister responsible for water could facilitate and approve the establishment of a CMA on his/her own accord;
- In the second instance, the provincial offices of the DWS may, on behalf of the Minister and with his/her approval, initiate the establishment of a CMA; and
- In the third instance interested and affected stakeholders in a specific water management area can initiate the establishment of a CMA.

The third initiative was followed in the establishment of the Inkomati-Usuthu CMA whereas the second approach was followed in the establishment of the Breede-Gouritz CMA.

The present approach in the establishment of the remaining CMAs is a hybrid between the first and the second where the Minister and the DWS regional offices facilitate the process jointly. In every instance, the Minister should approve the establishment of every CMA and publish it in a government gazette.

2.8.1 Stages in the establishment of CMAs

According to DWAF (2002: 2) the actual establishment of a CMA should follow seven distinct stages, namely (Mazibuko & Pegram, 2006: 4):

- The initiation stage: This requires the Minister, the regional office of the DWS or stakeholders to start the process. If the initiator is the Minister or the DWS provincial office, they should always seek the participation of stakeholders as required by the Act. Similarly, where stakeholders have started the process, they should enlist the support of the DWS to guide the process.
- Stakeholder consultation and participation: Participation is a legal requirement and should therefore be central to the establishment of CMAs. This is an element that should start immediately after initiation and should continue to the end of the process. If well facilitated, stakeholder consultation and participation will help in the establishment of structures that will be the building blocks and sustain the CMA after establishment.
- Determine the viability of the CMA: This is a crucial stage that focuses on the viability by determining availability of the human resource and financial capability to support successful functioning of the CMA. To further determine the viability of the CMA, the physical, technical,

social, and institutional-administrative aspects should be explored and taken into account in a proposal document.

- Participation of stakeholders: Stakeholders should be encouraged to participate in the development of the proposal document and in the process they should be provided with the necessary documentation.
- Their role in the establishment of the CMA and how they can be involved in the whole process should be discussed with them in detail.
- Interim management arrangements: An interim management arrangement can only be considered where the establishment of a CMA is delayed. In this regard, the DWS might consider using existing structures to establish a structure representative of stakeholders in the entire management area. A catchment steering committee is suitable to achieve this purpose. This is the structure that is established to represent stakeholders and communities during the CMA establishment process. Even after the CMA has been established, the catchment steering committee is usually used as a consultative structure.
- Approval of the final proposal document: The final proposal should then be submitted to the Minister for approval so that it can be gazetted for public comment.
- CMA Establishment: This last stage constitutes establishment of a CMA as a body corporate (legal establishment) and appointment of the governing board. These two processes are usually facilitated simultaneously, but the governing board can only be appointed after establishment of a body corporate.

The above account shows that the establishment of a CMA requires time and iteration with all water users, affected and interested parties to ensure that its sustainability (WWF& SANLAM, 2016: 83-84). After a CMA has been established it needs to develop and implement its strategic and operational plans to guide its water resource management functions (DWAF, 2002a: 12).

Soon after the CMA has developed its catchment management strategy and operational plans, the DWS has to delegate the necessary functions to give effect to these plans. (DWAF, 2002a: 13). The strategic plan should also include capacity building actions to ensure that the necessary personnel, finances and technical structures are in place to deliver water services in its water management area (DWAF, 2002a: 13).

It should be mentioned that it took six years for the DWS to establish the first CMA. Thereafter, it took six years for the first governing board to be appointed. It is supposed that had the period of establishing a CMA been shorter, most of the CMAs would have been established and become fully operational (DWA, 2011: 10-11).

In order to address challenges that might hamper CMAs from executing their mandate efficiently, these institutions should be structured in a specific way. The manner in which the two operational CMAs are currently structurally designed will be discussed in the following section.

2.9 The organisational structure of CMAs

Each CMA must ensure that its organisational structure and design is structured in such a way that water can be managed to address the water needs of its constituency. Creation of effective organisational structures of CMAs should be founded on scientific principles of organisational theories. The current organisational structure and entities responsible for water resource management on regional level are the following:

- The governing board (par 2.9.1)
- Catchment management committees (par 2.9.2)
- The CEO (par 2.9.3)
- The staff component (par 2.9.4)

These entities will be discussed next.

2.9.1 The Governing Board

It is a requirement that each CMA should be governed by a board of directors, appointed by the Minister (DWAF, 1998). Like any other board, the CMA governing board should be composed out of non-executive members who should form the majority of the board and then the executive directors. Board members are appointed with a view to bring a mixture of knowledge, skills, expertise and experience to the board (Department of Public Enterprises, 2000: 93).

Board members appointment is a formal process, which requires the Minister to publish a notice through the government gazette, which calls for nominations from the public. Appointment of board members in this manner ensures the credibility of the process because the public is involved in the selection process. Such a process includes the following steps (DWS, 2017: 66):

- Firstly, a panel will be established from stakeholders to screen, shortlist, interview and recommend twelve names of suitable candidates to the Minister.
- Secondly, apart from the Minister's approval, cabinet must endorse the names of the selected twelve persons that will constitute the board. The Minister is however not obliged to accept the list of names as recommended by the short-listing panel if he or she is of the opinion that the candidates do not meet the criteria. If not, the Minister can facilitate the re-advertisement process in consultation with the panel.

- Thirdly the Minister will appoint the members in writing. The names of board members must be gazetted. The Minister appoints board members in writing.

The National Water and Sanitation Bill (2017: 66) indicates that the final CMA governing board should be composed out of at least three members with qualification and expertise in the field of water resource management. It is also a requirement that the board should accommodate people with a legal qualification and expertise, financial qualification and expertise and knowledge on how government works and government regulatory environment (Mazibuko & Pegram, 2006: 4). The rest of the twelve members must represent water users, local government and people who are interested and involved in the protection of the environment (DWA, 2012).

The Governing Board is accountable to the Minister for the performance of the CMA. In determining the role of the governing board of the CMA, the Minister should clarify the authority delegated to the board members. Further, the Minister should establish performance measurement of the board. The Minister should provide guidance on how policies, legislation and administrative arrangements and conventions affect the board decision-making responsibility (Mazibuko & Pegram, 2006: 4).

According to the DPSA (2009: 6) and the Public Finance Management Act of 1999 (Act no 57 of 1999) the CMA governing board has the following responsibilities:

- To exercise its duties with the utmost care to ensure reasonable protection of the assets and records of the CMA;
- To act with fidelity, honesty, integrity and in the best interests of the public and the CMA;
- To ensure that the management of the financial affairs of the CMA is based on sound financial principles;
- To disclose all relevant material on the activities of the CMA;
- To assist with the development of the CMAs vision, mission and strategic direction that it will follow
- To assist in the development of the business plans of the CMA.

The National Water and Sanitation Bill of 2017 (no 67 of 2017) makes provision that CMAs may approve (a) the general terms and conditions of employment of the employees of the CMA, (b) develop a human resource policy and (c) develop structures for remuneration, allowances, subsidies and other benefits for employees. These functions are done in accordance and in line with guidelines as established by the Minister. The Minister must ultimately approve these functions of the governing board in concurrence with guidelines set by the Minister of Finance.

In order to assist a governing board in performing its functions, the board may appoint specific catchment management committees.

2.9.2 Catchment Management Committees

CMA governing boards may establish committees to help them in the execution of their functions. The catchment management committees can include members of the board, employees of the CMA and any other person that has the skills to execute functions of the CMA. By including both governing board members and the staff of the CMA, the board promotes inputs from various specialists to assist when policies are developed and planning processes are put into place. It also promotes capacity building of board members through working closely with the CMA's administrative and technical staff (Bofilatos & Karodia, 2000: 9; DWAF, 2002b: 11).

2.9.3 Chief executive officer (CEO) of a CMA (CEO)

A CEO of a CMA reports to the chairperson and other members of the governing board (Simpson & Taylor, 2013; Weiss, 2009: 278; Bofilatos & Karodia, 2000: 8). One important function of the CEO is to act as a link between the day to day activities of the CMA and the governing board. As such, the CEO has the overall responsibility to ensure that the CMA manages its activities effectively and in a manner that meets the strategy developed by the board. Under the direction of the board, the CEO should review and assist in the development of the CMA's strategic plan and develop the structures to implement it (Simpson & Taylor, 2013: 125; Hendrikse and Hendrikse, 2004: 154).

According to Naidoo (2009: 114) a CEO is faced with a dichotomy in that while he/she is responsible to assist the board when the strategic plan of the CMA is developed the CEO is also ensures that the strategic plan is implemented. In this regard the CEO is in effect a member of the governing board and forms part of the functioning of the board meetings.

As a board member, the CEO has control over the management of the CMA. This is a challenge because by overseeing the implementation of the strategic plan that he/she has developed, he is in a way supervising him/herself as he/she is the ultimate implementer of this plan (Naidoo, 2009: 114). Whereas the roles of the CEO and of the board are distinct, in the absence of a board, the CEO assumes the role of the board (Cheng, 2013: 633).

Good relationship between the CEO and the governing board will undauntedly improve the sustainability of the CMA in the management of water resources in its water management area. The CEO supports the board by facilitating its training and orientation. The board also depends on the skills of the CEO in leading the development of policies and bylaws (Council on

Foundations, 2006: 10). Moreover, the CEO should keep the board fully informed of all important aspects of the management and functioning of the CMAS. Without the inputs of the CEO a governing board will find it difficult to operate efficiently (Cogner et al, 1998: 15).

The above mentioned responsibilities of the CEO are thus crucial for the effective functioning of the CMAs and the opposite is also true in that a board can lay the foundation for the effective management and functioning of the CMA (McNamara, undated: 1).

2.9.4 The staff component

The staff on all levels in the organisation is, under the guidance of the CEO responsible for implementing operational policies on water resource management (DWAF, 2002). Senior management plays a crucial role in this and should ensure that the rest of the staff on lower levels in the organisation is focussed on achieving the objectives of the CMA and that their performance in this regard is up to standard. In general line managers are responsible for the management of functional entities such as finances, water resources planning and analysis, water resource engineering, water resource quality management and communication/public participation. It is important to appoint these managers because of their skills and experience in the specific field they are appointed for (DWAF, 2002).

2.9.5 Appointment of managers and staff

Except for the normal human resource actions to recruit, select and place managers and staff, the CMA staff may be obtained through secondment from the DWS and other water sector institutions. This is eminent if a specific water resource function is transferred from the DWS to a CMA. When a function is transferred from one organisational entity to another, the staff working in that entity must also be transferred with the entity to the new organisation. In order to do so, staff performing functions should first be ring fenced. The advantage of ring fencing is that it ensures the transfer of well trained and capacitated staff that will add value to their new organisation. Transfer is however not a random action and should be in terms of rules and regulations as set out by the Labour Relations Act (Act 66 of 1995: 223). In particular, Section 197 of the Labour Relations Act is important because it states that when staff is transferred they will do so by keeping their current conditions of services (DWAF et al., 2003: 38).

With the organisational structures in place CMAs are on their way to manage water resources sustainably in their water management areas.

2.10 Conclusion

This chapter presents water as a basic human need for all South Africans. Whereas in the past dispensation the apportionment of water was skewed where the majority of the citizens were denied access to adequate water for household purposes, the new democracy after 1994 changed this situation. The democratic dispensation brought changes through new water legislation on which the new approach could be founded. The focus of the new approach focussed on the promotion of equitable access to water. It was mainly through the NWA of 1997 and the WSA of 1998 that South Africa gave effect to the constitution and the Bill of Rights that guarantees access to clean and sufficient water to all the South Africans.

The water policy and NWA promote integrated catchment management with the participation of all at a catchment level. In this the DWS plays an important role. Through its policies it gives guidance to the CMAs' sustainable water resource management.

The chapter also indicates that beside commitment, the process of establishing CMAs has been very slow in South Africa. The existing Inkomati-Usuthu and Breede Gouritz CMAs are the only fully functional and operational CMAs in South Africa out of the nine that have been envisaged. They however experience organisational design and management problems of their own. Most of these problems can be addressed if a sound theoretical knowledge of the creation of organisational structures is obtained.

The next chapter will focus on the theoretical principles on which organisational structures and design are founded. This will also form the basis of the empirical study that will be undertaken and discussed in chapter four

CHAPTER 3: ORGANISING AND ORGANISATIONAL DESIGN IN PUBLIC INSTITUTIONS: A THEORETICAL PERSPECTIVE

3.1 Introduction

Whereas water is a scarce resource in South Africa, CMAs and their management require people with the necessary skills to work in scientifically developed organisational structures in order to promote sustainable management of water resources for the benefit of all. South African water legislation and policies dictate, as mentioned in the previous chapter, approaches and ways in which the management of water resources should be structured to ensure security and sustained supply. Concurrently, legislation and policies empower the government and the DWS to demarcate the country into water management areas and establish CMAs. The effective functioning of these CMAs will be achieved if they are organised and managed in a scientific manner.

In order to understand this better some of the more well-known theories on organising and the creation of organisational structures will be analysed and discussed. These theories form the basis on which organisations should be designed and assist in the identification of gaps in the existing organisational designs. In the context of the current study recommendations on how gaps in the organisational structures of the CMAs could be addressed will be undertaken. In this context theories are described as an explanation of the interrelated principles of a phenomenon in the real world (Fox and Meyer, 1997:128).

