water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Business Case for the Limpopo-Olifants Catchment Management Agency

Draft Version 4.0

February 2022

File Name	Limpopo - Olifants CMA Business Case.docx
Date	February 2022
Version Management	Revision 4.0
Comments	Revised Version

TABLE OF CONTENTS

List of Figures

List of Tables

1. INTRODUCTION

The National Water Act (Act 36 of 1998) mandates the Minister of Water and Sanitation to establish catchment management agencies (CMAs) for the management of water resources at the catchment level. To this end, the Minister has already established six out of a proposed 9 CMAs, of which two are currently functional (Inkomati-Usutu and Breede Overberg-Gouritz). The Limpopo CMA, along with other CMAs, has only been established on paper, but does not exist as a functional organisation.

Moreover, the National Water and Sanitation Master Plan launched in Nov 2019, has prioritised the establishment of CMAs, and the progressive delegation or assignment of powers, functions and duties. To this end, CMA establishment process has demanded that attention be given to any opportunities for reducing costs and increasing efficiencies, without compromising on the core objectives of decentralising water resource management to the local within the broad principles of integrated water resources management. The Department of Water and Sanitation (DWS) then reviewed the appropriateness of having 9 CMAs across the country and has proposed a reduction in the number of water management areas, and by implication the number of CMAs, to six. In this reduction, new boundaries for the nine water management areas will be demarcated through the National Water Resources Strategy (NWRS3) as is required under the National Water Act.

A position to re-align the water management areas was approved by the former Minister after a series of engagement with the Advisory Committee set up by the Minister. The main motivation and principles in realigning the water management areas and respectively the CMAs from 9 to 6 are:

- Operational integration
- Integrated water resource planning
- Economies of scale

In terms of section 78(1) (b) of the National Water Act, the Minister may amend the name of water management area of an established CMA and in terms of section 88(1) (a) the Minister may for the purposes of re-organising water management institutions in that area in the interests of effective water resource management disestablish a CMA if it is desirable.

As part of this process, the former Limpopo-Northwest water management area and the Olifants water management area have been combined into one amalgamated water management area, to be called the Limpopo-Olifants water management area. The intention is that one CMA, called Limpopo-Olifants CMA for the purposes of this report, will manage the water resources in this water management area.

This document sets out the business case for this change, in line with the requirements of National Treasury in this regard, in order to facilitate approval by National Treasury of the listing of this CMA as Schedule 3A public entity in the Schedules of the Public Finance Management Act (Act 1 of 1999) (PFMA). It also sets out the required processes to be followed by the Minister to achieve the required institutional changes.

The report is structured as follows:

- Section 2 provides a description of the new water management area and the key water resource management challenges in the WMA;
- Section 3 deals with the strategic motivation for the establishment of CMAs, while section 4 deals with the appropriate corporate form for CMAs;
- Section 5 deals with the legal process to be followed to achieve the necessary changes;
- Section 6 deals with the functions to be performed by the CMA while section 7 addresses the organisational arrangements to perform these functions;
- Section 8 deals with organisational requirements.
- Section 9 deals with financial arrangements and the financial issues of viability and cost comparison.
- Section 10 deals with institutional and governance arrangements.
- Section 11 deals with mechanisms for regulation and oversight.
- Section 12 deals with change management to ensure a smooth and effective transition;
- Section 13 deals with risk; and
- Section 14 deals with implementation considerations and actions

2. DESCRIPTION OF WATER MANAGEMENT AREA

2.1 LOCATION

The Limpopo-Olifants Water Management Area occupies the north-western part of the Northern Province. Significant towns include Bela-Bela, Mahikeng, Makhado, Modimolle, Mokopane, Mookgopong, Musina, Polokwane, Rustenburg, and Zeerust. The Limpopo River watercourse forms the northern boundary of the WMA, and indeed of the country and with its tributaries. The Limpopo-Olifants Water Management Area is shown in Figure 1, with other five WMAs. With the amalgamation of the former Limpopo-Northwest and Olifants into one WMA, the Limpopo-Olifants WMA include the total catchment area of the Limpopo River, where the upper tributaries comprise of the Marico and Crocodile Rivers, and the downstream tributaries comprised of the Luvuvhu and Mutale Rivers. The Olifants River on the other hand covers the main stem originating in the far southern Mpumalanga Highveld region of the WMA. The Olifants river initially flows northwards through the Mpumalanga and Limpopo Provinces draining an area of 54 388 km^2 until at the confluence with the Letaba River in the Kruger National Park. In total the drainage area of the Olifants portion of the Limpopo-Olifants WMA is 68 058 km^2.

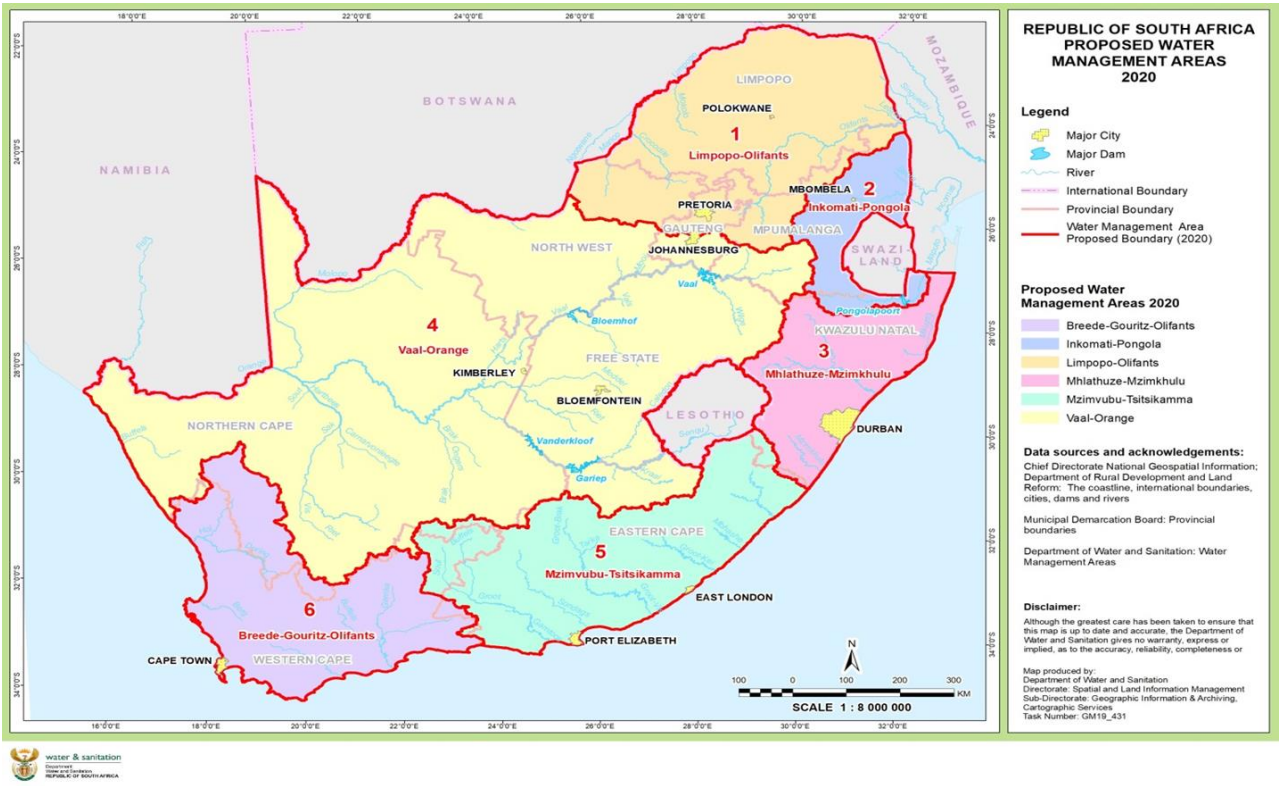

Figure 1: Proposed New Water Management Areas, South Africa

The Limpopo-Olifants WMA is the northern most water management area in the country and represents part of the South African portion of the Limpopo Basin which is also shared with Botswana, Zimbabwe and Mozambique. The WMA borders on Botswana and Zimbabwe,

where the Limpopo River forms the entire length of the international boundary before flowing into Mozambique (DWA, 2004; DWS, 2014).

The region is semi-arid, with economic activity mainly centred on livestock farming and irrigation, together with increasing mining operations. Approximately 760 rural communities are scattered throughout the water management area, with little local economic activity to support these population concentrations.

There are numerous tributaries that contribute to the Limpopo-Olifants WMA. The Marico and Crocodile Rivers form the headwaters of the Limpopo at their confluence. The Marico, Upper Molopo and Upper Ngotwane River catchments make up the western part of the Water Management Area. The Crocodile (West) River catchment forms a major part of the Limpopo WMA. The Crocodile River is a major tributary of the Limpopo River (Drainage Region A) which discharges into the Indian Ocean in Mozambique while the Pienaars, Apies, Moretele, Hennops, Jukskei, Magalies and Elands rivers are the major tributaries of the Crocodile River, which together make up the A20 tertiary hydrological catchment with its 39 quaternary catchments.

The Olifants river has several rivers contributing to the Olifants River stem of the Limpopo-Olifants WMA, and the key rivers include: the Rietspruit, the Steenkoolspruit and the Viskuile that confluences to form the main stem of the Olifants River south of Witbank; the Klein Olifants River is to the east of the tributaries above, and joins the river north west of Middelburg; the Wilge and Koffiespruit Rivers drains the area to the west of the main stem and join the Olifants River north of Witbank; the Moses and Elands Rivers drain the western part of the region south of the endoreic Springbokvlakte and the Elands River confluences with the Olifants River upstream of Arabie Dam; the Steelpoort River, and its tributaries the Dwars and Spekboom Rivers, drain a large area in the east, rising near Belfast and Lydenburg; the Blyde and Klaserie Rivers originates east of the Steelpoort River on the western mountainous area of the Escarpment. The Blyde River has its confluence with the Olifants River in the Lowveld region; the Ga-Selati River flows north of the main stream, in the Lowveld region, and originates on the eastern face of the Escarpment; and the last tributary, and by far the largest, is the Letaba River which joins the Olifants River virtually on the Mozambican border.

2.2 TOPOGRAPHY

While the topography of the Limpopo-Olifants WMA is mostly flat, the Waterberg Mountain range forms an escarpment along the south-western border with altitudes more than 1 800m. From here the WMA slopes gradually down to the Limpopo River, hence all rivers in the Limpopo WMA drain in a northerly direction and flow into the Limpopo River. The Crocodile River and some of its main tributaries rise in the south of the catchment in the Witwatersrand topographical feature at an altitude close to 2000 masl., where the rivers wind their way through the Daspoort Ridge to the Magaliesburg mountain range at the Hartbeespoort Dam where the altitude is around 1200 masl. On the other end, the topography is generally very flat with undulating hills in the lower reaches of the Marico River.

The topography within the southern part of the Olifants catchment of the WMA is characterized by rolling gently sloped hills, before the river cuts through the Drakensberg to

enter the relatively featureless Lowveld region. In the lower Olifants, the topography varies from a zone of high mountains in the west through low mountains and foothills to the low-lying plains in the east. The mountainous zone or the Great Escarpment includes the northern portion of the Drakensberg Mountain range and the eastern Southpansberg, which extend to the characteristically wide expanse of the Lowveld to the east of the escarpment. In this area the highest peaks have an elevation of more than 2 000 m above mean sea level. The topography in this zone is deeply incised by the major tributaries. Largely attributable to the topography, distinct differences in climate occur throughout the Olifants catchment of the WMA.

The geology in the catchment consists mainly of hard rock formations, where rich coal deposits occur in the Upper Olifants Sub-catchment area in the vicinity of Witbank and Middelburg. A large dolomitic intrusion extends along the Blyde River, curving westwards along the northern extremity of the Olifants catchment within the water management area.

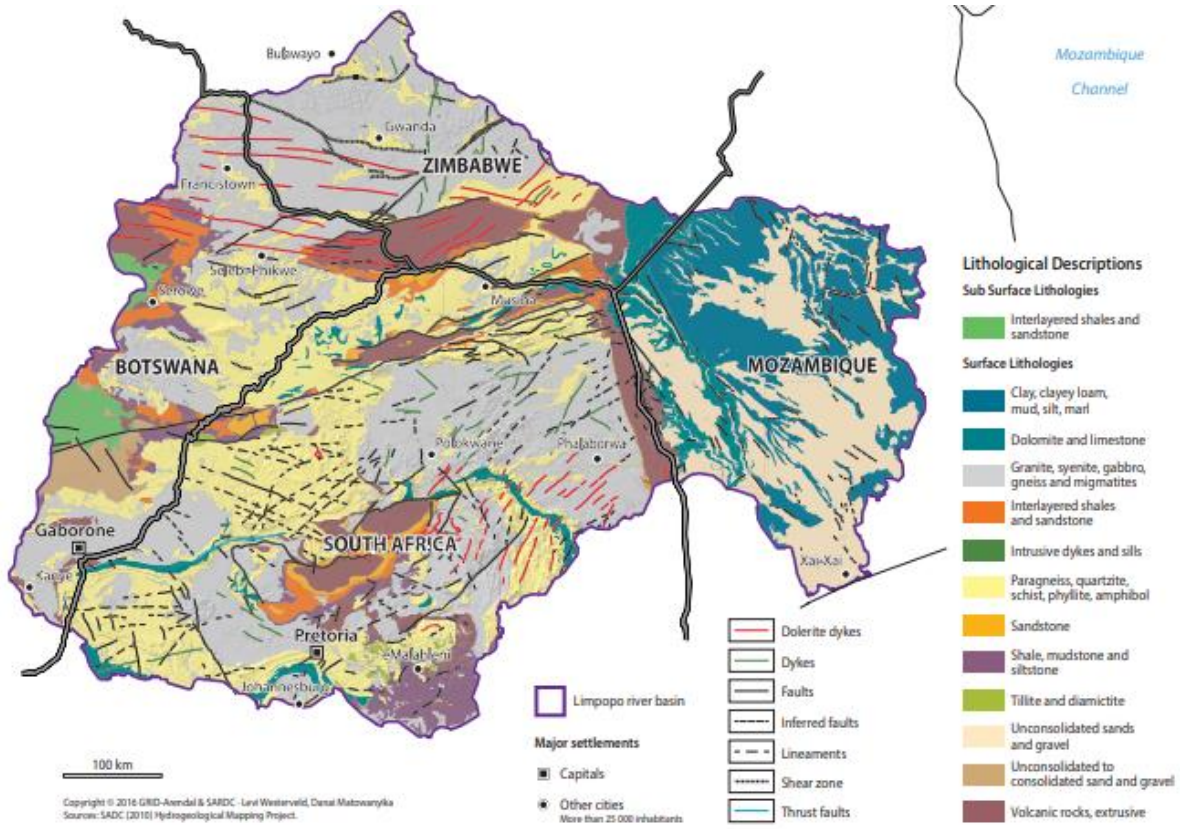

Figure 2: Geology of the Limpopo River Basin including the full Limpopo-Olifants WMA

Source: LIMCOM, 2017

However, over-grazing and highly erodable soils result in severe erosion, in parts of the middle section of the Olifants catchment. Notably, the Olifants River has a red-brown colour from all the suspended sediments after heavy rains. The situation is worsened by intensive cultivation and overgrazing, which have caused general degradation of land cover. Cultivation and grazing also causes the riverbanks to destabilise and are swept away by floods (CSIR state-of-the river report, 2001; RESILIM, 2017). In the lower parts of the water management area is

characterised by significant water deficit, although users upstream of the Tzaneen Dam enjoy a relatively high level of assurance. Overall, the Limpopo-Olifants WMA is geologically diverse.

2.3 CLIMATE

The climatic conditions vary within the Limpopo-Olifants Water Management Area. In the Limpopo River catchment, climatic conditions range from the Waterberg Mountains in the south, northwards to the hot, dry Limpopo River valley on the border with Zimbabwe. The mean annual temperature of the Limpopo WMA ranges from 16° in the south to 22° in the north, with an average of 20° for the WMA as a whole (DWA, 2004; RESILIM, 2017). The average maximum monthly temperature is 30° in the month of January, while the average minimum monthly temperature is 4° in the month of July (DWA, 2004). For the Crocodile River, the upper higher lying areas of the catchment experience cold winters (daily average minima and maxima of 10C and 15C respectively) and reasonably hot summers (10 and 30 C).

In the Olifants catchment of the WMA, the climate varies from cool in the southern Highveld region through temperate in the central parts to sub-tropical east of the escarpment. According to the Environmental Screening Report (DWA, 2011; RESILIM, 2017) the catchment covers four climatic regions, including:

- The Highveld, with moderate maximum temperatures and cold winter nights, with severe frost occurring regularly;
- The Bushveld, with high maximum temperatures and cool winter nights without severe frost occurring;
- The escarpment, which partly lies in the mist belt, with moderate maximum temperatures and cool winter nights; and
- The eastern Lowveld with a hot sub-tropical climate.

The rainfall in the study area falls within the summer season, with maximum temperatures experienced in January and minimum temperatures occurring in July.

Studies have also projected worsening climatic conditions within the Limpopo-Olifants WMA as illustrated in Figure 2.

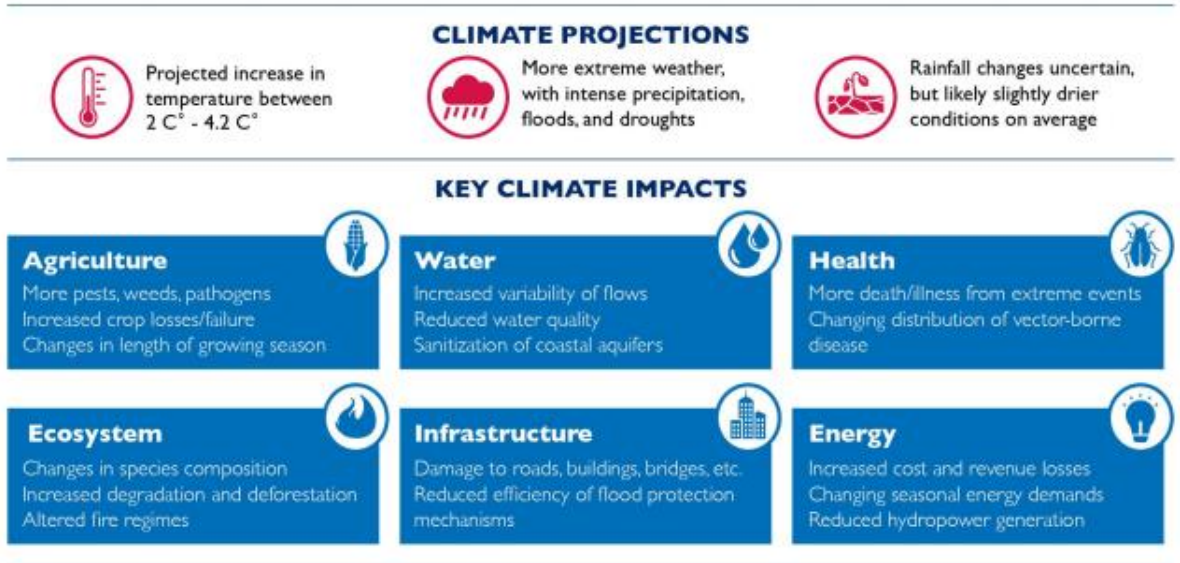

Figure 3: Limpopo-Olifants River Basin Climate Projections and Impacts

Source: RESILIM, 2017.

2.3.1 Rainfall

The Mean Annual Precipitation (MAP) in the Limpopo stem of the WMA ranges widely, with rainfall ranging from as little as 200 mm/annum in the north to over 1 200mm/annum in the Soutpansberg Mountains. In general rainfall decreases from the south to the north, with the lowest rainfall occurring in the Limpopo valley in the north-east of the WMA. Rainfall occurs mainly in summer, (i.e., October to March). The peak rainfall months are in January and February and rainfall occurs generally as thunderstorms.

During the driest year, the annual rainfall in the Limpopo WMA ranges generally between 100-200 mm in the extreme north with the majority of the catchment ranging between 200-400 mm increasing up to 600 mm in the south. Rainfall in the Soutpansberg watershed ranges between 800-1200 mm per annum. In accordance with the rainfall patterns the relative humidity is higher in summer than in winter. Humidity is generally highest in February (the daily mean ranges from 64% in the west to above 70% in the east).

On the other hand, the Olifants stem of the WMA rainfall is highly seasonal and occurs mainly in summer. The mean annual precipitation within the Olifants catchment varies greatly, with the driest areas (Sekhukhune and the northern parts of the eastern Lowveld) receiving 325 mm/annum to 550 mm/annum. In the Highveld region and the southern part of the eastern Lowveld the rainfall varies between 550 mm/annum to 750 mm/annum. The escarpment receives a higher rainfall of between 750 mm/annum to 1000 mm/annum (Environmental Screening Report (DWA; 2011; RESILIM, 2017; LIMCOM et al, 2017[1]). Potential evaporation is well in excess of the rainfall (between 1 400 mm and 1 900 mm per year).

[1] LIMCOM, USAID RESILIM, GWP SA, GRID-Arendal and SARDC. 2017. Limpopo River Basin: changes, challenges and opportunities. LIMCOM, USAID RESILIM, GWP SA, GRID-Arendal and SARDC; Maputo, Pretoria, Arendal and Harare.

2.4 SOCIO-ECONOMIC DYNAMICS

2.4.1 Population

The estimated population for the Limpopo-Olifants WMA is 15 million (LIMCOM et al, 2017). Major urban areas in the WMA include Rustenburg, Polokwane, Pretoria and part of Johannesburg.

Table 1: Limpopo-Olifants WMA population projections

2011	2015	2020	2025	2030	2035	2040
15 078 510	15 414 761	15 750 803	16 083 144	16 409 632	16 718 133	17 005 685

Source: LIMCOM et al, 2017

Figure 4 shows a growing population and its distribution within the Limpopo-Olifants WMA in the Limpopo Basin (LIMCOM et al, 2017; RESILIM, 2017).

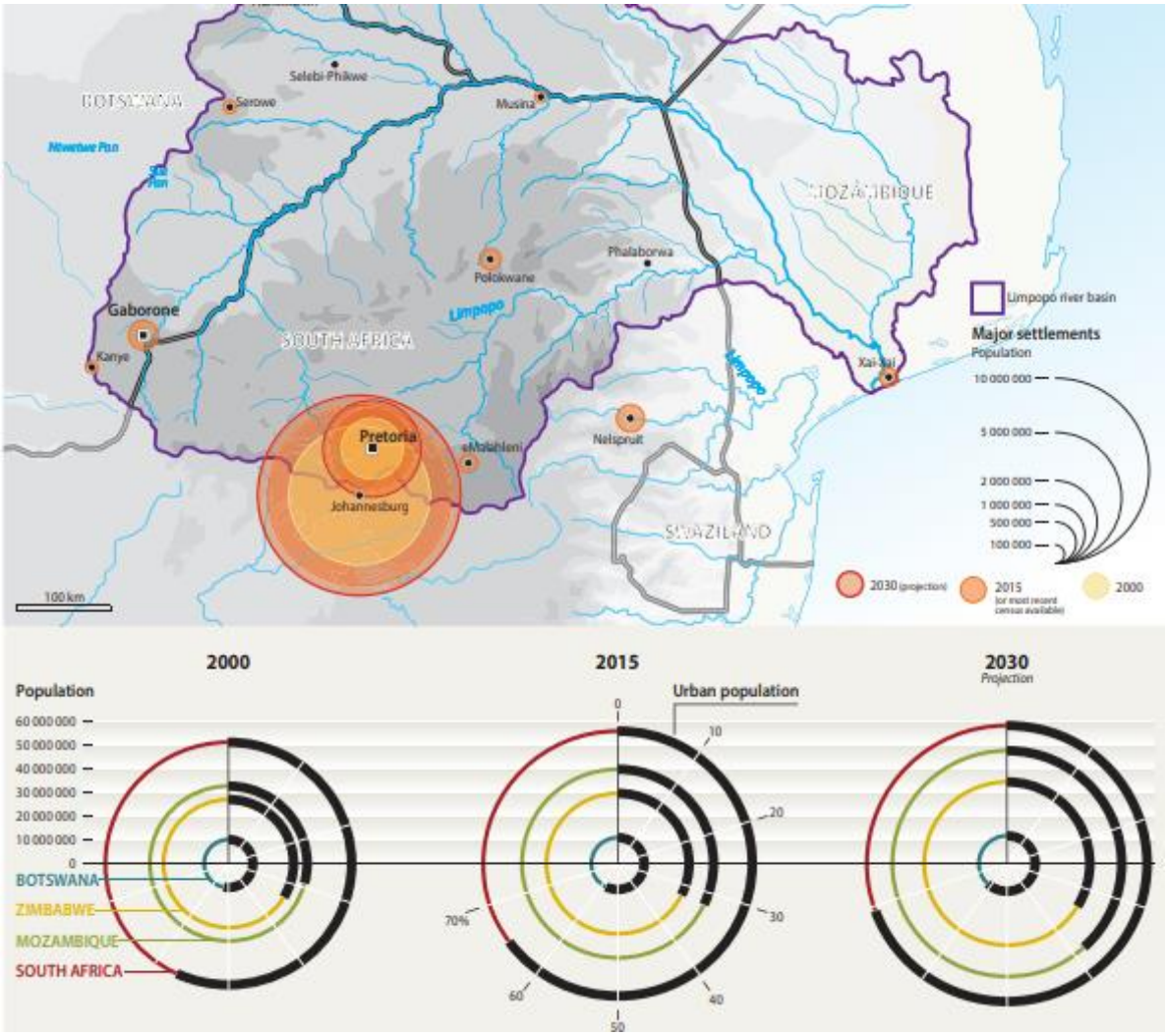

Figure 4: Growing population of the Limpopo-Olifants WMA population within the Limpopo Basin