The purpose of the discussion of organisational theories is thus to find a foundation on which this study can be based. The principles on which organisational design is founded will also be analysed. Among others, this includes principles such as departmentalisation, division of labour, specialisation, centralisation and decentralisation, communication channels and coordination.

In order to assist in the development of a suitable organisational design for the CMAs within the context of the DWS, this chapter will give guidance on how to achieve this.

3.2 The study of organisations

According to Groth (2005, 1-2) organisations have been in existence for many centuries. Similarly, Scott (in Onda, 2016a: 34) maintains that organisations were there during the old civilisation (e.g. the Sumerians-5000, BC). During that time, clay tablets of the Sumerians recorded organisational concepts such as division of labour and supervision practices. The formal study of organisations can however be traced back to the end of the eighteenth century (Cichocki,

2014:16). It is recorded that organisations became more complex and changed when family ventures grew into larger organisations and eventually into large co-operations (Cichocki, 2014:16).

3.2.1 Defining the concept organisation

An organisation is referred to as a group of people arranged into formal structures to achieve an organisation's objectives (Cichocki, 2014:16). Furthermore, an organisation can be divided into several entities which have to function in a coordinated and cohesive way with each other to reach organisational objectives (Galbraith, 2002: xi). Burton et al. (2013:9) used the term organisation with reference to an entity consisting of departments, sections, each with its own workers with their own specialised function. Therefore organisations refer to the total personnel corps that has a specific organisational structure.

As such organisations can be defined as social units of people that are structured and managed to pursue the collective goals of an organisation (Murco, Undated). All organisations have an organisational structure which is designed in a specific way in which managers and their employees function. Organisational structures also indicate the relationships between the different activities of every department and its members.

The organisational structure (and its management) assigns responsibilities and authority to employees to carry out their different tasks and roles that they should play in the organisation. Organisations are open systems with organisational structures that are influenced by internal and external activities (Murcoions Undated).

3.2.2 Organisational structures and design

Bratian (2014: 546) defines an organisation as an institutional system that has its own organisational structure and design. Similarly, Daft (2004: 11) defines an organisational structure as a social entity that is goal-directed, and which is designed and deliberately structured to coordinate the work between internal organisational entities and to link them with the external environment. Pugh (1990:7) describes an organisational structure as an arrangement of activities, such as task allocation, coordination and supervision which are structured in such a way that they can lead their sub-ordinates in an effective manner.

According to Van der Waldt (2007: 188) an organisational structure gives managers and employees a "...clear idea of their responsibilities, the authority they have and the person whom they have to report to". These activities are presented as an organisational chart which is a

visional presentation of the organisation's departments and its workers (Bratian, 2014: 544; Cichocki, 2014: 16).

An organisational structure and designs are living "organism" which can and should be regularly adapted to take internal and external environmental changes into account (Bratian, 2014: 544). Making this applicable to CMA's one of the external influences on its organisational structure is the unpredictability of availability of adequate water resources which is influenced by the constant changing weather conditions in South Africa (WWF and SANLAM, 2013: 8).

The development of the discipline organisational studies dates back to the late nineteenth century and became more focused in the 1940's. Earlier on, the focus of the development of organisation theories was on organisation structures and the behavior of employees working in organisations (Cakir,).

The development of organisational theories focused on the functioning of an organisation as a whole, its functions, strategies, procedures and work design.

The content of some of the better-known organizational related theories will be discussed in the next section to give a better understanding of what organisational studies and design is based on Czarniawska, (2007:137-151) states that organisational theories are among the most developed theories in the social sciences

3.3 Role of theories on organisation studies

Theories on how organisations are structured and designed cover the broad field of the phenomena organisations and how they function, structured and designed. Theories on organisation structuring and design refer to the classifying and grouping of functions in an organisation in an ordinary pattern so that the organisation and its workers can aim at achieving their own and the organisational objectives (Van der Waldt, 2007: 188).

3.3.1 Defining the concept organisational theory

Theories are in general systematic sets of interrelated statements intended to explain a specific phenomenon in real life (E.G. WCA's). Theories are formulated to explain, predict, and understand phenomena better and are used as a basis to build new knowledge. They serve as the conceptual basis for understanding, analysing, and designing ways to investigate relationships within social systems (Gabriel, 2008: 173–199). The building blocks of a theory are models, concepts and constructs (Creswell, 2009: 50).

Van der Waldt, (2010: 13) states that the word theory has a number of distinct meanings in different fields of disciplines. The concept theory originates from the Greek word “theoria” which means to contemplate or speculate.

A theory is a systematic and formalised expression of previous observations of a specific phenomenon and is logical and testable. Theories explain reality and can predict future actions (Van der Waldt, 2010: 14).

Theories also provide a deeper understanding of things that cannot be pinned down clearly; how societies work, how organisations operate and why people interact in certain ways. Theories give researchers different “lenses” through which to look at complicated problems and social issues, focusing their attention on different aspects of the data and providing a framework within which to conduct their analysis (Babbie, 2004: 44-45).

An important focus of this study is to understand the underlying theories relevant to organisational structures and organisational design. According to Onday (2016a: 30-31) and Hatch and Cunliffe (2012: 3) the concept organisation theory is not easy to understand. It is even more difficult to describe it in the subject Public Administration, but it is well documented that Public Administration has always been closely linked to organisational theories. There are organisation theories that focus specifically on the public sector. An organisation-theory approach to the public sector assumes that the work that public institutions are responsible for (e.g. service delivery), cannot be understood without contextualising the theories on which organisational structures are designed. Public institutions that do not analyse their institution’s organisational design regularly may find it difficult to function effectively (Onday, 2016a: 30-31; Hatch & Cunliffe, 2012: 3).

3.3.2 Reasons to understand the term organisational theory

The need to understand what organisation theory in government institutions entails is of particular importance because government and its institutions are functioning in a period where comprehensive reorganisation and modernisation of its functions and processes is at the order of the day. Although organisational theories focus mostly on the human side of people working in organisations (motivation, behaviour, leadership, etc.), there is also the institutional side of organisational theories. The institutional side focus on an understanding of how organisational structures are designed.

It follows a unique approach to find out the reasons why the internal organisational structures are created in the way that they are (Christensen, Laegreid, Roness & Kjell, 2007: ix).

Further reasons to study organisational theories are, according to Cunliffe, (2012: 3) the following:

- To understand the internal processes of organisations in order to lay the basis for performance in order to reach the organisation's objectives.
- To scientifically understand how the internal organisational structures should be designed to motivate employees to reach the organisation's purpose for existence.
- To ensure that the interaction with other entities in the organisation is taking place in a coordinated manner and that activities of the entity are in line with what the external environment requests.

Hatch and Cunliffe (2012: 3) have found that the study of organisation theory may have specific benefits for managers of an organisation, including the following:

- It will help them to better analyse and understand the activities of their organisation and their sub-ordinates working in the organisational structures.
- It will help them to understand how the different entities in an organisation fit together which will help them to coordinate their own entities' work better with those of the other entities in the organisation.
- It will help them to guide subordinates more efficiently because the structures in which they operate is clearly demarcated.
- It enables them to assist and motivate subordinates to reach organisational goals more effectively because there are clear lines of communication, authority, leadership and reporting.
- It will assist them to undertake strategic planning processes more efficiently for each of the entities in which they are managers especially if these are clearly defined.
- It will help them to project how the organisational structures and designs of the entities under their leadership should be designed to address future challenges.

The development of organisational theories has gone through various phases since the 19th century up to today. During their evolution, organisational theories attempted to define the functions that organisations have and how to improve their efficiency. At the same time, organisations have evolved and grown differently according to their different aims and the influences of the changing internal and external environments in which they operate (Hatch & Cunliffe, 2012: 3).

There are a large number of theories developed over time on which the phenomenon organisations are studied, which includes organisational structures and organisational design, but

as this is a mini-dissertation only some of the better-known theories will be discussed in the next section.

3.4 Theories on organisation and organisational design

There are, as mentioned, a large number of theories on the phenomenon organisation structures and organisational design relevant to institutions in the public sector. Theories on organisational structure and organisational design include the classical theories of organisations, the administrative theories of organisations (organisational physiology and organisation structures), Max Weber's bureaucratic management approach, modern organisational theories and the organisational contingency theory (Ballucanag-Bitoni, 2013: 6-21). Each of these theories has a different focus and many sub theories of the original theory have been developed (Ballucanag-Bitoni, 2013: 6-21). The following theories have been identified for the purpose of this study as they have elements of organisational structures and design:

- The classical organisation theories and Taylor (Paragraph 3.4.1).
- Frederick Taylor's scientific management approach (3.4.2).
- The administrative theory of organisation of Henri Fayol (Paragraph 3.4.3).
- Max Weber's bureaucratic management theory (Paragraph 3.4.4.)
- Modern organisation theories (Paragraph 3.4.5)
- The systems theory (Par 3.4.5.1)
- The contingency theory (Par 3.4.5.2).

3.4.1 The classical organisation theories and Taylor (1900 to 1920)

The classical theories of organising date back to the 19th and 20th centuries and they are associated with the industrial revolution and economic development. Perceived as a set of homogeneous ideas on the management of organisations, the theories are based on ensuring work efficiency, performance and productivity. During the industrialisation period, human abilities, skills and energy to deliver outputs were replaced by new technologies where the role of the worker was diminished. As a result, production moved to large organisations, in turn forcing small scale employers to become workers in these organisations (Celik & Dogan, 2011: 65).

The classical writers also thought of the organisation in terms of its purpose and formal structure and put emphasis on the planning of work, the technical requirements of the organisation, principles of management, and the assumption of rational and logical behaviour. This theory was, as mentioned, initially developed in the early part of the last century. Writers of the classical theory laid the foundation for a comprehensive theory of management.

Classical theorists sought to:

- Obtain a clear understanding of the purpose of an organisation which is essential to understanding how the organisation works and how its methods of working can be improved.
- Identify the general objectives which would lead to the clarification of purposes and responsibilities of workers at all levels of the organisation.
- Develop the most effective organisational structure for the organisations of that time.
- Address the division of work so that each worker could know exactly what his/her duties are.
- Clearly define the responsibilities of each worker.
- Emphasise the establishment of an organisational hierarchy to manage the lines of management and command and to improve formal organisational relationships.

Most of these aspects clearly focused on organisational design features and principles, some of which are still relevant in organisational design. Mooney and Reiley, as classical theorists, set out a number of specific organisational design principles. They are the following (Mooney and Reiley, 1939) (Brech, 1965):

- The principle of co-ordination – the need for people to act together with unity of action, the exercise of authority and the need for discipline;
- The scalar principle – the establishment of an organisational hierarchy, the grading of duties and the process of delegation; and
- The functional principle – specialisation and the distinction between different kinds of duties.

The focus of the classical theory was an attempt to provide a practical approach to organisation structures, based on tried general principles at that time as opposed to the concentration on specific cases or complex generalisations of little value to the practising manager (George in Sarker & Khan, 2013: 1).

One of the scholars of the classical theory was Taylor, who developed the scientific management approach.

3.4.2 Frederick Taylor's scientific management theory or approach

Frederick Taylor, with his scientific management approach (1890 to 1940) is considered to be the father of scientific management. Taylor developed the "scientific management theory" which espoused careful specification and measurement of all organisational tasks and this led to especially the organisational design principle of job specialisation. Tasks were standardised as much as possible and workers were rewarded or punished if they reach the standard or not.

This approach appeared to work well for uncomplicated tasks where assembly lines and routine activities were the order of the day (Mavee, 2015:37).

Taylor's focus on the structure of an organisation was mainly on the best way to divide the work in the workplace. In this regard, Taylor prescribed the role of supervisors to observe and analysis (controlling and monitoring) the content of each worker in individual job in order to find the one best way to perform it. Taylor also focused on how to get each worker to do his/her work as best as possible at the workplace (Dessler, 1992: 22).

Taylor, as one of the classical writers, emphasis technical structuring or re-structuring of work and with this the provision of monetary incentives would result in higher levels of output. Taylor believed that in the same way that there is a best machine for each job, so there is a best working method (technical) by which people should undertake their jobs. He considered that all work processes could be analysed into discrete tasks and that by scientific methods it was possible to find the 'one best way' to perform each task. Each job was thus broken down into various sub-tasks which should also be analysed and the most efficient method to do the task in the shortest time should be implemented (Dessler, 1992: 22; Sarker & Khan, 2013: 2).

Further, Taylor believed that if management acted on his ideas, work would become more satisfying and profitable for all concerned. Workers would be motivated by obtaining the highest possible wages through working in the most efficient and productive way. Some of Taylor 'principles were (Simsek in Celik & Dogan, 2011: 66):

To find more efficient methods and procedures which will improve co-ordination and the control of work

- To develop a true scientific way in which each worker will do his/her work.
- To select, train and develop workers at the hand of sound scientific principles.
- To ensure that the work is effectively coordinated.
- To safeguard that the division of work is scientifically undertaken between managers and workers.

Having noted what impact a poorly designed organisational structure had on productivity in the work place, Taylor developed the following organisational design principles (Olum, 2014: 13):

- Workers should be 'scientifically' selected and developed to become 'first-class' workers in specific jobs and related tasks.
- Workers should report and be guided by functional foremen on a higher organisational level that should also be responsible for dividing work equally between workers.

- The principle of breaking down complex tasks into subtasks should be adopted to make the work more manageable with the hope that it will bring improvements in productivity.

The scientific management approach is based on the assumption that supervisors should investigate how a specific task should be undertaken and the designing of the tasks should be undertaken if not scientifically done. This places more emphasis on job design and job specialisation which are also principles of organisational design (Sarker & Khan, 2013: 2; Celik & Dogan, 2011: 66).

Dessler (1992: 22-23) notes that Taylor was criticised for his approach in that employees as human beings, still experience a degrading and demoralising, machine like existence. In spite of this Taylor established a “new” organisational design and environment that was absent before (Dessler, 1992: 22-23). Further criticism was that scientific management approach did not offer valuable organisational design suggestions and that the approach gave production managers and supervisors a dangerously high level of uncontrolled power (Celik & Dogan, 2011: 66).

Henry Fayol was another scholar of the classical theory contingent and he was responsible for developing the administrative management approach (Mavee, 2015:39).

3.4.3 Henri Fayol’s administrative management theory or approach

The administrative management theory of Fayol emphasised that there are specific management functions and he attempted to generate broad administrative management principles that would serve as guidelines for managers to undertake their management functions more effectively (Mavee, 2015:39). While Taylor reorganised a "bottom up" line of communication and channel of command, other administrative theorists, such as Fayol, looked at a channel of command flowing from the top downwards. Administrative theorists developed general guidelines of how to formalise organisational structures and relationships (Dessler, 1992: 24).

Unlike Taylor’s approach that aims to increase productivity by dealing with how work and tasks should be scientifically designed in factories, Fayol developed his management principles by analysing the managerial tasks in the whole organisation (Sarker & Khan, 2013: 3; Celik & Dogan, 2011: 67). Fayol established specific management competencies that managers should have to become efficient managers. Most of these competencies are still relevant today. Gaining managerial expertise over time, developing good interpersonal skills and improving decision-making capabilities are some of the managerial competencies that a good manager should master (Sarker & Khan, 2013: 3; Celik & Dogan, 2011: 67; Dessler, 1992: 25).

Fayol also addresses certain organisational design principles that managers should understand and adhering to. They are the following (Sarker & Khan, 2013: 3; Celik & Dogan, 2011: 67:

- To understand what specialisation and the division of labour entails.
- To know which authority should be delegated to subordinates.
- To ensure that unity of command is established.
- To know on which principles centralisation is founded.
- To determine the line of authority so that employees can follow it.
- To understand on which principles the scalar chain is based/line of authority

Henri Fayol's administrative approach made a fundamental contribution to management as well as organisational design.

Max Weber was a prominent figure in organisational design up to the nineteen hundreds of the previous century. The following discussion will elaborate on it.

3.4.4 Max Weber's bureaucratic management theory

Max Weber enriched the classical (Scientific Management and Administrative Theories) with his bureaucratic theory. Bureaucracy is a form of organisational structure and design that is found in many large-scale organisations and government institution. Where the ideas and principles of the already discussed theories and approaches were mainly derived from their practical experience, writers on the bureaucratic organisational design, however, tend to take a more theoretical approach or view (Mavee, 1015:41).

Weber's theory of bureaucracy supposes that an individual works from the bottom of the pyramidal structure to the top, gaining authority and wage increases on the way. The bureaucratic management approach of Weber was based on the belief that western civilisation was shifting from value oriented thinking, affective action and traditional action to technocratic thinking. He believed that the bureaucratic management approaches on organisational structure and design are the ideal way to structure organisations. Weber developed a set of principles for an ideal bureaucratic organisational design which are the following (Olum, 2014: 14; Sarker & Khan, 2013: 3; Mavee, 1015:41; Fesler, 1965:163):

- Organisations should be divided into vertical and horizontal hierarchies.
- Organisational structures and design should be created in the form of a pyramid based on authority in supervisory positions.
- Clear and strong lines of authority, and communication should be established.

- Comprehensive and detailed standard operating procedures for all routine tasks should be in place.
- There should be fixed jurisdictions areas for each organisational entity in the organisation.
- Functional offices should be divided in levels of graded authority.
- The organisational structure and design should be permanently in place.
- Employees should be managed at the hand of the following characteristics: promotion is based on years of experience, employee tenure is secured, and a system of explicit rules is in place.
- There should be efficient and comprehensive administrative systems in place.

According to Weber a bureaucratic form of organisation entails supreme efficiency and becomes the best form of all organisational models. Ultimately, the anticipated efficiency of bureaucracy is antihuman as it has a tendency of locking man into an “Iron Cage” of machine-like existence (Groth, undated: 3).

The Modern Organisational Theory is the integration of valuable concepts of the classical models with the social and behavioural sciences. This theory posits that an organisation is a system that changes with the change in its environment, both internal and external.

3.4.5 Modern Organisational Theory

Modern organisation theory is, in organisational theory term, of recent origin and was developed in the nineteen sixties. The qualities of modern organisation theory are its conceptual analytical base and its dependency on sound empirical research. The point of departure of this theory is that the only meaningful way to study organisations is to study it as a system. This theory may be understood better at the hand of the systems and the contingency theory (Hatch & Cunliffe, 2012: 14).

3.4.5.1 The systems approach to organising

This approach studies the organisation in its totality. Accordingly, a system is a collection of subsystems which are integrated into a whole system to accomplish an overall goal. A system can be an organisation with all its departments and sections (subsystems). An organisation as a system can well be understood by identifying various sub-systems within it. Each sub-system may be identified by certain processes, roles, structures and norms of conduct. If one part or subsystem is removed from the system the nature of the system will change (McNamara, 2005).

From an organisational design view the systems approach helps managers and those who are responsible for the design of an organisation design to see the organisation from a broader perspective. They do not see an organisation as only consisting out of a number of individual entities (subsystems) but recognise that an organisation should be seen as a whole. When concentrating only on the various individual organisational entities, each with its own objectives the total objectives of the organisation may be overlooked. These individual organisational entities may be effective and reach their goals, but if they are not integrated with the broader system the organisation can suffer as a whole.

When seeing an organisation as a whole system it becomes evident that the environment in which it operates in will have an influence on its functioning. An organisation receives inputs from the external environment that it should address. The internal organisational entities and their managers and employees analyse the inputs and transform them into understandable actions. The results of the transformed inputs must then be delivered to those who will benefit from it. The principle on which the system theory is founded is that there are inputs which are transformed to deliver outputs.

3.4.5.2 The contingency theory

The contingency theory builds on the systems theory, which acknowledges the internal and external environments in which the organisation operates, the holistic nature of an organisation and that there are various internal and external factors that affect organisational design and performance (Groth, 2005: 12; Saylor Foundation, undated: 5). Donaldson (2017:19-40) states that the Contingency theory presently provides a major framework for organisational design. The theory holds that the most effective organisational structural design is where the structure fits the contingencies (Donaldson, 2017:19-40).

Organisations operate in many different environments of which the external environment is important and it is vital to assess how such environment influences the activities of an organisation and its organisational design. An effective organisation becomes increasingly important to address the modern world, characterised by rapid changes. Contingency approaches emphasise that in order for organisations to succeed they must adopt a structure suitable for the environment in which they operate (Essays, UK. 2013; Robey, 1982: 57-58; Shafritz et al. (in Onda 2016a: 21-22).

The primary characteristics on which the contingency theory is based are the following (Essays, UK. November 2013; Shafritz et al. (in Onda 2016a: 21-22):

- There is no universal way to design an organisational structure.
- The design of organisations and its subsystems must 'fit' with the inputs from the environment
- Effective organisations not only have a proper 'fit' with the environment but their subsystems should also be linked and aligned with the external environment.
- The needs of an organisation are better satisfied when its organisational structure is properly designed in order for managers and employees to function optimally in order to address the influences from the environment.

The contingency theory acknowledges that organisational structure and design were influenced by various aspects of the environment: the contingency factors. The contingency theory recognises the fact that successful organisations in different industries with different technologies were characterised by different organisational structures and designs (Saylor Foundation, undated: 5).

The discussion so far focussed to a large extent on organising, organisational structures and organisational design. This was also, to some extent, the focus point of theories on organisational structure and design. An organisation can be structured in many different ways, depending on its objectives and environmental influences. Organisational structures and design allow for effective management and the allocation of responsibilities to different organisational entities in the organisation, such as branches, departments, sections and eventually the employees on various hierarchical levels (Jacobides, 2007:455-477).

An organisational design, of which the principles will be discussed in the next section, has to do with the network of activities and relationships in which the work of an organisation is divided (Robey, 1982: 58). Allen (2015) states that organisational design is a methodology which identifies "...dysfunctional aspects of work flow, procedures, structures and systems, realigns them to fit current business realities/goals and then develops plans to implement the new changes" The design of organisational structures is founded on organisational design principles that are developed at the hand of theoretical knowledge. If implemented in a scientific way it will in most cases lead to a more effective organisation design, significantly improved results (customer service) and employees who are empowered and committed to reach their own organisational entities goals as well as those of the organisation they serve(Allen, 2015).

3.5 Organisational design

Organisation design is a fundamental part of what makes an organisation successful. It has to do with the process of aligning an organisation's structure with its mission. Organisation design can be a significant accelerator in performance of complex business environments. By creating direct

alignment of the organisation to its strategy and business model, the performance of people within the business is enhanced with corresponding benefits to results.

Effective organisational design will ensure that an organisation and its entities deliver a sustainable service to its stakeholders. It enables organisations to adapt to external changes which might have an influence on organisational activities (Crumpton, 2013: 88; McGee & Molloy, 2003: 3). Silverman (1997:1) sees organisational design as a continuous process that focuses on internal activities within organisations to ensure that organisational structures are scientifically designed. Within this context, organisations should be designed to satisfy the needs of current and future customers.

3.5.1 Meaning of the concept organisational design

Organisational design is a step-by-step methodology which identifies the work flow, procedures, structures and systems, which should be aligned to achieve organisational goals (McGee & Molloy (2003:12). According to the State Services Authority of Victoria in Australia (2013:5) organisational (re)design is the art of dividing an organisation into operational parts, then connecting those parts together through structural design principles and arrangements to achieve an organisation's goals.

Through the process of organisational design an organisation's primary operational objectives (different organisational entities) should be indicated in a coherent way while at the same time being flexible enough to respond to changes in the organisation's strategy or mission. Organisational design should take the following aspects into account (Queensland Government. 2016). The organisational design workforce perspective (PDF, 221 KB):

- Understand the history of the organisation;
- Analyse the environment in which the organisation functions in;
- Obtain an understanding of the organisational design principles on which the organisation will be structured; and
- Always take the financial and human resource capabilities of the organisation into account when an organisational structure is designed or re-designed.

McGee & Molloy (2003:12) are of the opinion that organisational design constitutes the following (McGee & Molloy, 2003: 12):

- Aligning structures, systems and processes to achieve strategic plans and objectives.
- Identifying critical work processes and methods.
- Establishing areas where critical tasks are occurring.

- Identifying boundaries of departments, divisions, sections and posts.
- Addressing critical functional and personnel systems that will ultimately support the structure (e.g. rewards, goals and metrics, decision-making, training and staffing).

An organisation whose structure is effectively designed has certain benefits to the organisation.

3.5.2 Benefits of an effective organisational design

McGee & Molloy (2003: 4-6) indicate that an organisation whose organisational design is founded on theoretical principles has certain benefits, namely:

- It provides an organisation the ability to carefully allocate resources (people and money) to specific operational areas to implement the organisation's strategy;
- It ensures that the right information reaches the right people at the right time to perform their tasks effectively;
- It provides greater transparency in the financial performance of its key products and technologies, that in turn enables the organisation to prioritise and allocate financial resources to the various organisational entities to implement its strategy effectively;
- It provides to executives the ability to reallocate resources and ensure that organisational objectives are reached; and
- It enables the development of a high performance culture because everybody in the organisation knows what their responsibilities are and how to reach their organisational objectives.

McGee and Molloy (2003: 4-6) point out that organisational design maps not only the way in which an organisation will reach its objectives, but also how employees will reach their own objectives which should be in line with the objectives of an organisation (McGee & Molloy, 2003: 13).

Understanding and describing these pillars is important for the empirical phase of the study and to make recommendations to address any gaps that may be found.

3.6 Principles/pillars on which organisational design is based

Every organisation encounters organisational design problems/challenges. Some of the more common design problems are lack of coordination, non-accountability for actions, poor flow of information, poor communication channels, slow decision-making, and ineffective lines of authority. An effective organisational design will ensure that an organisation's work activities are in line with organisations strategic and operational plans. This is applicable for every level of an organisational hierarchy, from management to functional subunits (Bundy, 2017).