Source: LIMCOM et al, 2017; RESILIM, 2017

The WMA has 57% urban and 43% rural populations respectively (LIMCOM et al, 2017; LIMCOM, 2013; Stats SA, 2021).

2.4.2 Economic activity

Overall, the predominant economic activity in Limpopo-Olifants WMA is mining followed by agriculture and much lower down the scale manufacturing, eco-tourism and power generation. Consequently, economic hubs in the WMA include major urban and industrial centres such as Polokwane, Pretoria, Johannesburg and Rustenburg (LIMCOM et al, 2017). Most manufacturing industries are also concentrated in these large urban centres.

Gauteng and Limpopo provinces are the most industrialized parts of the WMA, dominated by the manufacturing sector.

Within the Limpopo catchment of the WMA, it is estimated that more than 51.5%[2] of the South African Gross Domestic Product (GDP) originates in the Limpopo-Olifants WMA (DWA, 2004; LIMCOM et al, 2017). Urban areas cover an area of 665 km^2. Activities in these areas make up a significant portion of the economic activity such as service and government sectors, manufacturing, trade and industry (DWA, 2004). Together with mining activities they constitute just more than half of the country's Gross Domestic Product, which makes water supply to this catchment very important.

Moreover, the economy of the Limpopo catchment is relatively more competitive than the remainder of South Africa with respect to agriculture and mining, which affirms the primary nature and function of the Limpopo catchment of the WMA as an agricultural and mining region. Government expenditure is also very prominent in the catchment and offers a comparative advantage due to the fact that it is a primary activity that drives economic development. The Limpopo catchment possesses a comparative advantage in trade and tourism activities, seen within a national context, even though this sector is fairly important to the regional economy (DWS, 2004). It is significant to note that with the land and water resources available for agriculture already highly developed, economic growth in the catchment will largely be dependent on new mining developments. The greatest potential lies in the mining and beneficiation of platinum group metals, and coal mining for power generation or as a base for possible petro-chemical industries, as well as natural gas near Lephalale which could be economically exploited. Recently, the planned steel and power plant within the Musina economic zone provides job opportunities and will contribute to the regional economy provided adequate water resources are available to support the planned venture.

In the Olifants catchment of the WMA, the economy of the catchment is largely driven by the mining sector, with large coal deposits found in the Emalahleni and Middelburg areas and large platinum group metal deposits found in the Steelpoort and Phalaborwa areas (DWA ISP, 2004). As a result of extensive mining the water quality has deteriorated significantly, resulting in some water users in the catchment resorting to alternative sources to meet their water needs. Imported water from the Usuthu and Komati systems is also used mainly to supply the seven coal-fired power stations located in the upper catchment. In the lower part of the catchment, the Thohoyandou-area is a significant contributor to the economy mainly

[2] Before the proposed amalgamation, the former Crocodile West CMA contributed 25% to the country's GDP, while the former Marico contributed another 25% to the country's GDP and the former Limpopo WMA contributed about 1.5% to the country's GDP. With the amalgamation, these figures represent a contribution to the country's GDP of 51.5%, which is by far the highest of any WMA in the country (DWA, 2004; 2004a).

through government and trade, followed by Tzaneen that is strong on activities in the agriculture irrigation and afforestation. Tourism also thrives in this area mainly in the form of the Kruger National Park, and other small conservation-based businesses in the area. The Olifants catchment of the WMA generates about 5% of the Gross Domestic Product (GDP) of South Africa, and the main economic activities and related percentage contributions are summarised in the table below.

Table 2: Active economic sectors

Economic Sector	Percentage Contribution to GDP
Mining	22,1%
Manufacturing	18,2%
Electricity	15,9%
Government services	15,6%
Agriculture	07,0%

The distribution of wealth between the urban and the rural areas is highly skewed, with large differences in the standard of living prevailing. Despite contributing only 7% of the gross geographic product, irrigation remains the biggest single user of the available water resources in this portion of the WMA.

2.5 Water Availability and Requirements

2.5.1 Availability – registered water volumes and yield volumes

The registered water volumes and yield volumes for the Limpopo-Olifants WMA is shown in Table 3.

Table 3: Reconciliation of Registered Water Volumes and Yield Volumes

WMA	REGISTERED VOLUMES				YIELD VOLUMES			
	DOMESTIC & INDUSTRIAL	**IRRIGATION**	**SFRA**	**Total**	**DOMESTIC & INDUSTRIAL**	**IRRIGATION**	**SFRA**	**Total**
Limpopo catchment	642 630 084	1 298 659 735	3 621 069	1 950 310 888	837 000 000	780 000 000	7 000 000	1 624 000 000
Olifants catchment	762 699 022	1 006 358 047	53 972 671	1 823 029 740	432 000 000	708 000 000	39 000 000	1 179 000 000
Limpopo-Olifants WMA Total	1 405 329 106	2 305 017 782	57 593 740	3 773 340 628	1 269 000 000	1 488 000 000	46 000 000	2 803 000 000

Source: adapted from the data provided by DWS (2021)

In terms of water management, the WMA is considered "closed," meaning its current usage exceeds the amount of surface water it generates. To fill the deficit, every year about 500 million cubic meters of water is transferred from the Orange-Senqu River Basin through the Crocodile and Upper Olifants Rivers into the WMA (RESILIM, 2017). Within the WMA, water is also transferred from the Vaal Eastern Sub-system to address supply problems for Duvha and Matla power stations located in the Upper Olifants sub-basin as part of the Komati Water

Scheme Augmentation Project (KWSAP) (ibid). South Africa, home to 15 million of the Basin's 18 million people, generates 46 percent of the available water in the Basin but accounts for 60 percent of total usage. This scarcity is yet another reminder of the vital importance of transboundary collaboration on resource allocation and management and resilience-building.

2.5.2 Current requirements

Table 4 shows the current WMA volume for billable sector in cubic meter per annum for the 2019/20 financial year.

Table 4: Total WMA Volume for billable sector in cubic meter per annum for FY 2019/20

Total WMA Volume for billable sector in cubic meter per annum for FY 2019/20									
WMA	**AGRICULTURE: IRRIGATION**	**AGRICULTURE: WATERING LIVESTOCK**	**COMMERCIAL FORESTRY**	**INDUSTRY (NON-URBAN)**	**INDUSTRY (URBAN)**	**MINING**	**POWER GENERATION**	**WATER SUPPLY SERVICE**	**Total**
Limpopo	1 290 053 218.20	8 606 516.55	9 621 069.08	9 670 810.92	202 754 012.84	183 071 297.90	14 639 280.00	232 494 682.37	**1 950 910 887.86**
Olifants	1 002 499 175.16	3 858 872.05	53 972 671.35	69 910 903.43	47 852 498.19	435 229 278.69	13 140.00	209 693 201.32	**1 823 029 740.19**
Limpopo-Olifants WMA Total	2 292 552 393.36	12 465 388.60	63 593 740.43	79 581 714.35	250 606 511.03	618 300 576.59	14 652 420.00	442 187 883.69	**3 773 940 628.05**

Source: Adopted from data provided by DWS (2021)

2.5.3 Water requirements vs. availability

The 2004 yield balance within the Limpopo catchment of the WMA was estimated at 75 million m^3/annum deficit (DWS, 2004). The deficits in the Limpopo rivers catchment relate to opportunistic irrigation situated in the Sand and Lephalale Key Areas, which have the highest and third-highest deficit, and over-allocated irrigation in the Nzhelele and Nwanedi Key Areas (DWA, 2004a: iv). The balances in the Apies/Pienaars and Upper Crocodile sub-areas are due to urban return flows in excess of what is currently used in these sub-catchments; where only the Rietvlei Dam catchment (A21A) and the Sterkstroom River (A21K) in the Upper Crocodile Sub-area experience significant negative water balances (DWA, 2004a). The water requirements and groundwater resources of the WMA, as documented in 2004, are much higher than those given in the NWRS (DWA, 2004a). The reason for this is that new information became available on the groundwater use through the registration process as well as the GRIP project (DWA, 2004a). In the Marico River catchment, the Upper Ngotwane sub-area shows that the A10A catchment is in deficit of approximately 4 million m3/a. This is mainly because the level of assurance of supply for the users supplied from the Ngotwane

Dam is much lower than the norm. These are the irrigators who may be irrigating annual crops and do not require higher levels of assurance of supply. The Upper Molopo catchment has the second highest deficit in the Limpopo WMA, although the current surface yield is not utilised to its full capacity. The deficit is in the groundwater abstraction, which is more than the available groundwater as currently understood. The yield from groundwater may be much higher than currently understood.

For the Olifants catchment portion of the WMA availability will pose a challenge. This is based on the growth in demand as a result of population and general economic development, including challenges related to poor water quality within the catchment. The table below depicts the water resource yield versus total requirements for 2010. A negative balance is indicated in brackets in the last column of Table 6.

Table 5: Water requirements vs yield in the management zones of the WMA (million m^3 /annum)

Management zone	Total yield (million m^3 /annum)	Total requirements (million m^3 /annum)	Balance
Upper Olifants	630	609	21
Middle Olifants	185	187	(2)
Lower Olifants	248	220	28
Groot Letaba	170	196	(26)
Klein Letaba	32	37	(5)
Total	**1265**	**1249**	**16**

The overall water balance in 2010 for the Olifants catchment of the WMA was positive, while some of the local imbalances were supported by adjacent areas. However, very limited yield remained in 2010 for further growth and development (3.5%). What the Reconciliation Strategy, however, showed was that the projected growth in future use of the system due to population growth and general economic development will be between 11% and 18% by 2035. This growing demand needs to be addressed by increasing resources and reducing requirement to maintain the catchment in a positive balance, through the implementation of the intervention embedded in the Reconciliation Strategy.

2.5.4 International considerations

The Limpopo River Basin, of which all the rivers in the Limpopo WMA are a part, is shared by South Africa, Botswana, Zimbabwe and Mozambique. A multilateral agreement between the riparian countries led to the establishment of the Limpopo Watercourse Commission (LIMCOM) in 2003, and the development of its capacity (LBPTC 2010; LIMCOM et al, 2017; RESILIM, 2017). The objectives of the commission include advising the riparian countries and providing recommendations on the protection, preservation and management of the Limpopo River. LIMCOM is linked to national climate adaptation plans through national governments and catchment management agencies (LIMCOM 2003; SADC 2005; LIMCOM et al, 2017; RESILIM, 2017). All countries in the region have signed the SADC Revised Protocol

on Shared Watercourses whose principles are key for cooperation and joint management of water resources (LBPTC 2010; LIMCOM et al, 2017; RESILIM, 2017).

There are bilateral agreements between South Africa and Mozambique (formerly Portugal) relating to the Massinger Dam situated on the Olifants River, which is a tributary of the Limpopo River; and an agreement (**TSWASA Agreement**) on the water resources of Molatedi Dam between Botswana and South Africa (including the former homeland of Bophuthatswana) needs to be reviewed to account for the over-allocation from the dam. On the Upper Molopo River, there are concerns from Botswana that increasing water use in the upper catchments are impacting on the availability of water from the sand wells on which the local Botswana communities are dependent on. The strategic option is to ensure that the catchments are managed as one unit. The organisational and administrative structures for the TSWASA Agreement has since changed and needs to be restructured in the light that the former area of Bophuthatswana was reincorporated into South Africa (DWA, 2004 - Marico ISP)

2.6 WATER CHALLENGES

Even after normal rains, water scarcity is a pressing concern across the Limpopo-Olifants WMA, one not likely to go away. Water demand is expected to increase by 46 percent by 2025 as a result of rapid urban population growth, expansion of mining and energy projects, and large-scale national development projects (RESILIM, 2017). Currently, agriculture accounts for nearly 60 percent of water usage, the vast majority of it for commercial irrigation. The water quality varies in each sub area of the sub-catchments. Although water in the WMA is generally good to excellent in some places, there are some pockets of concern that warrant further details as highlighted below.

The two sub-catchments with largest water use in the WMA are Crocodile River and Olifants River, with 40 and 30 percent of water demand, respectively. A number of new mining projects with a total water requirement of about 40 million cubic metres are being planned for the next five years in South Africa that include Sekolo Coal mines, Ithabimetsi Exaro Coal Mines, Makhado Coal mines, Sefateng Chrome Mines and Kusile Coal Supply Mines (LIMCOM 2013; LIMCOM et al, 2017; RESILIM, 2017).

2.6.1 Limpopo Rivers sub area

Water resources in the Limpopo sub area are nearly fully developed with all available water being highly utilised. Moreover, limited options for further resource development exists - attributable to the arid climate, unfavourable topography, sandy rivers as well as important conservation areas.

Although the resources and requirements approximately are in balance at present, the implementation of the Reserve is expected to result in serious deficits in some of the main river catchments. This is further compounded by planning arrangements already in place for large new mining developments in the Mokapane-Mogoto area for which additional water will be required.

Urban and industrial growth will mainly be concentrated in the Polokwane area, where local water resources already are in short supply and need to be augmented by transfers from

other catchment within the WMA or from other WMAs. Already Bela-Bela and Louis Trichardt are dependent on transfers in for part of their water supplies.

Furthermore, the possibility for new power stations and/or petrochemical industries to be developed around the coalfields in the Lephalale area will also add huge pressure on already over-committed water resources and compete with other uses and users for the same resources.

2.6.2 Crocodile and Marico Rivers sub area

It is expected that strong population growth (due to migration to the urban areas in the sub area) will occur, accompanied by a concentration of economic development in the Tshwane-Johannesburg area. Consequently, a significant growth in water requirements in the Upper Crocodile and Apies/Pienaars sub-areas may therefore be expected. Additional water requirements will also be expected in the Elands Sub-area as a result of the rapid expansion in mining related activities.

One of the challenges is to marry continued development with the supply of water that is fit for use by all users, including the aquatic ecosystem. This is so in light of water pollution in the Elands sub area attributed to boreholes that dry-up, collapse and/or which have been gradually polluted after 8 to 10 years by poor sanitation practices; as well as large quantities of effluent discharged into the rivers such as the Jukskei River.

Poor cost recovery and a scourge of illegal connections have led to the collapse of these systems (poor maintenance, poor pressure differentials and hence interrupted supply). This is especially pronounced in the semi-urban areas in the triangle between Brits, Tshwane and Temba (on the way to Bela-Bela) which have been serviced with basic levels of water supply in the past.

Rehabilitation of old water supply infrastructure and rejuvenation of old groundwater sources still poses the greatest challenge to planners and implementers alike in this catchment. Lots of people may have infrastructure, but do not always have water in taps and or lack a reliable source of this essential commodity.

Over-exploitation of groundwater is experienced in the vicinity of Mafikeng. Therefore, the linkage (interaction) between surface and groundwater needs to be described and addressed in tandem with the issues surrounding the dewatering of mines just north of the Magaliesberg. In doing so, the mines will probably have to prove that they are not impacting on the upstream farming activities and the terrestrial environment around the mines. There are also severe eutrophication problems at dams in the sub area.

2.6.3 Olifants Rivers sub area

Extensive coal mining activities in the Upper Olifants subcatchment and establishment of steel industry, chrome and platinum mining has resulted in the expansion of eMalahleni, Mpumalanga Province, increased influx of mine workers, water requirements and water pollution (DWA 2011). There are 24 mines in the upper Olifants subbasin. The mining water use is 285 million cubic meters per year, and it is expected to increase with planned Kusile Coal Supply Mines with water requirements of 14.2 million cubic meters per year. The population size of the province increased from 3,123,869 in the 1996 census to 3,365,554 in

the 2001 census and to 4,039,939 in the 2011 census. This represents a 22,7 percent increase, 1,1 percent higher than the national population increase of 21,6 percent over the same period (Statistics South Africa 2014; LIMCOM et al, 2017).

2.7 SUMMARY OF CHALLENGES IN THE WMA

Overall, water demand is currently so high that the WMA has become 'closed,' meaning that there is little water left to allocate to additional new uses (RESILIM, 2017). Moreover, climate change is making water scarcer in the future. This high demand threatens livelihoods, economies, environmental flows and biodiversity. The following water challenges are the most pronounced in the WMA.

- Water resources nearly fully developed with all available water being highly utilised
- Limited options for further resource development exists - attributable to the arid climate, unfavourable topography, sandy rivers as well as important conservation areas
- Resources and requirements approximately in balance at present
- Implementation of the Reserve is expected to result in serious deficits in some of the main river catchments
- Planning has been made for large new mining developments in the Mokapane-Mogoto area for which additional water will be required
- Urban and industrial growth will mainly be concentrated in the Johannesburg, Tswane and Polokwane areas, where local water resources already are in short supply and need to be augmented by transfers from other WMAs.
- There are severe eutrophication problems at dams in the WMA.
- Possibility for new power stations and/or petrochemical industries to be developed around the coalfields in the Lephalale area
- Water pollution owing to large quantities of effluent discharged into the rivers in urban and industrial areas in the WMA.
- Full utilisation and over-commitment in certain management zones, such as the Upper Olifants
- Substantial deficits which will result from implementation of the ecological Reserve (see table above)
- Strong growth expected in the mining sector along the Bushveld Igneous Complex, together with continued urban and industrial growth at Witbank, Middelburg and Phalaborwa
- Water quality management in the Upper Olifants in particular, as well as possible mining development activities in the Middle and Lower management zones

- Inadequate measurement and monitoring of irrigation abstractions and return flows, leading to skewed allocation and management of the resources
- Poor coordination of land use and water use leading to poor rural development and rural lively hoods outcomes.

In addition to the above challenges, the expanded area of operation of the Limpopo-Olifants WMA means that integrated information management will be a key driver to facilitate IWRM. Therefore, the current monitoring and information management systems will need to be improved. This is compounded by the possible impacts of water resource management activities in the water management area on Mozambique, in particular the possible impacts on water quality resulting in extensive mining up-stream.

3. STRATEGIC MOTIVATION

The National Water Policy for South Africa and the National Water Act were developed on the basis of extensive public participation and considerable international expertise and advice. This gave rise to the recommendation to follow international good practice in the decentralisation of water management, and the establishment of water management institutions based on hydrological rather than political boundaries. In the development of the National Water Resources Strategy2 (2012), a process which included extensive public participation, 9 water management areas were defined for the country, in each of which, it was envisaged, a Catchment Management Agency (CMA) would be established.

To date, there are two functional CMAs, one in the Inkomati-Usuthu Water Management Area, and one in the Breede-Gouritz CMA. Six others have been formally established on paper. Further development of these CMAs was, however, halted as the Department reconsidered the appropriateness of establishing nine CMAs and the possibility of redefining the water management area boundaries in order to create a smaller number of CMAs each with a larger area of jurisdiction. A smaller number of CMAs was seen as enabling better economies of scale with regard to utilising scarce technical skills, and reducing the regulatory and oversight requirements on the Minister and Department. The current decision of DWS is to establish six CMAs – one in each of nine water management areas that cover the whole country.

The National Water and Sanitation Master Plan was launched in Nov 2019 and prioritised the establishment of CMAs, and the progressive delegation or assignment of powers, functions and duties. As stated earlier, CMA establishment has demanded attention be given to any opportunities for reducing costs and increasing efficiencies, without compromising on the core objectives of decentralising water resource management. The Department of Water and Sanitation (DWS) then reviewed the appropriateness of having 9 CMAs across the country and has proposed a reduction in the number of water management areas, and by implication the number of CMAs, to six. In this reduction, new boundaries for the nine water management areas will be demarcated through the National Water Resources Strategy (NWRS3) as is required under the National Water Act.

In 2019 a decision was therefore taken to reduce the number of CMAs **from 9 to 6** through consolidation of WMAs. The implementation plan was approved, and the entities were notified. The first phase of the reconfiguration was to:

- Extend the Breede-Gouritz CMA to include the Berg Olifants WMA,
- Extend the Vaal CMA to include the Orange WMA,
- **Extend the Limpopo–North West CMA to include the Olifants WMA** and
- Extend the Inkomati-usuthu CMA to include the Pongola catchment

A position to re-align the water management areas was approved by the Minister after a series of engagement with the Advisory Committee set up by the Minister. The main motivation and principles in realigning the water management areas and respectively the CMAs from 9 to 6 are:

- Operational integration
- Integrated water resource planning
- Economies of scale

To this end, the Breede Olifants CMA has been gazetted for establishment and the Vaal Orange CMA has been gazetted for public comment. The following sections set out some of the reasoning behind the need to establish a CMA to manage water resources in the Limpopo-Olifants water management area.

3.1 CURRENT STATUS WRM CHALLENGES WITHIN DWS

3.1.1 Policy development

Currently, DWS provide an enabling environment for water resources management through the development of policy, legislation, methodologies and guidelines. Further, the DWS develops the national water resources strategy, the pricing strategy and the necessary institutional roles and responsibilities among key functions. Fully functional CMAs will perform most of the responsible authority functions in relation to authorising and enforcing water use, and setting and collecting water use charges.

3.1.2 Proto – CMAs

Although the NWA was promulgated in 1998, there has been slow movement towards decentralising water resource functions, with only two CMAs established. This has resulted in DWS retaining most functions. The 9 regional offices of DWS mainly focus on water resource management operations as well as acting as Proto-CMAs in various WMAs. The unintended consequence of this is that the establishment of localised water management institutions such as water user associations as well as enforcement of efficient water management and use has not seen enough progress.

3.1.3 Accountability for water use and customer relations

While the effective functioning of localised water management institutions has a bearing on sustainable management of water resources, enforcement of water use also means that all the water allocated can be accounted for. This in turn, has revenue management and customer relations implications that could otherwise be addressed efficiently by CMAs. Unfortunately, the current arrangement is that DWS performs a centralised revenue management and collection function on behalf of the regionalised Proto-CMAs.

3.1.4 Billing process and customer dissatisfaction

DWS issues bills centrally to collect revenue and payment is made into a common central account at head office. Such an arms-length relationship between DWS National and users at WMA level always results in dissatisfaction with bills that are issued resulting in a significant number of users defaulting in their payments. Currently, there seems to be legitimacy challenges for both the Proto-CMA and the DWS as the arms-length billing process erodes trust among water users. The inevitable result is a growing debt book indicating loss of potential revenue to sustain the water resources management functions at WMA.

3.1.5 Revenue from Inter-basin transfers

The current arrangements on revenue management also result in loss of potential payments for inter-basin water transfers. DWS is the recipient of the funds which ostensibly deposited into a common account for distribution for various uses as determined by the DWS. Once established, the proposed CMAs will be best placed to manage revenue in their respective WMAs informed by real time water use information. This approach is seen as an enabler for better economies of scale with regard to utilising scarce technical skills and reducing the WMA operational challenges.