During the planning and development of an effective organisational structure, management should remember that there is no perfect organisational design. All designs have their strong and weak points and all organisations have different management and employee capabilities which come into play when an organisational design exercise is undertaken. On a theoretical level there are however certain organisational design principles or pillars (Although these two concepts can be used inter-changeably, the concept principle will be the choice for this study) that will guide organisational design specialist when the structure of an organisation or its organisational entities are undertaken (Bundy, 2017).

These principles will be elaborated on in the next section.

3.6.1 Specific organisation design principles

According to scholars in organisational studies, organisation design is built around specific key pillars (Robbins & Coulter, 2010:9-22). It is important that managers (such as the managers of the CMAs) understand these pillars to identify certain problems in their organisational design. Understanding these pillars will enable the CEO's in the CMAs to develop effective organisational structures that will assist in a strong culture of shared values, trust, openness, and a sense of belonging (Robbins & Coulter, 2010:9-22).

Scholars on organizational design, identified a large number of pillars on which organisational design is built (Robbins & Coulter, 2010: 3-9) but only the following well-known pillars will be discussed in the next section:

- (i) Departmentalisation (paragraph 3.6.1.1)
- (ii) Line and staff functions (paragraph 3.6.1.2)
- (iii) Centralisation and decentralisation (paragraph 3.6.1.3)
- (iv) Division of work and job specialisation (paragraph 3.6.1.4)
- (v) Chain of command (paragraph 3.6.1.5)
- (vi) Span of control (paragraph 3.6.1.6)

3.6.1.1 Departmentalisation

According to Van der Waldt and Du Toit (2007:191) departmentalisation (or the creation of an organisational structure) has to do with the creation of departments, divisions and sections in an organisation (Van der Waldt & du Toit, 2007: 191). It is a process in which an organisation's similar activities are grouped together in a logic and systematic manner in order for such an organisation to deliver sound services to its stakeholders.

Departmentalisation thus entails the creation of organisational entities in an organisation according to certain organisational design criteria. The criteria for departmentalisation are the following (Van der Walt, 2007: 190; Wyman, 1998: 10; Carus, 2011: 7 and Montana & Charnov, 1993: 1-4):

- Similar functions are grouped together in one organisational entity.
- Functions can be grouped together in geographical areas.
- Departments can be divided into similar products.
- The product or services that should be delivered should be taken into account.
- Organisations can be structured according to the client that receives the service.
- The organisation should be structured according to the work being done and the purpose of organisation.

At an operational level the primary purpose of departmentalisation is to ensure that tasks and functions of employees are focussed and manageable in order to achieve their own entities objectives as well as the organisations objectives (Adeyoyin et al., 2015: 6; Montana & Charnov, 1993: 1-4).

The following factors should be taken into account during the process of departmentalisation (Reichard, undated: 6-7):

- The establishment of departments and lower order entities should take the organisation's culture and beliefs into account because the culture in which organisations function in may have an influence in the designing process.
- There are usually several approaches to design the departmental structure of an organisation and in this the internal and external environments play a decisive role in the organisational design.
- Every organisational structure (flat or deep) has advantages and disadvantages which should be taken into account when departmentalisation is undertaken.
- When the establishment of departments in organisations are undertaken other organisational design principles such as the creation of line and staff functions, principles of specialisation, centralisation or decentralisation, span of control, coordination or communication channels should be taken into account (these principles will be discussed in more detail in the next sub-sections).

Departmentalisation has thus to do with the way in which government departments and their organisational entities and activities are structured so that specific services can be provided to

the public (Van der Walt, 2007: 190). Within the contexts of departmentalisation line and staff functions should be established to undertake the core functions of the organisation (line functions) and to establish those functions that will have to assist (staff functions) the core functions to do their work (Adeyoyin et al., 2015: 6; Montana & Charnov, 1993: 1-4).

3.6.1.2 Line and staff functions

The establishment of line and staff functions is an important activity that should be addressed when organisation structures are designed. Line function refers to the core business of an organisation – the reason why the organisation exists, such as the management and provision of water resources to the users. The staff entities are responsible for supporting the line functions with specialised advisory and support functions, such as human resources, financial and accounting activities, public relations and legal services (McDaniel & Gitman, 2009). Staff entities are not responsible for the actual delivery of services (McDaniel & Gitman, 2009).

Line functions cannot perform effectively without the assistance of the staff functionaries (McDaniel & Gitman, 2009). Related to this study CMAs should establish management and operation activities in specific organisational entities, which are directly responsible for the delivery of its core functions, which are the management of water resources in water management areas.

Marume et al., (2016: 43) state that line functions constitute the central element or focus in organisations and that staff functions are secondary to line functions, albeit as important as line functions. Line functions are normally under the direct control, direction, and supervision of the CEO and his/her management team. They play an important role in their authoritative positions where they give guidance to the rest of the employees under their control (Marume et al., 2016: 43). The main objective of staff functions is to create a conducive environment in which line function employees will operate optimally (Marume et al., 2016: 44).

It is however important to note that every staff entity, such as human resources, financial management entity and legal services will have their own line within the context of their staff responsibilities. In a human resource department the entities responsible for recruiting, selection and placement of new employees will be defined as the line functionaries of the department whilst the training section is the staff function (Dessler, 1992: 44). On an organisations organisational chart, line and staff functions are presented differently to show the difference between them. A line function is usually depicted as a solid line while staff functions are indicated in broken lines (Dessler, 1992: 44).

If line and staff functions are interwoven it may lead to confusion in the roles each of these entities has to play in the organisation and may even result in poor service delivery (Dessler, 1992: 44).

It is important to understand what the centralisation and decentralisation of functions and authority play when organisations are designed.

3.6.1.3 Centralisation and decentralisation

Centralisation and decentralisation refers to the hierarchical levels within an organisation that has authority to make important decisions. When decision making is kept at top level of the hierarchy, the authority to make decisions are centralised. When the power of decision-making is delegated to lower hierarchical levels in the organisation, it is called decentralisation (Daft, 2010: 17).

According to Van der Waldt (2007:190-191) "...centralisation and decentralisation represents two extremes in organisational theory" Centralisation means that almost all power, authority, decision-making and strategic planning processes are centered at the top of the organisation. It can be defined as a phenomenon where the activities of an organisation, particularly those regarding planning and decision-making, are concentrated in one location or group in an organisational hierarchy (Acharya, 2015).

Decentralisation refers to a situation where the activities in an organisation are spread across the organisational hierarchy. All power and authority is not centralised in, for instance, head office alone (Van der Waldt & Du Toit, 2007:191). Decentralising is the transfer of decision-making power and assignment of accountability and responsibility from head office to regional offices that will deliver the final product to the relevant stakeholders. Treisman (2002: 6) describes decentralisation as the dissemination of authority and functions from a higher authority in an organisation to lower cadres in the organisation.

Montana and Charnov (1993: 9) suggest that centralisation involves the principle of delegation. An organisation must delegate authority from higher levels in the organisation's hierarchy to lower levels. An organisation with a limited amount of authority that has been delegated to lower levels is characterised as centralised. In a highly centralised organisation, lower level employees in an organisation have normally limited authority of decision-making (Montana and Charnov, 1993: 9).

Absolute centralisation is however not possible and an organisation must delegate authority to its departments, divisions or sections to ensure that an organisation functions effectively. On the other hand, an organisation cannot delegate total authority to its departments, divisions or sections. This means that in organisation with regional offices (such as the DWS) total authority

cannot be given to these offices and only certain powers will be delegated to them (Van der Waldt, 2007:191).

Delegating authority also goes hand in hand with the capacity and knowledge that employees on lower levels have to implement the authority given to them (Van der Waldt, 2007:191).

An organisation which has a de-centralised approach also aims to distribute decision making power to different units of the organisation and not only to lower structures in the hierarchy of the organisation. Consistent with this view, Bashir (2015: 1) argues that allowing the participation of employees at lower levels, in decision-making and planning processes is likely to motivate them more. Knowledge of lower level employees empowers them to solve problems at their levels and delegation enables them to make better operational decisions (Anon, 2007: 501-510).

Delegation of functions and the authority to make decisions and undertake planning actions are also applicable to “satellite” entities functioning in regions outside the main organisation. This takes place within the context of decentralisation. Decentralisation is thus accompanied by delegation of authority to regional offices and their employees (Van der Waldt & Du Toit, 2007:191).Decentralisation in this instance is to give authority to regional offices that are closer to the persons who make use of services.

Decentralisation (or delegation) means that authority is given to offices outside the main organisation’s jurisdiction on a geographical basis. As mentioned, this means that services and products are more accessible to communities on a regional basis (Van der Waldt & Du Toit: 191). In the context of this study it means that the management of water resources is decentralised and that certain authority is delegated to the two operational CMAs to undertake planning activities and to make local decisions. In practice Van der Waldt & Du Toit (2007:191) state that decentralised offices can make decisions without obtaining prior approval from the ‘mother’ organisation. However, decision making at such levels takes place within the boundaries of policies of the mother organisation (Van der Waldt & Du Toit: 191).

When an organisation’s design is investigated it is also necessary that the principle of division of work (work specialisation) is addressed.

3.6.1.4 Division of work and work specialisation

According to Adeyoyin et al. (2015: 4-6), the concept of division of labour refers to the organisational design principle where similar functions are not only divided according to similar functions. It also means that the work of each employee working in the different entities in the department is also divided into specific jobs, each with its own specialised tasks. This will ensure

that every employee in the department will know precisely what their tasks are and that they should take the responsibility to perform it efficiently (Adeyoyin et al., 2015: 4-6).

This action is also referred to as job specialisation where every employee receives tasks that are unique to the job and which they are competent in to do in a satisfactory way. Normally such an employee will need to undergo special and sometimes unique training to undertake his/her tasks with success. When work is divided in such a way that an employee knows how to undertake it successfully it may, according to theory, increase productivity in an organisation and it may also lead to a more satisfied worker knowing what is expected from him (Madanizadeh, 2014: 1-2).

Individual workers should thus be given specific tasks according to their ability, level of training and competency. The main purpose of doing so is to ensure the development of the expertise (where the person becomes an expert by doing the same work repeatedly), which leads to job specialisation (Samiksha, undated: 2-3). An important aspect of job division or specialisation is its application to all hierarchical levels in the organisation. In particular, the division of work and placing competent employees in the jobs may lead to higher quality of work, increase in the speed of production and decrease in the miss-management of resources (Samiksha, undated: 2-3).

Gibson et al (2000: 330) and Kumar (undated: 1) indicate that division of labour and specialisation have the following advantages for an organisation:

- Employees will be placed in job positions that are suited for them and where they have the necessary skills to work effectively.
- It will pave the way for development of skills in a focussed manner, should employees need it.
- Less training is required when employees eventually have a sound knowledge to do their work in a specialised manner.
- Continuous execution of similar work is advantageous to an organisation as employees will do their work better and better.
- Division of work leads to better service delivery to stakeholders because employees are competent to deliver quality work.

Apart from the above merits, division of labour may have the following disadvantages (Kumar, Undated: 2):

- Continuous execution of the same tasks may become monotonous which can act as a demotivation for employees to perform at their best.
- It may ultimately lead to dissatisfaction, absenteeism and a general feeling of despair.

- Concentrating on only one set of tasks may lead to a worker not developing his or her full potential which is important for promotions.
- It may hamper the creative part of a worker as he/she is doing the same work every day.
- It will narrow the sphere of work of the employee and deprive him/her of necessary experience and the development of capacity.

In view of the challenges of job specialisation, several options have been proposed to counter the negative impact of job specialisation on workers and the organisations. Adeyoyin et al. (2015: 6) recommend the following actions to ensure that the division of work and job specialisation is beneficial to all (workers and the organisation) who are affected by it:

- Rotation between jobs and job-tasks should be enhanced to ensure that an employee gains more experience.
- Employees should be guided to understand their role in the larger picture of the work being done in the organisation.
- The organisation should emphasise the significance of the job to the incumbent which may help the employee to understand their role in their respective divisions or sections better.
- Enrich an employee's current work and tasks.
- Give regular feedback to the employee to indicate problem areas in his or her performance.
- Prepare the employee for promotions by establishing a roadmap on how to advance in the organisational structure.

The work that every employee must do should in the final analysis be integrated with other task performers in the organisation or specific sections or sub-sections. The tasks related to every job should be formulated while they should focus on the objectives of the organisation per se (Onday, 2016: 90).

Every employee in an organisation should understand their position in the organisation hierarchy and which authority they have to undertake their tasks.

3.6.1.5 Chain of command (scalar phenomenon)

The scalar or chain of command organisation design principle refers to the chain of command that has to be followed in an organisation. It means that organisations should define authority, which must flow from top to bottom in the hierarchy of an organisation (Montana & Charnov, 1993: 8). This means that there is a formal command structure and employees should follow this without skipping their immediate supervisors (Montana & Charnov, 1993: 8). However, in exceptional cases, senior employees (managers, deputy managers, supervisors etc.) in an

organisation should allow the opposite. This may happen if seniors in the organisation need specialised knowledge of junior personnel on a specific subject to take immediate decisive decisions (Montana & Charnov, 1993: 8).