3.2 Motivation for the Devolution of WRM Functions to CMAs

3.2.1 Water scarcity

South Africa is considered a semi-arid region hence the importance regarding the efficient use of water is highlighted. One of the main reasons for the establishment of CMAs is to investigate and advise on the protection, use, development and control over water in the catchment to ensure efficiency and sustainability. CMAs are best placed to engage water users in WMA in order to develop responsive needs-based water resources management strategies to achieve equitable access and allocation of limited resources.

3.2.2 IWRM considerations

Water management area-based catchment management provides an alternative to past water resource management initiatives, which were often focussed on command and control approaches, that hardly incorporated societal and environmental impacts and costs. This principle is based on two important values of equity and sustainability. It therefore, promotes the integration of all aspects regarding water management, including biophysical characteristics, societal issues, and economic activities, cultural and organisational aspects. All these aspects can be achieved through relevant institutions which promote the management of water resources on a catchment scale therefore enabling participation by all communities.

3.2.3 National Growth and development imperatives

Water plays a vital role in the well-being and economic activity of any society, be it within a rural or urban community, country or region. As a basic primary commodity, water contributes either directly (e.g. production of food) or indirectly (e.g. generation of electricity) to our livelihoods, lifestyles and wider economic activities. In a water scarce country like South Africa, which also has a history of discrimination and disenfranchisement of a large section of its population, water is a catalyst and a critical resource to address much societal and economic inequalities. (Stuart-Hill and Meissner, 2018).

3.2.4 Democratisation of water resources management

Decentralisation places an emphasis on public participation in water management and related decision-making processes. Decentralisation also rests on the subsidiary principle, which is encapsulated in the South African Constitution (RSA). The NWA embraces the right to water and well-being as laid out in the country's constitution and emphasises the elements of integrated water resource management (IWRM) in various ways (Stuart-Hill and Schulze,2010). The CMAs strongly represent the principle of social equity and transformation. CMAs are critical in the transition from a narrowly defined, technological focused and centralised governance approach (command and control) to an adaptive and integrative polycentric governance system. CMAs were therefore to be the symbol of post-apartheid water management with a shift in management from a central government to a more decentralized approach aimed at giving local communities, more so previously disadvantaged communities a say in the management of water resources (Bourblanc and Blanchon, 2013).

3.2.5 Governance and responsive management

CMAs are service-delivery agencies and are listed in the Public Finance Management Act, 1999 (Act 1 of 1999). In their operations, they are also subject to Treasury Regulations that seek to ensure accountability, financial viability and good governance. Establishing CMAs helps achieve a number of legal requirements. First it improves governance within DWS as well as ensuring adherence to the spirit of the NWA. Second, once CMAs takeover their functions, IWRM will also take effect in line with the spirit and intent of the NWA. The involvement of affected water users in water resources management is likely to facilitate the legitimacy of the water sector in general, as CMAs become responsive to the needs of users. This in turn, has the potential to assist in efforts to manage water related revenue, and hence ensure the sustainability of the CMAs. In terms of the NWA, CMAs are custodians of water governance and capacity building within specified WMAs.

3.2.6 Best practice from the established CMA

The two CMAs that are already in operation have shown that CMAs can improve representation of HDI's and all sectors in water management. Also, that inclusive decision making has the potential to improve planning and governance within the WMA. Inclusivity has been shown to yield progress on key water programmes in the Inkomati-Usuthu and Breede-Gouritz WMAs since both CMAs apply a common CMS platform to consult, identify and plan for development priorities.

Some of the programmes that have been successfully implemented include the processing and recommendation of water use license applications (WULAs) verification and validation of water use, improvement in revenue management, reduced unlawful water use, water use efficiency management, general support to emerging farmers and lastly representative participation of users in the WMA.

3.3 Framework for CMA Establishment

This section of the business case discusses the policy and legal framework to establish catchment management agencies.

3.3.1 Principles

Reform of the South African public service following the new dispensation to i) service delivery and adoption of the principles of Batho Pele and ii) transformation of the public sector to ensure employment equity and redress of historical inequality, informs an institutional, organisational and cultural transformation from the way in which water resources were managed in the past. Chapter 1 of the National Water Act (Act 36 of 1998) sets out *equity, sustainability, efficiency and representativity* as guiding principles in the protection, use, development, conservation, management and control of water resources in South Africa, as captured in the slogan of the White Paper3: *"some, for all, forever".*

This implies a shift in water resource management to an approach based on *integrated water resource management (IWRM), stakeholder involvement/ participation* in decision-making (empowerment of citizens), and *cooperative governance*. Moreover, institutional change is indicated; water management institutions must develop a *service delivery orientation*, which must reflect a *customer centred approach* to the business of water resources management.

3 DWA. 1997. *White Paper on a National Water Policy for South Africa*. Department of Water Affairs and Forestry, Pretoria, South Africa.

These principles of institutional reform, sustainability and equality, in conjunction with the philosophy of *social and economic development* and *poverty eradication*, are reflected in the National Water Act (NWA) as a process of decentralisation and subsidiarity. This implies an organisational and institutional change process within the Department of Water and Sanitation (DWS), resulting in the formation of catchment-based water management institutions. Associated with, and inherent to this process, is the significant transfer of roles, responsibilities and functions from central government (DWS) to the Catchment Management Agencies (CMAs) as catchment-based organs of state.

3.3.2 Legal Framework

The National Water Act (Act 36 of 1998) is based on IWRM principles and mandates the Minister (of Water and Sanitation) to establish catchment management agencies to facilitate decentralised management of water resources. In giving effect to the Constitution, there is a clear national policy, legal and strategic intent to decentralise the management of water resources through the establishment of Catchment Management Agencies aligned to IWRM.

Chapter 7 of the National Water Act makes provision for the progressive establishment of CMAs and states that the *purpose* is to ensure that water resource management is delegated to these regional / catchment level institutions, and to involve current and future water users and local communities in the decision-making processes. The National Water Act reflects and enables this shift to decentralise water management institutions. In broad terms, the initial role of a CMA is articulated in the Act as:

- managing water resources in a WMA,
- co-ordinating the functions of other institutions involved in water related matters,
- involving local communities in water resource management.

The Act also requires the progressive development of a national water resource strategy[4] (NWRS) that provides the framework for water resource management for the country as a whole, and guides the establishment of CMA institutions to manage water resources at a regional or catchment scale[5] in defined water management areas[6]

The establishment of CMAs and catchment management strategies implies a shift in water governance to an approach based on integrated water resource management (IWRM), a management approach that empowers affected citizens. Moreover, institutional change requires that water management institutions must develop a service delivery orientation, which must reflect a customer approach to the business of water resources management. Inevitably, the intent of the NWA envisages an organisational and institutional transformation, resulting in decentralised governance via catchment-based water management institutions. Associated with, and inherent to this process is the significant transfer of roles, responsibilities and functions from within DWS (Head and Regional Offices) to the CMAs.

3.3.3 Decentralisation for effective WRM

The legal assignment/ delegation of water resources management functions to CMAs facilitates the implementation of the NWA and the NWRS. The NWA indicates that CMAs must take control of the water resources management within a WMA, and must take care to ensure the involvement of local

[4] Section 5(1) of the NWA
[5] Section 6(1)*(j), (k) and (l)* of the NWA
[6] Section 6(1)*(c)* of the NWA

water management institutions and the participation of stakeholders, including taking control and authority over revenue aspects of water resource management, and specifically authorization and enforcement of water use. The focus is the relationship between the **CMA and the water user** (large and small) in the WMA as the CMA is responsible for managing quality and quantity of water to ensure security and reliability to the user. To achieve this, the national policy and legal intent is for CMAs to develop a catchment-based management strategy encompassing all relevant water resource management aspects as required by the NWA. This implies that the CMA needs to have a strong relationship with the water users to ensure that revenue is collected to support the functioning of the CMA. The strategic intent behind this focus on the CMA and user relationship is clear: water resources must be managed closest to the user to build trust and legitimacy.

There are two other important strategic drivers in the water resources management sphere that also needs to be considered, namely the need to manage according to hydrological boundaries and the financial viability of the CMA. Both are important for the consolidation of the water resources management regime at a WMA level. The current policy and strategic intent imply that:

- Availability of water will decrease as the effects of climate change increases[7]
- In order for the water resources management functions to be managed sustainably, billing and revenue collection must be improved.
- Decentralised decision-making means that CMAs will perform functions in collaboration with users in the WMA for purposes of building trust and legitimacy and will address issues quicker.

The establishment of the CMAs can therefore enable the intended change from the current "distant management approach" where Proto-CMA functions are embedded within Regional Offices to a "water management area" based integrated water resources management approach that promotes efficient water management and improved revenue management through location of institutions CMAs closest to water user with a specific mandate and function.

3.4 EVOLUTION OF THE CMA

The principles guiding reform and transformation in resource management, and the legal requirements of decentralisation and subsidiarity contained with the NWA, imply a process of institutional change in the management of water resources. This process moves the responsibility for resource management from DWS to the CMA as the catchment-based organ of state. A number of stages can be identified that describe this process of shifting responsibilities and the evolution of the CMA.

The first stage following the *establishment of the CMA* is about creating **legitimacy** within the WMA, during which relationships are developed between the CMA, other water management institutions (WMIs) and stakeholders in the WMA. The CMA undertakes the critical role of advising on, and coordinating water resource management, and developing the catchment management strategy (CMS). This stage is about building relationships, and establishing credibility and legitimacy within the WMA. The CMA assumes a number of initial functions, as defined in Section 80 of the NWA:

[7] The impacts of climate change is predicted to longer and more intense floods and droughts, meaning that existing infrastructure (dams, etc) will collect less water from more intense floods, as opposed to this same rainfall over a longer period.

- to investigate and advise interested persons on the protection, use, development, conservation, management and control of the water resources in its water management area;
- to develop a catchment management strategy;
- to co-ordinate the related activities of water users and of the water management institutions within its water management area;
- to promote the co-ordination of its implementation with the implementation of any applicable development plan established in terms of the Water Services Act, 1997 (Act No. 108 of 1997); and
- to promote community participation in the protection, use, development, conservation, management and control of the water resources in its water management area.

In order to perform these functions, the CMA has some inherent powers under the NWA:- i) the powers of a natural person of full capacity (Section 79(1)), ii) a range of powers related to planning and conducting the routine administrative and organisational business of the CMA (Schedule 4) and iii) powers to make and recover charges in terms of the Minister's pricing strategy for water use charges to cover their costs in executing (at least) the initial functions (Section 84(1)).

Following legitimisation of the CMA, a phase of **consolidation** is entered during which the CMA is focused on building capacity and strengthening the organisation to undertake its water resource management functions. This implies strengthening of systems within the organisation, including fiduciary management and governance of the CMA, and the establishment of stable information and implementation systems. Additional water use management functions are delegated to the CMA. Proto-CMA staffs, possibly seconded to the CMA during the legitimisation phase, are now transferred to the CMA as a coherent business unit, with the requisite infrastructure and budget. The CMA (led by the Governing Board and CEO) should compile its comprehensive business plan. This must also link to the DWS timeframes for establishing water use charges (under the Pricing Strategy).

The final phase during the evolution of the CMA is the delegation or assignment of **responsible authority** functions[8] as contemplated in sections 73 and 63 of the National Water Act. The majority of water resource management and implementation roles and responsibilities are now seated in the CMA, which assumes the role of Responsible Authority. The relationship between the CMA and DWS is well established, and the systems and processes within and between these institutions are stable. Under Section 73(1)(a) of the NWA, the Minister can ***assign*** the powers and duties of a responsible authority to a CMA. The

[8] The powers and duties of a responsible authority are described as:- i) issue general authorisations and licences in respect of water use subject to conditions, ii) extend the licence period under certain conditions, iii) review licences at periods stated in the licence and make amendments to its conditions or renew it, iv) waive the need for a licence if the water use is authorised under another law, v) promote "one-stop shop" licensing, vi) require license applicants to provide security for licence obligations, vii) require registration of existing lawful water uses, viii) require an existing water user to apply to verify its water use, ix) undertake compulsory licensing where there is water stress, x) suspend or withdraw entitlements to use water and xi) enforce licence conditions.

most significant of these are the powers and duties related to authorisation of water use and the issuing, review and amendment of licences. In Section 63 of the NWA, there is provision for the ***delegation*** of powers and duties vested in the Minister[9], rather than assignment. However, the Minister is prohibited from delegating certain powers under Section 63(2)10. In addition to providing the legal basis to the CMA performing its functions in its WMA, the NWA also allows the CMA to perform functions outside its WMA, under the condition that this does not impinge on the execution of its functions or detrimentally affect other water management institutions.