Fox and Meyer (1995:132) are of the opinion that the chain of command refers to the phenomenon where a worker should only report to one supervisor alone. A worker that has to report to more than one supervisor at a time will become confused, ineffective and irresponsible. As an element of organisational design the chain of command principle refers, according to Crumpton (2013:89), to an organisation's hierarchical reporting structures and relationships. It is important for all personnel within the organisation to have a line of supervision for providing both direction and guidance. The chain of command principle not only establishes communication lines for accountability, but it also lays the basis for reporting back to supervisors on work that has been done (Crumpton, 2013: 89).

Communication and coordination are also important aspects when the scalar principle is implemented. Effective communication channels are needed to ensure that there is an open line of discussion between the employees and their seniors on all levels in the hierarchy of an organisation (Onday, 2016: 90). Establishment of effective communication lines reduces confusion and improves decision making in an organisation (Montana & Charnov, 1993: 8). When the chain of command principle is followed it will also improve the coordination between different entities and workers (Onday, 2016: 90). In this regard coordination is an orderly arrangement of efforts to provide unity of action in the fulfillment of common objective (Juneja, undated).

There are however also strong arguments against the principle of chain of command. According to Bittel (in Texas State Auditor's Office, undated: 5) and Kettley (1995: 5) the fact that it might take time to take important decisions and to communicate effectively through the proper channels is sometimes too inflexible and rigid, which may have a negative influence on work activities. This is especially the case in government organisations with their deep organisational structures, which is not the case with organisations in the private sector (Marume and Chikasha, 2016: 57).

In line with the principles of chain of command there is another organisational design principle that should be addressed when an organisations structure is designed or re-designed and that is the span of control.

3.6.1.6 Span of control

Span of control refers to the number of subordinates that report to a manager or supervisor (Van der Waldt & Du Toit: 2007:189). The larger the number of employees that report to one manager or supervisor, the wider is the span of control. In other words, the manager or supervisor has a

relatively large number of sub-ordinates under their supervision. If only a few sub-ordinates report to a manager or supervisor, the narrower is the span of control (Van der Waldt & Du Toit: 2007:189).

Different scholars have different views on an acceptable number of employees that should report to one supervisor or a manager, but it seems, according to Van der Waldt & Du Toit (2007:189) that a single manager may have between six or seven persons reporting to him/her. This is relatively a small span of control because the work on managerial level is complicated and difficult. When the work of subordinates is less complicated and more routinely in nature, the span of control of the supervisor may be wider and may contain up to twenty employees (Van der Waldt & Du Toit: 2007:189).

The following considerations can guide organisational design specialists or planners in the process of determining the number of sub-ordinates that can report efficiently to one person at a time (Office of the City Auditor, 2013: 17; Glazer-Moon, 2010: 3; Daft, 2004: 263; Gibson et al., 2000: 38-339; Galbraith et al., 2002: 91-92):

- Nature of work: Where work is complex and more diversified, the span of control will be narrow as more attention will be needed to guide subordinates. In areas where work is less difficult and more routine in nature, a wider span of control is possible. Complex work requires the involvement of the manager more in the execution of tasks, leaving him with less time to supervise subordinates and requiring a narrow span of control.
- Communication: Managers with good communication skills will be able to supervise more employees than those with poor communication skills. This is due to the need to communicate instructions, guidelines and policies verbally or in written form to subordinates.
- Downsizing and flattening organisations: While this process reduces the number of employees in an organisation in general, it mainly reduces the number of middle managers. It eventually leads to better communication and coordination.
- Burden of nonsupervisory duties: When managers have many staff functions and service delivery responsibilities in addition to their normal management responsibilities, the span of control will be influenced and a smaller span of control will be advisable.
- Qualifications and experience: Manager or supervisors that possess the necessary qualifications and skills to do their work effectively may be more successful in guiding subordinates and a larger span may be the result of it.
- Degree of Coordination: If managers or supervisors have the ability to coordinate their subordinates' work in a sound manner better, it may lead to a larger span of control

- Geographic location of subordinates: When subordinates are scattered in multiple locations in various regions or even in an organisation itself, the span of control may be smaller because of difficulties in supervision and longer communication channels.

The complexity of the work and the capacity of those who are responsible to undertake certain tasks have thus a strong influence on the span of control in an organisation (Van der Waldt & Du Toit, 2007:190). The Office of the City Auditor (2013: 3) indicates that the span of control in an organisation helps planners to determine how reporting structures are established in an organisation. In this regard, span of control affects various aspects in an organisation including its communication channels, flow of information and employee motivation.

In the final analysis, understanding the principles on which organisational design is founded is important for an organisations success. Good organisational designs will help to improve communication, increase productivity, and inspire innovation. It creates an environment where people can work effectively (Luebke, 2011). Poor organisational designs may often result in, among other things, confusion within roles of employees, lack of effective communication and coordination, failure of workers to act in a cohesive way, uncertainty and eventually the poor functioning of the organisation as a whole (Luebke, 2011).

An organisation can in spite of clear mission statements, sound strategic and operational plans, effective procedures, talented employees, and great managers and supervisors still not perform well, because of poor organisational design (Luebke, 2011).

The creation of an effective organisational design should be based on the organisations strategy on how to deliver sound services to the citizens. The process of designing or re-designing organisational structures is a process that needs to start with a deep review of the environment and whether the strategy and organisational design will assist the organisation to reach its strategic plans. An organisation should be very clear on what it is trying to achieve as an organisation and make sure that its objectives and goals are linked to strategies that it follows. In this regard the effective design of the structure of an organisation plays a significant role (Davilla and Landis, 2017).

3.7 Conclusion

This chapter focuses on some of the more well-known organisational theories on structuring and design. The environment in which public organising takes place has been contextualised. The public sector has been described as a sector which is under the direct control of the state. The

reason for this discussion was to indicate in which environment the DWS functions and how the CMAs and the DWS are eventually structured.

It has been emphasised that the current South African public sector is to a large extent the result of the 1994 democratic dispensation. Within this context, CMAs are public entities meant to promote sustainable water resource management at a regional level. They are decentralised structures of the DWS and perform water resource management functions in water management areas.

The exposition of different organisational theories provided the basis on which CMAs are designed. Theories such as the classical organisation theories, the administrative theories of organisation, Max Weber's bureaucratic management theory and the contingency theory have been analysed. These theories make mention of the phenomenon organisational design, which is important to this study.

The principles of organisational design, within the context of organisational theories were also identified and discussed. This includes aspects such as departmentalisation, division of functions, span of control, the scalar phenomenon and communication channels. These principles were discussed in detail because they form the foundation of the study as well as the empirical study that has been undertaken and discussed in chapter 4.

The next chapter will address the empirical phase and findings of the empirical study. It discusses in details how information has been obtained, the analysis of the results and identified which organisational design principles have not been addressed in the two operational CMAs.

CHAPTER 4: EMPIRICAL PHASE AND FINDINGS ON THE ESTABLISHMENT OF CMAs

4.1 Introduction

The purpose of an empirical phase of a study is to obtain reliable and valid data to address the identified problems related to the study and to gather and interpret the data so that the objectives of the study can be achieved. An empirical investigation involves a planned process of collecting and analysing data in a way that is systematic, purposeful and accountable (Austin & Sutton, 2014). Empirical findings are based on the knowledge obtained through the collection and analysis of data. Such findings can be presented in a quantitative or qualitative manner and as mentioned in chapter one, this research is based on a qualitative research design. In this design a respondent should answer questions which are based on theoretical knowledge and which are obtained at the hand of qualitative data-collecting instruments, such as structured or unstructured interviews and focus groups (Austin & Sutton, 2014).

The contents of this chapter is grounded on earlier chapters, including chapter one, which detailed the research methodology to be followed. The basis of the empirical phase is the theoretical discussion on the focus of this study. In this study where a qualitative approach was used, data collecting techniques that have been implemented were mainly analysis of scholarly literature (including an analysis of relevant legislation), focus group and semi-structured interviews.

The methodology that has been implemented to reach the objectives of the study has been discussed in detail in this chapter. This includes the manner in which data has been collected from the participants in the study and how the data has been analysed. The results of the gathered and analysed data have also been discussed in detail. In some cases it was necessary to present some of the statements made by the participants in more detail in order to contextualise their answers. From an ethical point of view, caution has been taken not to mention the names of the participants, but Anderson (2010:1-7) states that in some instances it is necessary to quote the views of participants to elaborate on specific answers.

The research methodology that was followed in this study has broadly been discussed. In the next section this will be elaborated on.

4.2 Research Methodology

Research methodology is a systematic way to address the stated problems and to reach the objectives of the study. It can be defined as "... the study of methods by which knowledge is gained" (Philominathan et al., 2013). Its aim is to give the plan of how data will be collected from participants and how it will be analysed and presented. Research methodology is the science of how research is to be carried out and which procedures a researcher will follow to come to conclusions (Philominathan et al., 2013).

The collection of information for this study is, as mentioned before, mainly based on a thorough literature review of books, scholarly articles, legislation and official documentation to accumulate the necessary knowledge to undertake this empirical study.

4.2.1 Preparation for fieldwork

In order to gather data, the researcher obtained approval from the Minister of Water and Sanitation, the Director-General and the Gauteng Provincial Head from the DWS. The researcher also travelled to the Netherlands to obtain information on organisational design of public water entities as the Netherlands has a long history of establishing, designing and managing these water management institutions. The Netherlands' government, through the Kingfisher Project Team, was also involved in the establishment of the CMAs and assisted the DWS in the development of the National Water and Sanitation Master Plan for the country (NW&SMP).

De Vos (2001) and Lewis (2008) indicate that gaining consent from heads from the institutions where an empirical study will be undertaken is critical before the study can proceed. Consent should also be obtained from the employees who will have to participate in the empirical study. This means that the ground should be laid beforehand to get every selected participant on board to participate in the research process (Lewis, 2008).

4.2.2 Data collection and analysis

When collecting the data it was necessary that the researcher collects data relevant to organisational studies and organisational design, which is the focus of this study. The theories on organisational structuring and design were described in chapter three. The literature study and theoretical analysis form the foundation of the empirical study. Data was collected mainly through the qualitative data collecting techniques that were discussed.

Wong (2008) defines the analysis of data as "...the process of systematically searching and arranging the interview transcripts, observation notes, or other non-textual materials that the researcher accumulates to increase the understanding of the phenomenon" (Wong, 2008). Data analysis is also defined by Vosloo (2014) as the documentation and analysis process aimed to present data in an intelligible and interpretable form in order to identify trends and relations in the collected data.

Qualitative data analysis can be conducted through thematic analysis, which is one of the most common data analysis techniques in qualitative research. It emphasises the pinpointing, examining and recording themes (patterns) in the collecting data (Dudovskiy, 2018). In this regard identified themes in data is important to the description and understanding of the broader meaning of a phenomenon and are associated to the specific research questions and objectives of the study (Dudovskiy, 2018). All identified themes should be assigned meaningful titles, which may be the actual questions asked to the participant.

Coding is a method to organise the thematic data so that underlying messages that the data produces can become clearer to the researcher. Through coding the contents of thematic data can be broken up into codes that can be a word or a short phrase that gives more detail on the theme. Coding has the pivotal link between data collection and the establishment of themes to give meaning to the data (Theron, 2015:1).

Dudovskiy (2018) indicated that there are, inter alia, three actions to follow when undertaking coding, namely:

- Open coding. The initial organisation of raw data to try to make sense of it.
- Axial coding. Interconnecting and linking the categories of codes.
- Selective coding. Formulating the story through connecting the categories.

It is necessary to report on the final results of the empirical study. Qualitative researchers tend to report "findings" rather than "results", as the latter term typically implies that the data comes from a quantitative source (Sutton & Austin, 2015). In this study the researcher reports his findings rather than results because this is not a quantitative research approach.

Based on the responses from participants, the researcher presented the findings of the empirical study in a narrative manner without engaging on long discussions. Anderson (2010:141) states that "large portions of an interview in a research paper are not necessary and only the crux of information given by interviewees can be described.

4.2.3 Population and sampling

It is difficult in this particular study to determine the number of the whole population from which a sample could be selected. However, this is because the large number of institutions that are included in the study as well as the number of officials working there. The selection of participants to participate in a study is normally based on the judgment of a researcher (Schurink et al., 2001; Babbie & Mouton, 2006)

When determining the sample of officials that should participate in the empirical study, it was necessary that the sample should be composed of people, as mentioned, who would understand the subject of organisational design as well as the functioning of the CMAs. They had to have an understanding and experience of the water sector and its institutional framework.

The participants that were involved in the focus groups and semi-structured interviews will be presented in the next section.

4.3 Assembling the focus groups interviews and their role

As mentioned, focus groups have been established as one of the data-collecting techniques. Focus group interviews are group discussions on a particular topic for research purposes. Such discussions are guided, monitored and recorded by a researcher or facilitator. Focus group interviews are used for generating information of participants on their collective views and how they understand the phenomenon under investigation. They are also useful in generating a rich understanding of participants' experiences and beliefs (Bloor et al, 2001).

Focus groups normally share the common features of semi-structured interviews and the same questions have been asked for the different focus groups participating in the research. The size of focus groups may be between eight to twelve members (Bloor et al., 2001) (Ritchie, Lewis & Elam, 2008; Strydom, 2011: 243). Small groups or numbers of participants risk limited discussions, which means little information while too large groups can be hard to manage for the researcher and frustrating for participants who feel they get insufficient opportunities to present their views (Bloor et al., 2001).