3.4.1 Status of CMAs in the Limpopo Water Management Area

There was historically, significant public participation towards the establishment of a CMA in what was the previous Limpopo water management area. This was taken to the point of developing a proposal for the establishment and gazetting the CMA for establishment.

Currently, the Limpopo and the Crocodile West Marico WMAs together with the Luvuvhu and Mutale rivers were merged into one WMA, under the National Water Resources Strategy 2 when the strategic position was to target 9 CMAs. However, with the shift towards merging the gazetted Limpopo-Northwest WMA and the Olifants WMA to establish one WMA and CMA to manage water resources in the extended water management area, requires a process of disestablishing the existing (gazetted) CMAs, prior to or in parallel with the establishment of the new Limpopo-Olifants CMA. The legal process for achieving this is addressed in section 5 of this report.

The Limpopo-Olifants CMA should be established as a schedule 3 public entity. The section below outlines the reasoning behind this decision and the recommendation that it should be adopted.

[9]Some additional powers and duties may be delegated to the fully-functional CMA, as described in Schedule 3 of the NWA:-i) power to manage, monitor, conserve and protect water resources and to implement the CMS, ii) establishment of water-use rules, iii) establishment of management systems, iv) require alterations to waterworks and may direct users to terminate illegal use and v) temporarily control, limit or prohibit the use of water during periods of water shortage.

[10]i) the power to make a regulation, ii) the power to authorise a water management institution to expropriate under Section 64(1) of the NWA, iii) the power to appoint a member of the Governing Board of a CMA and iv) the power to appoint a member of the Water Tribunal.

4. CORPORATE FORM

4.1 LEGAL NATURE OF CMA

The Policy Framework for the Governance and Administration of Public Sector Institutions (October 2005) sets out the following possible corporate forms for public institutions:

Public Service including:

- National Government Agencies
- Provincial Government Agencies

Public Entities including:

- Stewardship and Research Entities
- Service Delivery Entities
- Regulatory and Statutory Advisory Entities

Government Enterprises including:

- Statutory Corporations and Financial Intermediaries
- State Owned Companies
- Subsidiary Companies of public entities
- State Interest Companies

Public Interest Institutions including:

- Education, Welfare, Recreation Institutions and Professional Bodies

The appropriate corporate form must be informed by the purpose of the entity, and specifically by the risks, powers and functions of the CMA. A distinction should be drawn between delegation of functions within DWS, and agentising the functions. Agentising is an integral part of strengthening and improving governance, by assigning responsibility and accountability to the institution best placed to ensure efficient use of resources and effective service delivery. It is appropriate only where there are good reasons for independent governance and control.

An added requirement is that once public sector institutions are legally established, the National Treasury through the Accountant General lists them in Part A, Schedule 3 of the PFMA to enable effective financial management and accountability.

The drivers for devolution and various corporate forms for the Limpopo-Olifants CMA were considered. These are discussed briefly below.

4.2 A CASE FOR DEVOLUTION

The National Treasury/DPSA Governance Framework highlights several reasons for devolution of government functions. A number of these reasons are relevant here:

Stakeholder participation

As has been mentioned above, stakeholder participation in water resources management is required by South African policy and legislation, and is also supported by international best practice. Participation of stakeholders is necessary to find appropriate and acceptable solutions to a number of the complex issues facing water managers in the Limpopo-Olifants water management area.

Both public confidence and stakeholder participation are mutually reinforcing objectives where one strengthens the other to create a synergistic relationship. Stakeholder participation will ensure that the needs for use of water resources are provided as best expressed by the stakeholders. Mechanisms must be put in place to promote on-going and continuous engagement with stakeholders and between stakeholders, and particularly with historically disadvantaged communities.

Ring-fencing risk

The establishment of a public entity allows for a coherent, integrated approach to managing risk through tight controls and good governance. One of the key risks that is best managed outside government is the financial risk associated with effective tariffing, billing and revenue collection. Since the CMA will be dependent on income from water use charges, there will be a much greater incentive for effective revenue management than is the case in the Department.

Access to professional, specialist skills

Access to specialist skills is particularly important for the operational management of the CMA, including financial management, contract management, and specialist water resource management skills (hydrology, geo-hydrology, water quality, engineering, aquatic ecology, toxicology, etc). Accessing such skills will require moving outside the government remuneration structures and developing the CMA as an employer of choice by creating an innovative, stimulating and conducive work environment.

Public confidence in decision-making

The NWA recognizes that the ultimate aim of water resources management is to achieve the beneficial use of water in the public interest. In doing this it is important to build confidence amongst users that water as a resource is a public good and must be managed in such a manner that all must benefit. There is a multi-layer accountability at the CMA level that does not exist within a government department: there is accountability to the accounting authority (the Board); there is more direct accountability to stakeholders; and there is formal accountability to the Minister of Water and Sanitation.

Given the complexity of water management in the Limpopo-Olifants water management area, and the importance of this area to the economy, public confidence will be improved by demonstrating good governance through appropriate accountability and governance structures. Separation of functions will allow DWS to act as a regulator (visibly), particularly with regard to the regulation of tariffs, but also through setting of national norms and standards (e.g. for water quality).

4.3 APPROPRIATE CORPORATE FORM

Based on the assessment above, various corporate forms were considered. These are discussed briefly below.

4.3.1 Departmental programme or dedicated business unit

Based on the assessment of the rationale for the CMA, a programme within the Department or a departmental agency is not considered appropriate. A programme is limited in its ability

to ring-fence risk and to manage relationships with stakeholders effectively and accountably. While a departmental agency can overcome some of these problems, it also presents challenges in terms of its legitimacy with stakeholders and other spheres of government, and a ring-fencing risk. Moreover, managing complex risk within a departmental agency is difficult, particularly as access to specialist skills in managing entity risk may be limited by departmental systems and process.

4.3.2 Public entity vs. business enterprise

The public entity corporate form is suitable for functions that require the involvement of stakeholders and experts to ensure effective and efficient delivery and where a moderate degree of autonomy in decision-making is desirable, or functions where it is necessary to assign decision-making to an independent juristic person in order to enhance public confidence in the implementation of a policy framework or the provision of policy advice or research. A business enterprise, on the other hand, is primarily focused on the provision of goods and services in a market environment.

There are three key reasons why creation of a public entity is preferred for the CMA:

- The CMA is a service-delivery entity performing a function of government
- The CMA does not directly provide goods and services in a market environment but it is dependent on revenue from water users for the delivery of the services
- The CMA needs to involve stakeholders in the management of water resources and to build public confidence in its implementation of water resources policy.

It is therefore proposed that the CMA be established as a national public entity and listed under Schedule 3 (a) of the PFMA because it:

- would be established in terms of National legislation
- may be partially funded from the National Revenue Fund
- would be accountable to Parliament
- would not be authorized to carry out on a business activity providing goods and services in a market environment.

4.3.3 Associated attributes of the Public Entity

Following the Governance Framework, the attributes of a public entity (for service delivery) are presented below, and form the basis for the CMA, particularly in terms of governance, organisational and financial arrangements.

Legal issues

- *Legal status*: the CMA is a separate juristic person in terms of the NWA.
- *Establishment*: created in terms of the National Water Act (s78(1)) by the Minister of Environmental and Water Affairs
- *Dissolution*: dissolved in terms of the National Water Act (s88(1)) by the Minister of Environmental and Water Affairs.

Accountability relationships

- *Political accountability*: the Minister, as the Executive Authority, is accountable to Parliament and represents government's policy and shareholder interests. The Governing Board is accountable to the Minister, and the Minister should develop a service level agreement with the Board.
- *PFMA statutory accountability*: the Governing Board is the Accounting Authority in terms of the PFMA.
- *Reporting arrangements*: the CMA prepares a separate annual report and annual financial statements, which are sent to Minister via the accounting officer of DWS. The Minister tables these documents in Parliament.

Governance arrangements

- *Appointment of Board*: The Governing Board is appointed by the Minister, taking cognizance of the recommendations of the Advisory Committee (s81(1) of NWA). The Minister determines performance criteria for the Board.
- *Dissolution of the Board***:** The Minister as the Executive Authority
- *Replacement of Board members***:** The Minister as Executive Authority appoints alternative members to the Board where Board members resign or are removed before completion of their term of office. Board members are removed by the Minister under s83(1) of the National Water Act. Alternatives are appointed for the remainder of the term of office.
- *Appointment of CEO*: The Governing Board appoints the Chief Executive Officer in consultation with the Minister and determines performance criteria and assesses performance of the CEO. The Minister is empowered to remove the CEO after consultation with the Board.

Financial arrangements

- *Tabling of plans*: The Governing Board must approve and submit a strategic plan to the Minister.
- *Submission and approval of budgets*: The Governing Board approves the budget and submits it to Minister.
- *Funding/ Budget*: cost recovery (water charges), grants-in-aid, donations and DWS subsidies / financial aid.
- *Spending autonomy*: The Entity is autonomous within the limits of relevant legislation and agreements.
- *Pricing*: By the Entity, in line with the national Pricing Strategy on Raw Water.
- *Borrowing powers*: the CMA will need specific approval from the Minister of Finance for borrowing, but should only require overdraft facilities for working capital.
- *Surpluses/dividends*: The Entity may not make a profit.
- *Accounting basis*: accrual-based GAAP.

HR arrangements

- *Human resource regime*: The CMA will develop its own HR regime within DWS CMA Guidelines and aligned to the framework prescribed by DPSA. It will be responsible for determining positions, job evaluations and for appointing and dismissing staff.
- *Wage determination*: The CMA will determine salaries within the DWS CMA Guidelines and aligned to the framework prescribed by DPSA

Powers of the entity

- *Procurement*: Procurement will be done within the PPPFA and the CMAs own governance rules

5. LEGAL PROCESS

5.1 INTRODUCTION

Under previous processes, the Limpopo-Northwest CMA was established (although it was only on paper though gazette), just like the Olifants CMA. The intention is now to establish a CMAs for the revised Limpopo-Olifants WMA.

This requires some consideration of the appropriate legal process to be followed. An examination of the National Water Act has been done, and the legal issues pertaining to the process are set out below, as well as the appropriate process to be followed to establish the Limpopo CMA.

5.2 LEGAL REQUIREMENTS

The overriding imperative of the NWRS is that the nation's water resources are an **indivisible national asset** to be **managed** in an equitable, sustainable, socially, economically and environmentally **optimal** manner for the **benefit** of society. Furthermore, The Minister, DG, organs and WMI, **must** give effect to the NWRS when exercising any power or duty under the Act.

Through the consultative processes initiated by the former Minister, as indicated earlier, there is now a decision to move from the initial 9 water management areas designated in terms of the NWRS2 to only 6 CMAs. The required 5-year review of the NWRS has been completed, and the water management area boundaries have been revised. As a result, it is necessary to re-organise the CMAs by way of amalgamation and /or re-delimitation. This necessitates a change in the number and geographical definition of CMAs.

There does not appear to be any mechanism or combination of mechanisms in the Act which will allow for the truncation or short-circuiting of the provisions of section 88 regarding the disestablishment of CMAs. ~~In addition, the Minister has been clear that wherever possible, new CMAs should be established~~. The recommended approach is therefore as follows:

- The National Water Resources Strategy 2 amended the boundaries of the water management areas according to the nine new proposed areas; and then
- The process of disestablishing the Limpopo-Northwest CMA and Olifants CMA in terms of section 88(1) (a) of the National Water Act needs to be initiated to allow for the establishment of the Limpopo-OlifantsCMA so that this aligns to the proposed new WMA boundaries earmarked for 6 CMAs.
- In terms of the National Water Act a proposal to establish a CMA must be developed as contemplated in Section 77.

~~5.2.1~~ Disestablishment of the ~~Crocodile West Marico CMA~~

Section 88 of the National Water Act deals with the disestablishment of a CMA. The Minister must, under this section, publish in the Government Gazette a notice of his/her intention to disestablish both the Limpopo-Northwest and Olifants CMA, for reasons pertaining to section 88 (1) (a) and (c) and calling for written comments on the proposed disestablishment.