4.3.1 Establishment of the focus groups

In this study, three focus groups were established, representing the Netherlands Government, the Gauteng Provincial Administration and the Limpopo Provincial Offices of the DWS. This number of focus groups and participants were ideal for this study and there was no reason to use more focus groups and participants because information presented by these groups and these participants yielded rich information.

The three focus groups that were established are:

- The Netherlands water authorities CEO team;
- The Gauteng Provincial top management team of the DWS; and
- The Limpopo Provincial top management team of the DWS.

The establishment of these focus groups will be discussed in the next sub-sections.

4.3.1.1 Establishment of the Netherlands Focus Group

The Netherlands Focus Group had four members (executive officials), representing the Netherlands Water Authorities. As reflected in Table 4.1, this focus group was representative of members of the South African/Netherlands Partnership that served in the Kingfisher Project (Mr Hein van Stokkom and Mr Rob van Veen). Mr van Stokkom also acted as an adviser to the South African Government for the development of the plan to establish CMAs. Mr van Veen was a project manager of the Kingfisher Project under the Vaal Water Management Area. The Kingfisher Project members were thus part of the establishment of CMAs in all nine water management areas in South Africa (VNG International, 2016: 2).

Table 4-1: Members of the Netherlands Focus Group

NAME	ROLE	ORGANISATION	GENDER
Hein van Stokkom	Chief Executive Officer, Team leader under Kingfisher Project, advisor to the DWS	Water Authority Brabantse Delta	Male
Jaap van der Veen	Chief Executive Officer Organisational leadership	Water Authority Zuiderzeeland	Male
Harm Küpers	Chief Executive Officer Leadership	Water Authority Hunze & Aa's	Male
Rob van Veen	Program Manager, Team leader under Kingfisher Project	Water Authority De Dommel	Male

The role that the Netherland Team played in their focus group was to explain the role that the Kingfisher Project has played in the functioning of the CMAs. It was explained to the participants in this focus group that their information will contribute to the success of the study. With this discussion as background, Mr van Stokkom (the convenor of the focus group) created a

conducive environment to gather data that would be relevant to the researcher to understand the structuring and functioning of the CMAs.

4.3.1.2 Establishment of the Gauteng Focus Group

The Gauteng Focus Group had three representatives from the Vaal Proto-CMA. The Gauteng Provincial Operations' Main Account of the DWS had seven members in this focus group. These ten officials are responsible for compliance and enforcement of regulations, regional bulk infrastructure development, water sector support services, integrated water resource management, information technology support, risk management, strategic planning support, , water use authorisation, monitoring and evaluation in their respective sections.

Table 4-2: Members of the Gauteng Focus Group

NAME	ROLE	DEPARTMENT	GENDER
Florah Mamabolo	Administration of water use authorisation, Integrated water resource management	Vaal Proto-CMA	Female
Sefako Mamabolo	Regional infrastructure development, refurbishment and rehabilitation	Regional Bulk Infrastructure	Male
Patrick Makhado	Promote intergovernmental relations and support water sector institutions	Water Sector Support	Male
Mogale Matseba	Integrated water resource management	Vaal Proto-CMA	Male
Leseba Mabona	Integrated water resource management	Vaal Proto-CMA	Male
Thembi Mashiloane	Strategic planning support, planning, risk management and monitoring and evaluation	Office of the Provincial Head	Female
Simon Maphangule	Promote intergovernmental relations and support water sector institutions	Water Sector Support	Male
Lucky Manqele	Provision of Information Technology services	Information Technology	Male
Hangwani Mabada	Compliance, monitoring and enforcement	Water Sector Regulation	Male

NAME	ROLE	DEPARTMENT	GENDER
Thabisile Rakgotho	Regional infrastructure development, refurbishment and rehabilitation	Water Sector Support	Female

Information on the Limpopo Focus Group will be discussed in the next section.

4.3.1.3 Establishment of the Limpopo Focus Group

The Limpopo Focus Group consists of seven officials who perform most of the water resource management and water services functions of the provincial operations. One official represents the Limpopo North-West Proto-CMA. The eight officials are responsible for compliance and enforcement of regulations, water sector support services, risk management, strategic planning support, monitoring and evaluation, corporate services planning and information systems.

Table 4.3: Members of the Limpopo Focus Group

NAME	ROLE	DEPARTMENT	GENDER
L Tloubatla	Overall management of the Provincial Operations Office	Provincial Office	Male
C Masbaba	Compliance, monitoring and enforcement	Water Sector Regulation	Female
M Komape	Ensure protection, use, development, control, management and conservation of water resources	Planning and Information	Female
R Maabuelea	Provision of corporate services	Corporate Services	Female
E Ramovha	Financial management	Financial management	Male
R Mtileni	Promote intergovernmental relations and stakeholder management	Water Sector Support	Male
A Motau	Render Scientific services	Limpopo-North West Proto-CMA	Male
N Mphago	Provide strategic support, planning, monitoring and evaluation and risk management	Strategic Support	Males

4.4 Compilation and role of the semi-structured interviews

Webb and Auriocombe (2006: 5928) and Jarbandhan and Schutte (2006: 677) describe semi-structured as a format of interviews consists of open-ended questions in which both the researcher and the respondents enjoy a great level of flexibility and freedom to answer questions that have been asked. Of value of semi-structured interviews is that the participants to whom the questions have been asked can elaborate on them which will give more information to the researcher.

Semi-structured interviews are suitable for this study in which participants provided their opinions on organisational design. These interviews were facilitated by the interview guide that was prepared as part of the plan to collect data.

It is common practice to seek consent from participants in this type of interviews before engaging in the actual interviews. In particular, participants were always informed of the purpose of the interview as well as the manner in which the information will be used (Mathers et al., 2002: 2).

4.4.1 Identification of participants in the semi-structured interviews

Participants in semi-structured interviews included people at operational and strategic levels, the DWS Head Office, Inkomati-Usuthu CMA, Olifants and the Limpopo North-West Proto-CMAs. Their specific roles are to facilitate the establishment of water management institutions, Development of policy for establishment of water management institutions, Compliance and enforcement, water resource planning and governance of the CMA. These participants provided a broad view on organisational design of the CMAs. Table 4.4 presents participants that took part in semi-structured interviews.

Table 4.4: Participants in the semi-structured interviews

NAME	ROLE	DEPARTMENT	GENDER
S Thobejane	Facilitate the establishment of water management institutions	Limpopo-North West Proto-CMA	Male
T Mopai	Compliance and enforcement	Water sector Regulation	Female

NAME	ROLE	DEPARTMENT	GENDER
T Masindi	Development of policy for establishment of water management institutions	Institutional Oversight	Male
K Mosupye	Development of policy for establishment of water management institutions	Institutional Oversight	Female
J van Aswegen	Water resource planning	Olifants Proto-CMA	Male
M Selepe	Water resource management	Inkomati-Usuthu CMA	Male
P Moalakanyo	Governance of the CMA	Inkomati-Usuthu CMA	Female
Rens Botha	Water resource management	Limpopo-North West proto-CMA	Male

With the information on the methodology followed in this empirical phase of the study and the background on how the focus groups and semi-structured interviews were established the findings of the empirical study will be analysed and discussed in the next section(s).

4.5 Results of the focus groups discussions and the semi-structured interviews

Focus groups and semi-structured interviews play an important role in the successful gathering of information and eventually the success of the study at large (Green et al. 2003). The researcher thus carefully facilitated the focus groups and conducted the interviews with senior managers and board members with care. The researcher gathered rich data from the participants who mostly engaged fully in the discussions.

The research questions asked during the focus groups were based on the principles discussed in chapter three, namely:

- Departmentalisation (paragraph 3.6.1.1)
- Line and staff functions (paragraph 3.6.1.2)
- Centralisation and decentralisation (paragraph 3.6.1.3)
- Division of work and job specialisation (paragraph 3.6.1.4)
- Chain of command (paragraph 3.6.1.5)
- Span of control (paragraph 3.6.1.6)

In the pre-investigation phase the researcher detected that there exists certain levels of conflict in the CMAs among personnel themselves, as well as conflict between CMA personnel and personnel of the DWS. As this phenomenon occurs normally when organisational structures are designed or re-designed, this phenomenon was also discussed in chapter three and the researcher included it in the questions that were asked of the participants in the focus group discussions and the semi-structured interviews.

The results of the focus groups discussions and the semi-structured-interviews will be discussed collectively, in other words; the responses of participants from both the focus groups and the semi-structured interviews will be presented as a suite. This will be simple because the same questions have been asked to all participants.

The results of the interviews with the participants will be discussed in the next sub-sections.

4.5.1 Departmentalisation and organisational design

Departmentalisation is a process in which the activities and services of an organisation are grouped together in a logical and systematic manner in order for such an organisation to deliver sound services (in this study water resource management) to its stakeholders (communities at regional level). Similar functions should be grouped together in the same organisational entities (departments, sections, sub-sections, etc.) in order to ensure that services are focussed and delivered effectively (Van der Walt, 2007: 190; Wyman, 1998: 10; Carus, 2011: 7; Montana & Charnov, 1993: 1-4).

Departmentalisation thus has, inter alia, to do with the establishment of organisational structures (within the context of departmentalisation) and refers to the levels of authority and whether the organisational structure and design are flat or tall. It also refers to the allocation of tasks to officials on each of the hierarchal levels in the organisational structure (Cichocki & Irwin, 2014: 21-22). The researcher compiled the following questions on the organisational design principle of departmentalisation:

- Are the functions allocated to the different organisational entities responsible for the management of water to the various water management areas correctly allocated (in a uniformed way)?
- Are the tasks that the officials performed in each department, section, sub-section, etc. of the CMAs the same as the functions allocated to the departments, sections, sub-sections, etc.?

The following consolidated responses of the participants are collectively noted:

4.5.1.1 Response of participants

The participants indicated, to a large extent, that the CMAs (proto) in general do not execute their functions in a uniform manner. The management of the quality of water, which is a collective function of the CMAs (proto), is currently executed by the Free State Provincial Office of the DWS. The Provincial Offices of Mpumalanga, Gauteng and Free State further implement the monitoring of the state of the river eco-systems, which is a CMA function. The Upper Vaal and Middle Vaal Proto-CMAs implement the function of infrastructure management, which should be the responsibility of the various Provincial Offices and the National Water Resource Infrastructure Branch of the DWS.

The Vaal, Limpopo and Olifants proto-CMAs are the only CMAs that, as it should be the case, perform the function of water use control. In other water management areas, such as the Inkomati-Usuthu and Breede-Gouritz CMAs this function is managed by the DWS National Water Infrastructure Branch. This is another example of a situation where similar functions are not grouped together in the same organisational entities which are from a departmentalisation perspective incorrect.

The functions of water resources management have been divided into two accounts, namely, Main and Water Trading Entity (WTE) Accounts in the DWS. According to the Public Finance Management Act of 1999 (Act no 1 of 1999), Main Account should be budgeted for by the National Treasury from national taxes. Water trading functions should normally be funded by money collected by the CMAs from water user charges, but some of these functions are currently incorrectly undertaken by the DWSs provincial Offices. This incorrect organisational structural is against the principle of decentralisation.

The participants indicated that these irregularities in the organisational design in water resource management should be investigated to determine how the current organisational design should be re-structured to address these anomalies.

4.5.2 Line and staff functions

The creation of line and staff functions is an important phase when organisational structures are designed. Line functions represent the core functions or activities of an organisation; the actual reason why the organisation exists. In the case of this study it refers to the management of water

resources to ensure its supply to users living in water management areas under the jurisdiction of the CMAs. Staff functions supports the organisation's line function with specialised advisory and support functions, such as human resources services, financial and accounting activities, public relations and legal services (McDaniel & Gitman, 2009).

Line functionaries cannot perform their tasks without the assistance of the staff functionaries (McConnell, 2007: 51; Marume et al., 2016: 43). Related to this, the CMAs should establish line functions which address the operational activities and staff personnel that assist them in the performance of their operational work. In this regard the CEOs of the CMAs are responsible for the overarching management of both line and staff functionaries.

The researcher compiled the following question on the establishment of line and staff functions in the CMAs and water resource management in general:

Do staff functionaries in the CMAs provide an effective service to line functionaries so that the core business of the CMAs that is, the management of water in water management areas of the CMAs can be effectively implemented?

4.5.2.1 Response of participants

Respondents observed that the staff functionaries in the CMAs assist the line functionaries to a large extent. Their observations in this regard are that both staffs as well as line functionaries do not have adequate knowledge on the policies that guide staff and line work in the CMAs. Staff functionaries are not always familiar with the work done by the line functionaries which may have a negative influence on the delivery of the core business of the CMAs. An example is that of the occupational specific dispensation (OSD) policy, which is not understood in full and causes a situation where this policy was wrongly interpreted by staff functionaries. This may result in a situation where line professionals that perform specialised water resource management functions within CMAs, could lose their status as professionals.