Once comments have been received and considered, the Minister can proceed to disestablish the Limpopo-Northwest and Olifants CMAs, on condition that, having considered the comments, s/he is convinced there are no cogent reasons given that militate against such action. Whilst this process has been initiated, there are no clear indications on when this will be completed.

Section 89 of the Act deals with the transfer of assets and liabilities in the case of the disestablishment of a CMA. In the case of the disestablishment of the Limpopo-Northwest and Olifants CMAs, however, because the organisations have never been functional, there are no assets or liabilities to be dealt with.

5.2.2 Amendment of the boundaries of the water management area

The amendment of the boundaries of the water management area has been completed through the amendment of the National Water Resources Strategy (NWRS2). As such stakeholders are being provided the opportunity to make comments in this regard. The consultation process should be properly documented, and any objections addressed adequately.

5.2.3 Establishment of the Limpopo-Olifants CMA

The Minister must, in accordance with section 78(3) publish a notice in the Government Gazette for a period of no less than 60 days inviting comment on the establishment of the CMA. The Minister is yet to establish the Limpopo-Olifants CMA. When it is established, an attendant **Gazette notice will be attached to the business case.**

6. FUNCTIONS OF CMA

6.1 INTRODUCTION

The functions that the Limpopo-Olifants CMA will perform are informed by the National Water Act, as described below.

The functions to be performed by a CMA fall into three categories:

- Initial functions as described under the National Water Act (S80),
- Inherent functions conferred on a CMA under the National Water Act, and
- Other functions that may be delegated or assigned to the CMA by the Minister.

In addition to these functions, there are several functions not specified in the Act which are required for the CMA to achieve its objectives, such as human resource management, which do not require delegation, but are functions that must be performed by any organisation.

Some functions, such as water resources planning and monitoring, will be split between DWS and the CMAs, and clarity will be needed on which elements will be performed by DWS and which by CMAs to prevent gaps and overlaps.

This section briefly describes the powers and functions of a CMA when it has achieved full functionality. It also sets out those functions that will remain with DWS. Annexure A contains a detailed table that sets out the three categories of functions per section of the National Water Act, and which describes, where a function will be performed by both DWS and the CMA, how this function is to be split between the two organisations. For example, authorisation of water use for strategic water use will remain with DWS, while other water use authorisation functions will be delegated or assigned to CMAs.

6.2 DELEGATION VS. ASSIGNMENT

The NWA enables the Minister either to delegate or to assign functions to a CMA. It is important to clearly understand the differences between these two actions.

Delegation refers to the transfer of powers to another functionary or body to enable that body to exercise those powers. Delegation is 'a revocable act by which an organ of state transfers a power or function, vested in it by legislation, to another organ of state.'[11] Section 238 of the Constitution provides that an organ of state may delegate a power or function to any other executive organ of state. The important element of delegation is that a delegated function can be withdrawn by the delegator, and the delegator retains the right to exercise the delegated function as well. Thus, it is not a permanent transfer of the power or function.

Assignment of a power or function, on the other hand, constitutes the ***permanent*** transfer of that power or function to another body or person.

11Joanna Amy Eastwood 'Managing the relationship between the national government and the provinces. A discussion of provincial environmental initiatives with reference to section 24 of NEMA' (unpublished LLM dissertation) at 21.

In this regard, DWS must carefully consider what functions are to be assigned and what functions are to be delegated to a CMA. It is recommended that, until the institutional arrangements have matured and been tested, functions and powers should only be delegated to the CMAs and not be assigned. Assignation of powers and functions may be considered once the full responsible authority functions have been delegated to and performed by the CMA.

6.3 DELEGATION OF FUNCTIONS

There are some functions on which the Minister has discretion with regard to delegation, and there are certain functions which the Act prohibits the Minister from delegating. For example, the Minister may not delegate the power to make regulations, authorise a water management institution (WMI) to expropriate land, appoint a member of the Water Tribunal or the governing board of a CMA.

The policy position underpinning this functional analysis is that CMAs will, in due course, perform most of water resources management functions, and that DWS will only retain those strategic and national level functions. Thus, in determining whether a function should be delegated to a CMA, the following issues should be considered:

- The spatial scale at which the function must be performed, in particular national or regional multi-WMA functions should not be delegated, while WMA or local functions should be.
- The significance of the potential impact of the function;
- The capacity to perform the function, which would include a plan to build that capacity for the delegation, rather than the need to demonstrate existing capacity; and
- The principle that a WMI cannot regulate or audit itself.

Based on these principles, and the identification of those functions that a CMA would not perform, are outlined below.

Develop Policy & Strategy

The formulation of policy and legislation will remain a DWS function, to which a CMA would provide input. At the strategy level, a CMA is responsible for the development of a catchment management strategy, as well as financial and business planning for the organisation.

DWS will continue to:

- Develop legislation, methodology and guidelines to enable WRM.
- Develop the national water resources strategy, the pricing strategy and the institutional roles and responsibilities.
- Determine the water resources class, as well as the Reserve and RQOs in resources of national significance.[12]

12 This concept has not been defined, and must be defined in order to be able to distinguish between what will be done by DWS and what by the CMA

In some cases, DWS may delegate the determination of the Reserve and resource quality objectives (RQOs) to the CMA for those resources that are not considered to be of national significance.

Regulate Water Use

A fully functional CMA will perform most of the responsible authority functions in relation to authorising and enforcing water use, and setting and collecting water use charges. However, DWS will retain authorisation and allocation of water for strategic purposes, inter-WMA transfers and where the CMA is the proposed water user.

Water use registration, validation and verification will be done by the CMA. DWS will, however, maintain the national WARMS database and CMAs will have to provide the information to DWS for this.

Establish, Support and Regulate Institutions

DWS will remain responsible for the establishment, support and regulation of CMAs, Water User Associations that manage government waterworks or have government guaranteed loans, and any national level bodies such as the TCTA and WRC. DWS will also be responsible for inter-WMA coordination and conflict resolution.

A CMA may establish, regulate and support water management institutions that have been specified in its catchment management strategy, such as water user associations, as long as these do not manage government water schemes or have government guaranteed loans. The CMA is obliged to coordinate water related activities of institutions and ensure community participation in WRM within the WMA.

Monitoring and planning

DWS will remain responsible for the development of the national information monitoring system, and for monitoring of water resources at those points defined as part of a national monitoring system, as contemplated in Chapter 14 of the National Water Act. This is necessary to maintain national level monitoring and assessment of the state of water resources. The actual monitoring may be outsourced or delegated to a CMA.

Each CMA will be responsible for any additional monitoring of water resources that is necessary for the implementation of the catchment management strategy in their water management area and for assessment and evaluation based on this monitoring.

DWS will remain responsible for national water resources planning, including the determination of allocable water per water management area. The CMA will plan for the allocation and management of water within the allocable water determined by DWS. The CMA may prepare reconciliation scenarios for its area of jurisdiction, but will need to co-ordinate this carefully with DWS to avoid duplication.

The CMA will be responsible for the water resource rehabilitation, emergency interventions and disaster management. The CMA will be responsible for issuing flood warnings within the WMA, with DWS issuing flood warnings with inter-WMA impacts or implications. Drought rules will be determined and implemented by the CMA.

Infrastructure

The funding, development, refurbishment, operation and maintenance of national water resources infrastructure will remain a function of DWS and other institutions such as TCTA and Regional Water Utilities. The CMA will be empowered to develop infrastructure in the service of its core functions, such as monitoring infrastructure.

DWS will remain responsible for dam safety regulation across the country.

6.4 PHASED TRANSFER OF FUNCTIONS

The transfer of functions to a CMA will be done in a series of phases. While the actual transfers can be adjusted to meet the specific requirements of a particular CMA, an outline of the generic phases of transfers of functions is given below as a guideline to support effective development and functioning of the CMAs.

The phases of transfer of functions should be discussed with the CMA Board as soon as they have been appointed, so that they can plan for the appropriate development of capacity to support the transfer of functions.

It is recommended that a plan for the transfer of functions, staff and budget over a period of 3 – 5 years be agreed to between the Board and DWS within 6 months of the establishment of the CMA so that both sides are clear on what is to be transferred and when, and so that appropriate arrangements can be made by both sides to support the effective, efficient and smooth transfer of functions, staff and budget.

When established, CMAs are expected to carry out their *initial and inherent functions*. Apart from these functions, all other functions must be delegated or assigned to the CMA. As discussed above, the Minister may delegate or assign a wide range of additional powers and duties to a CMA, including those of a responsible authority (Chapter 4) and any of those in Schedule 3 of the NWA. This section sets out a generic phasing of the transfer of functions that should be used as a guideline in the development of a plan for the transfer of functions for each CMA.

Three phases of the development of a CMA and the associated transfer of functions are envisaged, as described below.

6.4.1 Phase 1: Developing relationships and legitimacy

The first two years of the CMA's existence are seen as being focused on developing administrative systems, developing a catchment management strategy, building relationships and building its profile amongst stakeholders in the WMA.

During this period the CMA will be engaged in implementing its initial functions, such as development of the catchment management strategy and engagement with stakeholders, and the delegation of functions will be minimal.

Within the first two years, the following additional functions may be delegated to the CMA:

- Involvement in water use registration and verification of water use
- Advising and supporting licence applicants on the licensing process and requirements

- Advising DWS on water use authorisations and licenses
- Checking of water use against licence conditions and informing DWS of the results where compliance enforcement is required.
- Validation of information submitted for registration.

As an inherent function, CMAs should, during this phase, be responsible for determining their water user charges for abstraction uses, based on information provided by DWS in relation to registered water use and allocable water quantity.

The CMA should also be responsible, during this phase, for verifying account information generated by DWS before the distribution of bills, and the managing of customer queries and customer care.

6.4.2 Phase 2: Build capacity and consolidate

The second phase will start after the CMS has been developed and will see an increase in capacity within the CMA and the undertaking of WRM functions as they have been prioritised in the CMS. Functions to be performed and delegated are outlined below:

(i) Resource Directed Measures

The NWA prescribes in chapter 3 that for all significant water resources, the class, reserve and resource quality objectives have to be determined as soon as reasonably practicable. S14 requires that all water management institutions give effect to these while executing their functions. During this second phase, the CMA should be in a position to determine these factors for water resources within the WMA that are not considered to be of national significance, and the relevant powers must be delegated to the CMA. All reserve determinations that are inter-WMA or have strategic importance will be undertaken by DWS.

(ii) Water Resources Monitoring[13]

Water resources monitoring includes both water quality and quantity monitoring of surface and ground water. The monitoring required for the national information monitoring system must be kept under the control of DWS. However, the CMA will be delegated the power to monitor water resources as necessary for the implementation of the CMS and the management of water at the WMA level. Since this monitoring will have to feed into the national systems, the CMA must comply with monitoring standards and protocols determined by DWS.

In the delegation of this function, DWS must set conditions for the provision of information and data to DWS and the necessary protocols and standards for such.

The CMA may require either to develop or operate waterworks in support of this monitoring function.

(iii) Disaster Management

13 Refer to Appendix 1 for additional information

During this phase 2, the CMA will be delegated the authority to assess and manage droughts, floods and water quality disasters in the WMA. The CMA should have developed a disaster management plan (DMP) as part of the CMS, which it should now implement. The coordination of disaster management takes place at District Municipality level, with Provincial Government also playing a significant role. It will be critical for the CMA to plan and coordinate with these various spheres of Government.

(iv) Water Conservation and Demand Management

The implementation of WC/WDM is the encouragement of water users to conserve water, thus lowering the overall demand for water. During this phase, the CMA should be involved in assisting to implement WC/WDM strategies. This does not, however, require the delegation of specific powers or functions.

(v) Issuing of general authorisations and limited authorisation functions

During this phase the issuing of general authorisations can be delegated to the CMA, as well as authorisation of water use with limited impacts, along the lines of the powers currently delegated to regional offices.

(vi) Institutional Oversight

The CMA will, from establishment, be responsible for institutional oversight within the WMA, which includes co-ordinating with institutions, establishing stakeholder forums and providing support to other water management and water services institutions.

During this phase, the CMA should be delegated the power to establish Water User Associations (WUAs) that do not manage government waterworks and do not have government guaranteed loans.