4.5.3 Division of work and work specialisation

According to Adeyoyin et al (2015: 4-6) the division of work and job specialisation refers to the action where work is broken up into smaller tasks so that each functionary can have its own specific tasks to do. On an organisational level this means that all the work that the organisation

should do is also broken up into specific functions that lead to individual departments and sections. The division of work into specific organisational entities and the placement of personnel into these entities to do the specialised work must be meticulously undertaken when the organisational structure of the organisation is designed or re-designed. This will increase an organisation's productivity, how work is coordinated and that each organisational entity focuses on its own purpose in the organisation, which will enable an organisation to achieve its goals more effectively (Madanizadeh, 2014: 1-2).

Each individual organisational entity in the organisation should therefore be established for a specific function and the personnel working in that entity are given their own tasks which are in line with the purpose of the specific entity (Madanizadeh, 2014: 1-2). Another purpose of specialisation in a specific area is that workers become experts in the work that they are doing, which enhances the performance of the organisation (Samiksha, undated: 2-3). An important aspect of job division or specialisation is its applicability to simplify better management of these entities and staff. Eventually, this results in better planning and decision-making processes and better communication, coordination and more supervision on lower levels (Samiksha, undated: 2-3).

The following questions were asked to the participants regarding the division of work and work specialisation:

Is the work done by the officials in the CMAs divided correctly according to this principle of organisational design?

Is there room for officials to specialise in their work?

4.5.3.1 Responses of participants

According to respondents, CMAs are mostly following public policies and conduct work study interventions in order to specify jobs that must be executed by specialist officials in all branches in the organisations and at all levels. They found that in most instances the work load of officials is in line with the job titles and job-descriptions.

Respondents however indicated that they are aware of the challenges facing officials that execute the function of catchment management in CMAs (proto). They mentioned that each of these officials perform all functions of water quality monitoring, water use authorisations, management of pollution spillages, river eco status programme and environmental impact assessment as generalists. A problem identified by the participants is, however, that in many cases, officials

complain that there is an overload of work in some catchments. Another observation was that in some instances some of the officials in the catchments were not fully utilised.

Participants mentioned that currently operational CMAs have to a large degree been able to establish specialised sections. However, proto-CMAs are in the process of establishing specialised sections to execute different functions and the water use authorisation and river eco status functions have been prioritised. Part of this initiative is to ring fence interested staff and develop their skills in these fields of specialisation, which is an effective way to go about. This will be followed by a recruitment effort to bring in additional specialists to the above sections. Functions such as management of pollution spillages, environmental impact assessment and surface water quality monitoring will remain as part of the catchment management team.

Participants confirmed that the fruits of specialisation have already been realised where CMAs are already in a process to reduced backlogs in work regarding on the processing of water use licence applications. Due to specialisation, equitable distribution of work processes the ability of CMAs to respond to queries from water users in time.

4.5.4 Centralisation and decentralisation

According to Van der Waldt (2007:190-191) "...centralisation and decentralisation represent two extremes in organisational theory". Centralisation means that almost all power, authority, decision-making and strategic planning processes are taking place at the top of the organisation. Decentralisation refers to a situation where the activities in an organisation are spread across the organisational hierarchy. Centralisation and decentralisation refer to the hierarchical levels within an organisation that has authority to make important decisions. When decision making is kept at the top level, the organisation is centralised. When the power of decision-making is delegated to lower organisational levels, it is called decentralisation (Daft, 2010: 17; Acharya, 2015). The following questions have been asked on centralisation and decentralisation:

- What is the extent of the decentralisation of functions from the DWS to the CMAs and is it to the advantage of the CMAs and their stakeholders?
- Will the future establishment of CMAs for the whole country be the answer to decentralisation of water resource management and water security?

4.5.4.1 Response to the findings by the participants

It has been indicated that CMAs should to a large extent be decentralised entities of the DWS. According to the participants they should be in all instance be autonomous agencies that should undertake their strategic planning, determination of objectives and decision-making independently from the DWS. The DWS oversees and regulates the work that CMAs do and that CMAs are regarded by the DWS as semi-autonomous entities. A burning matter is that up to now, the roles and responsibilities of CMAs have not been clarified as some of the CMA functions are still performed by the DWS regional Offices. This situation also cascades down to the level of the employers.

At a regional level the DWS established statutory and non-statutory catchment institutions that function independently from the DWS and the CMAs. Decentralised statutory institutions include irrigation boards, water user associations, water boards and international water management institutions. Examples of non-statutory institutions in water management areas, which are decentralised entities, are catchment forums, community based organisations, environmental interest groups and non-government organisations. In many instances, decentralised institutions are effective in promoting communication between the DWS, CMAs and water users and create a platform to involve water users in local decision making in water resource management.

A problem that has been identified by the participants is that certain functions are not delegated to the CMAs who are in a better position to execute them. An example of this is the collection of water user charges that is still done by the DWS that does not have the necessary capacity to do so. Consequently, there is always under recovery of revenue in all water management areas. This is evidenced by the annual income of the Inkomati-Usuthu and Breede-Gouritz CMAs that has a huge budget shortfall and requires augmentation from the national fiscus.

Participants noted that there is a huge duplication of certain functions between the DWS Provincial Offices and that of the CMAs (proto). This results in poor management, planning and decision-making leading to confusion among the management and officials in the CMAs (proto).

4.5.5 Chain of command

Fox and Meyer (1995:132) are of the opinion that the chain of command (also referred to as the scalar principle) refers primarily also to the supervision phenomenon where a worker should only report to one supervisor only. A worker that has to report to more than one supervisor at a time will become confused, ineffective and unresponsive. As an element of organisational design the

chain of command principle refers to an organisation's hierarchical reporting structures and relationships. It is important for all personnel within the organisation to have a line of supervision for providing both direction and guidance.

The chain of command principle not only establishes communication lines for accountability, but it also lays the basis for reporting back to supervisors on work that has been done. This means that leadership in organisations should define authority, which must flow from top to bottom in the hierarchy of an organisation (Montana & Charnov, 1993: 8). There must be formal command structure and employees should follow this without skipping their immediate supervisors. Reporting lines on tasks that have been undertaken by employees lower in the organisation should also form part of the chain of command organisational design principle.

However, in exceptional cases, senior employees (managers, deputy managers, supervisors etc.) in an organisation should allow the opposite. This may happen if junior staff functionaries give advice to senior line functionaries on how a specific function should be undertaken, such as the recruitment of new employees.

Communication and coordination are also important aspects when the scalar principle is implemented. Effective communication channels are needed to ensure that there is an open line of discussion between the employees and their seniors at all levels in the hierarchy of an organisation. Establishment of effective communication lines reduces confusion and improves decision making in an organisation.

The following questions were asked regarding the chain of command:

- Is the formal line of authority and reporting in the officials in the CMAs clearly defined?
- Do the officials in the CMAs follow the chain of command organisational design principle?

4.5.5.1 Responses of participants on the chain of command principle

The principle of chain of command was highly criticised by a large number of the participants. Participants were of the opinion that CMAs are not provided with clear authority lines to do their work properly. They should understand their authority to do their work in a more structured way. The DWS should also be made aware of the fact that as they constitute the first tier, their line of authority is at the top of the water resource management structures and that they are responsible for creating an enabling environment for the CMAs to exercise their delegated functions in an

authoritative manner. The participants indicated that the CMAs cannot perform their functions effectively because of the fact that they were not delegated with all the necessary functions.

Participants indicated that CMAs and their management teams are well aware and understand that authority cannot come from the bottom (the CMAs) and that they receive their directives to do their work from the Minister. They follow the organisational design principle of chain of command precisely. The same can be said about the employees working in the CMAs. They follow the principle that their instructions come from management and not the other way round. They also understand that they should report to one supervisor at a time, which allows them to focus better on their tasks.

It was also determined that most of the senior officials in the CMAs are dissatisfied with the way in which provincial officials of DWS give instructions to the CMAs, which is done for the wrong reasons to demonstrate that CMAs are at a lower level in the organisational structures of the DWS. In theory the provincial departments and their officials are on the same hierarchical level as the CMAs. It was also reported that the officials in the DWS Provincial Offices follow a “power” approach and prescribe to the CMAs how to do their work. This leads to situations where the management environment in the CMAs are unsatisfactory and conflicts with the provincial officials occur on a regular basis.

Participants further highlighted that both the CMA boards and their CEOs report directly to the Minister of the DWS and his/her director-general, which compromises the fact that one entity, such as the DWS and the CMAs should follow a clear chain of command. The DWS and the CMAs will eliminate existing confusion if they embrace and adhere to the principle of chain of command.

In addition, participants determined that some officials with critical responsibilities in the CMAs, such as financial managers (specifically managers in the Water Trading Entity) report to two entities at the same time, namely the Director: Institutional Establishment in the DWS as well as to the head of the Provincial Office. Under normal circumstances, such officials should report to the Director: Institutional Establishment in the DWS. On several occasions it has been determined by the participants that the present state of affairs has resulted in challenges such as conflicting instructions between the proto-CMAs and especially the provincial officials.

Participants thus identified serious problems regarding the organisational principle of chain of command which has a negative effect on the organisational entities responsible for the management of water resources in water management areas. .

4.5.6 Span of control

Span of control refers to the number of staff that reports to a manager or a supervisor. If a manager has an ideal span of control, he/she will have more time to undertake their managerial tasks. Fox and Meyer (1997:121) are of the opinion that span of control has to do with the maximum number of subordinates that a manager or supervisor can manage. They state that on managerial level, the number of subordinates should not be more than four and on supervisory level more or less twelve.

Van der Waldt (2007:189) states that not more than seven subordinates should report to one manager and that a supervisor may guide up to twelve subordinates depending on the complexity of the work. If the work of subordinates is complex (such as engineers) a manager can only manage a few subordinates at a time. If work done by subordinates is relatively easy (maintaining water pipes) a supervisor can give guidance to a much larger number of workers. The organisational design principle of span of control is that it differs at the hand of the complexity of a work. An aspect that also comes into play when the span of control of managers and supervisors is determined is the level of experience and capability of workers to do their work satisfactory.

The researcher asked the following question on the span of control to participants:

- Do the CMAs have the “correct” span of control as stated in theory?

4.5.6.1 Findings from the participants

The responses of participants indicate that the span of control of the Inkomati-Usuthu CMA shows that the CEO has six functionaries reporting directly to him.

What is problematic is that only three of them are at managerial level while the rest are lower order functionaries such as a secretary, marketing officer and a cleaner. Although the span of control of the CEO is according to the principle of organisational design, the hierarchical levels of the functionaries are on different levels which mean that the CEO management functions are not focussed but divided between complex work and easy work. This is a concern for the participants that should be addressed to adhere to theoretical principles.

It is the same situation at the Breede-Gouritz CMA. The CEO also has six persons directly under his command, but they are also at different levels in the organisational hierarchy. There are three managers in the true sense of the word, but the other three are a public relations officer, a

secretary and a cleaner. This anomaly, should, according to the participants, be addressed during a re-design exercise.

The participants had a unanimous view in the findings, namely that the span of control of the Breede-Gouritz and Inkomati-Usuthu CMAs is not structured according to the organisational principle of span of control.

During the discussions with the participants it became clear that most of the employees experienced levels of uncertainty in their future in the CMAs. The researcher also took the opportunity to investigate this phenomenon.

4.5.7 Uncertainty amongst employee's

Uncertainty is a major source of psychological strain during organisational change or restructuring of an organisations design. One of the most difficult aspects of any organisational change is that employees may associate the changes with high levels of uncertainty. It is not only uncertainty, which is a major concern, but the entire process in itself might be perceived in a negative way (DiFonzo & Bordia, 2004).

Due to uncertainty of job security resulting from the organisational design process, employees of CMAs (proto) will be highly stressed (Berger, 1987).

Employees may have two fundamental needs in this regard, namely what will happen to them during the designing process and how they can predict what would happen in future. They want the management team of an organisation to explain the purpose of the re-design and the role that they have to play in it (Berger, 1987). While management normally tries to address these concerns, they often fall short of explaining what the outcome of restructuring will be for the organisation and for them (DiFonzo & Bordia, 2004).

Uncertainty may lead to a situation where officials become de-motivated and their performance and productivity may slow down (DiFonzo & Bordia, 2004). The fact that uncertainty is a huge source of demotivation to officials, its occurrence should be addressed as soon as possible by the leadership of an organisation. Motivated employees are the cornerstone of all organisations, as work motivation is one crucial determinant of individual and organisational performance (DiFonzo & Bordia, 2004).

The following question on personnel's uncertainty in their current work environment was asked to members of the focus groups:

- What is the level of uncertainty among the employees of the CMAs?

4.5.7.1 Responses of participants

Certain participants were of the opinion that the CMA (proto) officials were in general uncertain and concerned of their future in the CMAs. They felt that they are not informed in an adequate manner on the direction in which the CMAs are moving; especially what the institutional landscape will look like after all CMAs are established including the functions to be delegated. This result in unnecessary speculation of what to expect from their organisations in the future. Speculations on the future organisational structure and design of the CMAs were detected and labelled as a cause to the demotivation of officials.

Participants also determined that officials are in the process of losing trust in the whole water resource management functionality of the DWS and the CMAs as well. The participants warned that the uncertainty among the officials working in the CMAs (proto) could breed fertile ground for them leaving the organisation.

The identified problem areas regarding the organisational design of the CMAs as well as the whole water resource environment should be attended to in order to establish an organisational structure and personnel contingent that focus on the effective management of water resources and ensure water security to the people living in the water management areas under the jurisdiction of the CMAs. Specific recommendations on this will be made and discussed in the next chapter.

4.6 Conclusion

The research methodology which is a systematic way to address the stated problems and to reach the objectives of the study has been discussed and elaborated on in this chapter. It indicates the research design that the researcher followed, which is a qualitative design. The data collecting techniques were indicated and the manner in which the data has been collected was discussed in detail.

The primary source of information was the literature study where relevant theories which the study has been founded on were explored in details. Relevant legislations were also analysed to

contextualise the study in this regard. Data and information was collected through three focus groups and semi-structured interviews with senior managers in the various entities responsible for water resource management and other stakeholders. The participants were selected because of their knowledge around the functioning of the CMAs. The results of the findings of the respondents were presented in a narrative format.

Questions that were posed to the participants were based on the literature review and the identified theories. Specific questions were compiled on the principles on which organisational design are based. With the information that was gathered specific problems were identified, which should be attended to in establishing an organisational environment in which CMAs can function in an effective manner.

The next chapter will be a summary of the study, which will also determine whether the objectives of the study have been achieved. Recommendations will be made to address the identified problems in the CMAs.

CHAPTER 5: CONCLUSION, SUMMARY AND RECOMMENDATIONS

5.1 Introduction

This study focused on the organisational design of catchment management agencies (CMAs) in South Africa. A qualitative research design was followed where a phenomenon in real life was investigated. The theoretical foundation on which this study was founded is organisational design. Qualitative research design enabled the researcher to analyse the underlying theoretical basis of organisational theory and its relevance to CMAs. The researcher was guided by this research design and undertook a systematic collection, organising and interpretation of scholarly literature and empirical data.

The use of a qualitative research design allowed the researcher to collect data from participants in their own settings and from their point of view. This research design was preferred because it took into account that people and their behaviour in their natural setting are an effective way to obtain information. According to Babbie and Mouton (2006:53) this design is also flexible and allows the researcher to use more than one data collecting methods to obtain information (Babbie & Mouton, 2006: 53).

Flexibility of this research design during data collection also allows the researcher to adapt the study process to environmental conditions in the field (Babbie & Mouton, 2006: 53).

At the hand off the literature review, the researcher analysed the principles of organisational design which formed the theoretical foundation of this research. Organisational design and the principles of organisational design include aspects such as departmentalisation, specialisation, line and staff arrangements, chain of command, span of control, formalisation, centralisation and decentralisation. Understanding the principles of organisational design enabled the researcher to identify problems (gaps) in the organisational activities and design of the CMAs and recommendations, based on this could be made to address the problems.

A summary of the study is also given in this chapter and it was determined whether the research objectives, as described in chapter one, have been reached.

5.2 Achieving the objectives of the research

The general research question (purpose of the study) that guided this research was formulated in the first chapter as: "Can an analysis and implementation of the principles of organisational studies and organisational design assist CMAs and their CEOs to manage their respective water management areas more effectively so that a better service can be rendered to their stakeholders, the public?"

This general research question and the specific research questions have guided the researcher throughout the study and kept the researcher focused on the objectives of the research.

5.2.1 Achievement of the research objectives

Deducted from the problem statement, the general and specific research questions, the following specific objectives have been formulated in chapter one which were accomplished in this study:

- To provide an Introduction to the study (Chapter one).
- To establish what the history of the establishment of CMAs in South Africa is and to determine and analyse the applicable legislation that guides the management of water resources in South Africa (Chapter two).
- To establish and analyse the theoretical principles on which the phenomenon 'organisational
- To determine, through an empirical study based on the theoretical principles of organisational design, which problems the Inkomati-Usuthu and Breede-Gouritz CMAs experience regarding their organisational design (Chapter four).
- To come to conclusions regarding the study as a whole and to make recommendations on how the organisational design of the two CMAs can be re-designed to create a positive management environment in which the CEOs can function (Chapter five).

These objectives have been achieved in this research in the following way:

Objective two: To explore the history on how the CMAs in South Africa were established and to analyse the legislation that lay the foundation of water management in South Africa

The study found that CMAs are established through the initiatives of the Minister of Water and Sanitation in South Africa in order to undertake the management of water resource at a regional level. It was determined that the public sector, in which the CMAs operate, differs from the private sector in terms of its purpose, design (form), mode of operation and governance. As opposed to the private sector, that has a goal of maximising profit, the public sector delivers goods and services, such as the provision of water, that enhance the wellbeing of the citizens.

CMA's are, as mentioned, service-delivery entities performing a function of government. Although CMA's are also funded from water use charges, they are partly funded from the National Revenue Fund for their operations.

They are listed under Schedule 3 (a) of the Public Finance Management Act of (No 1 of 1999: 91) (DPSA, 2009: 3). The Minister of Water and Sanitation is the sole shareholder of the CMA's and should develop a service level agreement with the governing board of every CMA, which is an accounting authority. This Minister must table an annual report and annual financial statements of every CMA to Parliament.

Whereas the role of water in social and economic development has been clarified in this chapter, the study alluded to the skewed nature of apportioning water before 1994 due to apartheid laws. In particular Conservation of Waters Act (Act 8 of 1912) and the 1956 Water Act 2008 (Act no 2008: iii) laid the basis for the restriction of water resources to black people. After 1994 new water resource legislations were promulgated to address this problem.

Objective three: To analyse and discuss the theoretical principles of the phenomenon 'organisational design' within the context of organisational theory and studies

In this study, the researcher learnt that organisational theories have gone through various changes from the 19th century to date. Over the period, these theories attempted to define the functions that organisations have and how to improve their efficiency based on organisational principles. The researcher identified and explored four of the primary and well known theories, namely, classical, neo-classical (human relations theory), modern and contingency organisational theories. At the same time, organisational principles on which organisational design is founded were explored. The researcher used these principles as a basis of the empirical phase of the study.

Objective four: To undertake an empirical study to determine the current situation of the two already established CMA's, namely Breede-Gouritz and Inkomati-Usuthu CMA's

The methodology that was followed in this study was discussed in detail. The concept methodology was explained and the empirical phase of the study was discussed.

The manner in which data was collected is described, interpreted and presented in a scientific manner. The empirical findings were based on the knowledge obtained through the collection and analysis of data. The empirical study has been undertaken to obtain reliable and valid data to address the problems identified.

An analysis of scholarly literature on the theories relevant to this study and focus group interviews and semi-structured interviews were the main strategies for data collection. The findings were reported at the hand of the organisational principles that were identified and described in chapter three.

Objective five: To indicate how the CMA system and their interim CEOs can be streamlined according to theoretical principles and the empirical study.

Enriched with the understanding of the literary analysis, theoretical knowledge and the empirical study, the researcher was able to identify specific gaps in the research design of the CMAs. The information was obtained from knowledgeable participants who were purposefully selected for their experience and expertise on the subject matter. With this information, the researcher was able to make recommendations on the organisational design in chapter five. These recommendations were based on the principles of organisational design.

Following the previous discussion where it was indicated that the objectives of the study have been reached the recommendations made by the researcher and as determined through the focus group discussions and interviews, will be concentrated on in the next section.

5.3 RECOMMENDATIONS

In the next sub-sections; recommendations are made by the researcher on how certain identified problems in the organisational design of the CMAs can be addressed. These recommendations are primarily based on the principles of organisational design.

5.3.1 Departmentalisation and organisational design

The participants indicated that the larger organisational structures to execute water resource management functions, which are the responsibilities of the CMAs, are not scientifically structured. Some of the water resource management activities are managed and executed by three provincial offices of the DWS, namely Gauteng, Mpumalanga and Free State which leaves room for duplication and the mismanagement of water resources at regional level.

Recommendation: The DWS should further ring fence all water resource management functions that should be performed by CMAs including those that are currently executed by the DWS provincial offices. The DWS should put a process in place to facilitate the delegation of these functions to CMAs. In this regard the DWS should make sure that the CMAs do have the human capacity to take over these activities.

5.3.2 Line and staff functions

Line and staff functions are those functions that form an important part of organisations design. Line functionaries cannot perform their tasks effectively without the assistance of the staff functionaries (McConnell, 2007: 51; Marume et al., 2016: 43).

The participants detected that the staff functionaries in the CMAs assist the line functionaries to a limited extent. The view is that the staff functionaries are not always familiar with the core business of the CMAs and that most of the policies and procedures regarding the core business are not fully understood by some of the staff functionaries.

Recommendation: That the staff functionaries in the CMAs should, through training, be made aware of their purpose and function to assist the line functionaries to do their work more effectively. Relevant policies in this regard should also be elaborated on so that they, as staff functionaries, can understand the context in which they do their work.

5.3.3 Division of work and work specialisation

Division of labour and job specialisation refers to the action where tasks are broken up into smaller parts so that employees perform particular tasks in which they become specialists. A general finding by the participants was that some employees in the CMAs are doing their work in a specialised manner, but that due to shortage of staff, many of them are overloaded with work which eventually leads to a situation where quality is compromised. Participants also discovered that the opposite is also true, namely that there are employees who are underutilised.

Recommendation: The CEOs of CMAs, together with the human resource function of the DWS should investigate the situation scientifically (through, e.g. qualified work-study specialists) to ensure that work is correctly divided between employees who do the same work. CEOs should however be careful a not to deviate from the organisational design principle of specialisation by giving tasks to other employees who are not trained to do the work satisfactorily.

5.3.4 5.3.4 Centralisation and decentralisation

Centralisation and decentralisation refer to the hierarchical levels within an organisation that has authority to make important decisions. When decision making is kept at the top level, the organisation is centralised. When the power of decision-making is delegated to lower organisational levels, it is called decentralisation. It was found that the DWS sees the CMAs, regarding certain functions, only as semi-autonomous entities, which means that some of their functions is centralised at DWS-level. There is also concern whether a National Water Resource

Management Agency will be established to centralise all the water resource management activities.

Recommendation: The management of the CMAs and DWS should discuss and clarify the delegation of functions to the CMAs in a formal way. This can only be done when the DWS and the CMAs strategic and operational plans are developed.

5.3.5 Chain of command

Chain of command is an organisational design activity where authority is given to management to delegate it to lower levels in the organisational hierarchy. In this regard command comes from the top and reporting back from the bottom to the management level. If this chain of command is broken along the line (chain) it will lead to uncertainty, poor supervision and ineffective communication channels. It has been found that this principle is effectively adhered to in the CMAs themselves. There are however chain of command problems found in the interaction between the DWS, the provincial offices and the CMAs. It is especially in terms of communication between the CMAs and the provinces that the chain of command is broken. The main reason for this could not be determined. However, some remarks made by some of the participants indicated that in all probability the geographical distance between them is a leading cause and also the fact that provincial officials see themselves as having more authority over the CMAs.

The DWS has nine provincial/regional offices that act as its extension. Their roles should be distinct from the roles of CMAs. An inherent problem is the inability of the DWS to ring fence staff and delegate the CMA functions in time hence the obvious duplication of the activities of the DWS provincial/regional offices and of the CMAs.

Recommendation: Clear communication channels between the DWS Head Office, the DWS provincial/regional offices and the CMAs should however be ensured by the management of all three entities. In this regard the managers should analyse and understand the principles on which effective communication is founded. Span of control

5.3.6 Span of control

Span of control refers to the number of staff that report to a manager or a supervisor. If a manager has an ideal span of control, he/she will have enough time to perform their managerial tasks. It will also promote effective communication channels which are a necessity for the effective functioning of the specific organisational entity. The participants were of the opinion that the span of control in the CMAs was effectively structured.

5.3.7 Personnel uncertainty in the CMAs

Uncertainty among employees in the CMAs is found to be a major source of concern. Theory indicates that this is always the case when organisational design is undertaken. This uncertainty is normally caused by the questions that employees have about the process and results of the restructuring of organisations. In particular, employees would always want to know what the organisational design process will hold for them and how long it will take. In the case of CMAs, it came to light that the primary reason for this is that the employees felt that they are not satisfactorily informed as to the purpose of the process and the expected results thereof.

Recommendation: That management of the applicable entities should inform the employees on the whole process of organisational design according to guidelines provided in literature.

5.4 Conclusion

This chapter concluded that the general research question was answered. The general research question (purpose of the study) that guided this research, as formulated in the first chapter, is: “Can an analysis and implementation of the principles of organisational studies and organisational design assist CMAs and their CEOs to manage their respective water management areas more effectively so that a better service can be rendered to their stakeholders, the public?”

Specific research questions, which linked to the general research question, have been asked and specific objectives were formulated. This chapter discusses how the objectives were reached. There was a discussion on how the specific objectives were achieved, which is also an indication that the methodology that was followed was appropriate for this study.

The problems that the participants in the study found during the focus groups and semi-structured interviews were briefly discussed and this led to specific recommendations to address them. It was also indicated that the recommendations were not only applicable for the CMAs as such, but also to the water sector as a whole. The water sector among others includes the water users in the water management areas that are managed by CMAs.

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