6.4.3 Phase 3: Fully functional and responsible authority

During the third phase the following powers and functions will be delegated to the CMA:

(i) Water Use Authorisation and Licensing

Water use authorisation and licensing are continued from phase 1, at which stage the CMA would have been involved with processing applications and advising DWS on issues related to license applications, and phase 2 where general authorisations and limited licensing powers were delegated to the CMA.

During the final phase, the CMA will be delegated the power to authorise water use and issue licenses. These functions will be delegated to the CMA for non-strategic water use as authorizing strategic water uses will remain a function of DWS.

(ii) Compulsory Licensing

In areas with water stress (demand exceeds availability) or inequitable access to water resources, compulsory licensing is undertaken to assess the volume and quality of water available and allocating that available resource in an equitable and sustainable way. In phase 3, the CMA will be delegated the power to undertake compulsory licensing.

(iii) Issuing of Directives[14]

As the responsible authority, the CMA should be delegated the power to issue directives (over and above the inherent powers in this regard conferred by the NWA). The directives could include, but will not be limited to:

- Requesting alterations to waterworks
- Determining operating rules for systems
- Controlling, limiting, and prohibiting water use.

6.5 CONSIDERATIONS FOR THE DELEGATION PROCESS

Both the Governing Board of a CMA and the Minister will have its own view of what functions should be delegated to the CMA at what point in time, and these outlines offered above should be seen as a guideline only, not a prescriptive list.

The rate and order of the powers and functions to be delegated may be influenced by:

- Water resources management priorities of the CMA as outlined in the CMS
- Functions in the WMA that are not performed adequately by the regional office
- The ability of DWS to reconfigure current information systems in order to accommodate the WMA geographical demarcation
- WRM initiatives of other institutions
- Whether the CMA has adequate capacity and resources to perform the proposed functions, or has a clear plan to address possible capacity limitations
- Whether the regional office staff are available for secondment and/or transfer as a critical mass with the functions, and the implications for the remaining functions performed by DWS
- The status of support functions such as finance and corporate services within the CMA.
- The division of functions under the National Water Act into initial functions of a CMA, inherent functions implicit in the NWA, functions to be delegated to CMAs, and functions to remain the responsibility of DWS and/or the Minister are captured in detail in Annexure A.

Outsourcing or development of a technical support pool

It is not necessary for the CMA to perform all its functions in-house. Certain functions could be outsourced to other water management institutions, consulting firms or technical contractors. The possibility also exists, in due course, for several CMAs to develop a shared technical pool which can bring together scarce technical resources to serve more than one CMAs.

However, it must be noted that in this case, the CMA does not relinquish any powers or duties but simply hires in skills and resources as may be required from time to time.

14 Refer to Annexure A for additional information

6.6 IMPLICATIONS FOR DWS STRUCTURE AND FUNCTIONS

Once all CMAs have been established as responsible authorities, the functions to be performed by DWS will be significantly reduced, with implications for the structure and budget of DWS as well. It is envisaged that the water resources management staff in the regional offices will be very small, with a limited number of functions. There will also be an impact on the staff in the national office, with some or part of the functions currently performed in the national office being taken over by CMAs as well.

The functions that will be retained by DWS in the long term are:

- Development, revision and amendment of policy and legislation
- National water resources planning and reconciliation of supply and demand, ensuring that CMAs operate within such planning parameters, and ensuring that South Africa operates with an appropriate level of water security at the national level;
- Development, operation and maintenance of national monitoring and information systems
- Authorisation of strategic water use, national infrastructure development and operation, and determination of inter-basin transfers
- Regulation and oversight of CMAs, and WUAs managing government waterworks or with government guaranteed loans
- Determination of classification, reserves and resource quality objectives for water resources of national significance or with significant inter-water management area implications and ensuring that CMAs implement such requirements
- Developing and ensuring the implementation of the National Water Resource Strategy, including the raw water pricing strategy
- Determination of monitoring and information protocols and standards
- Flood monitoring and management in national systems
- Development, operation and maintenance of national water resources infrastructure
- Determination of guidelines and regulations for establishment of institutions
- Ensuring water use authorisations are in line with national policy, procedures and guidelines, including policies on redress and equity
- Providing technical and policy support to CMAs
- Negotiating and overseeing agreements in transboundary basins.

7. ORGANISATIONAL ARRANGEMENTS

7.1 DESIGN PRINCIPLES

In determining the optimal organizational structure for a CMA, it is important to remember that South Africa is currently experiencing a financial and economic crisis exacerbated by the COVID-19 pandemic. This means that the fiscus is constrained in its ability to provide support to institutions and that the 'value delivered' by each structure needs to be optimized. In practical terms this means that the following design principles should inform the development of structural arrangements:

- **Flat and agile** - tall, hierarchical structures are unaffordable and should be avoided
- **'Hands on'** - managers, especially CEOs, should be 'hands on' and execution focused with direct reports who perform work, rather than the CEO relying on other managers
- **Technology enabled** - technology should be adopted to enable efficient working, including remote working
- **Centralisation / Decentralisation** – centralise scarce / specialist skills and routine / repetitive tasks that enjoy the benefit of economies of scale
- **Location** - where possible, geographically dispersed sub-area offices should be 'offices' in name only with technical personnel deployed geographically, but managed remotely
- **Impact** - preference should be given to investment in 'direct' stakeholder and functional / technical value creation rather than in support structures
- **'Fit for Purpose'** - structures should represent what is right for a CMA, within a specific geographical and 'level of maturity' context
- **Evolutionary** - structures should reflect an optimal 'end state' structure and, where necessary, include a roadmap to populate that structure, over time
- **Integrative** - 'span-breakers' should be utilized to reduce the CEO's reporting span but these should not contribute to a tall structure

7.2 PROPOSED FUNCTIONAL STRUCTURE OF THE LIMPOPO-OLIFANTS CMA

The Limpopo-Olifants CMA functional structure must provide a systematic response to the water resource management challenges listed above. A possible high level functional structure of the Limpopo-Olifants CMA consists of functional areas captured in Figure 5 below and besides its water resource management functions, it will also house the technical and corporate services department within the office.

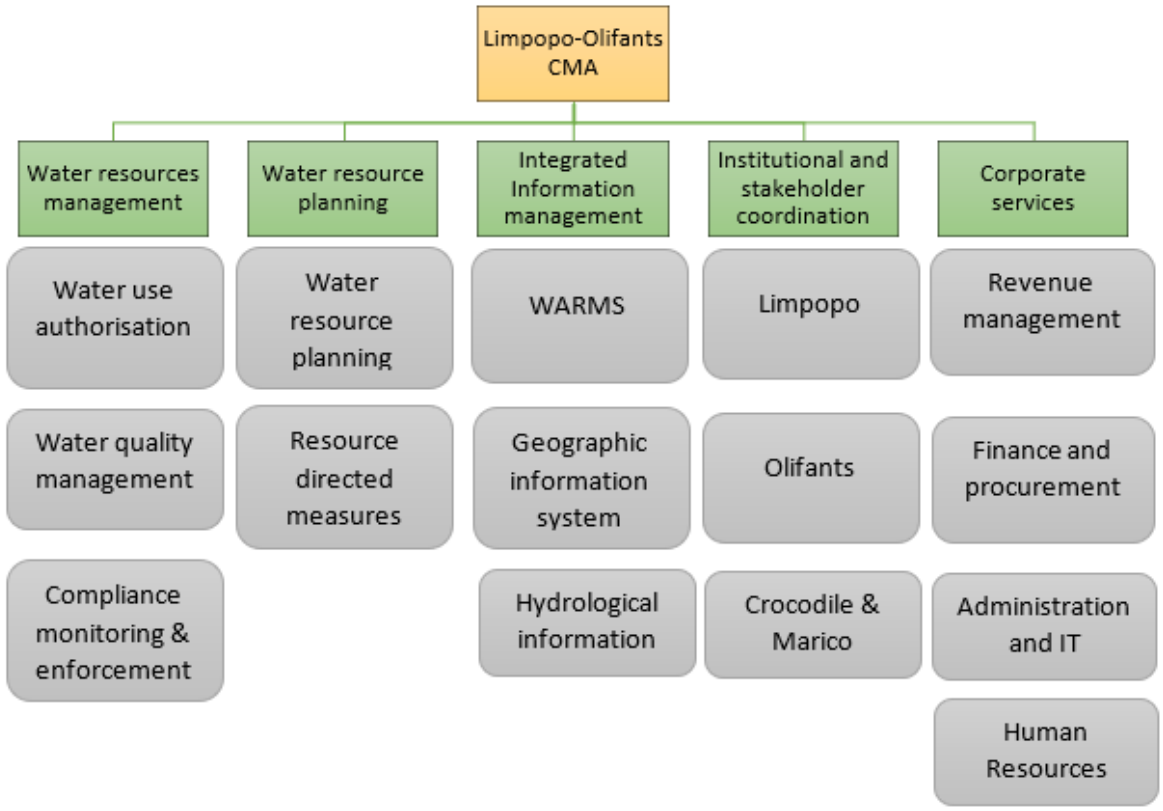

Figure 5: High level proposed Limpopo CMA functional structure

7.2.1 Water resource management

The water resource management function is responsible for coordinating and managing all water resource related functions including water use authorisation, which includes water allocation reform, as well as the regulatory functions of water quality management and compliance monitoring and enforcement.

The water resource management programme includes activities such as licensing, registration of water users, monitoring of water use, management of information and records on water use, including ensuring water use compliance and enforcement for the prescribed water uses. Water use management and related responsibilities such as compliance and regulation, including related functions such as validation and verification of water use to support the water resource management planning function is the focus of this water use management and regulation function. The water quality management priorities include the registration of waste discharge and developing measures for effective resource protection and compliance with regulations and license requirements.

The water use management function compliments WARMS by providing information on water use.

While the CMA will initially focus on making recommendations to DWS regarding water use authorisations, promoting and implementing demand management interventions and issuing directives and restrictions on water use during emergencies, ultimately it will take over the licensing function, including compulsory licensing. Inspections to verify information contained

in license and registration applications are performed in this division of the CMA, including registration, issuing of registration certificates and water use de-registrations.

1.1.1 7.1.2 Water Resource Planning

Water Resource Planning is responsible for planning the development, allocation of water resources (including water quality aspects) to meet resource quality objectives (RQO), and to reconcile supply and demand, including the operation of water resources infrastructure. This division will be responsible for performing the following functions:

- Conducting and commissioning water resources studies and investigations on water resources, advising DWS and interested parties on the matter and providing support to integrated water resources planning through:
- Developing a catchment management strategy (CMS) in accordance with the national water resources strategy. This function includes:
    - Conducting, commissioning and participating in investigations and studies to gather information to support management decisions for strategy development
    - Developing management strategies, including WRM/ reconciliation, allocation and water quality management plans
    - Investigating and providing advice to DWS on WMA planning to inform the NWRS and other national processes
    - Advising users/institutions on implications of CMS/ NWRS for water resource development
- Investigating and providing advice on disaster management to DWS and other institutions on the management of floods, droughts and pollution incidents, putting in place early warning systems and supporting municipalities in preventing development within floodplains;
- *Resource Protection* including determination of reserves and development of resource quality objectives, managing the river health programme, and protecting the state of water resources, including monitoring and controlling pollution by water users control.

7.1.3 Integrated Information Management

Given the three sub-catchments of the WMA, the different water availability and requirement needs, the integration of information management systems is crucial. Integration of information and the relevant management system is the responsibility of this division. Data and information acquisition, management and sharing/dissemination are key to fulfilling the role of the Limpopo-Olifants CMA. The information management functional area will focus on providing comprehensive and consistent information at all levels, set-up effective information systems, including establishing strategic interfaces with DWS information systems where necessary to improve access to information by stakeholders. The key aspects of this function are set out below:

- *Monitoring systems:* the CMA must put in place the necessary monitoring of water use and resource status that they need to perform their functions, over and above the national monitoring conducted by DWS;
- *Data and information systems:* the CMA must put in place the necessary databases and information systems to capture the relevant data to be provided by DWS from the national information system and from their own monitoring systems. These must cover water use (registration and authorisation), and resource status (water quality and quantity). These systems must interface effectively with the DWS systems and with other related CMA systems. DWS will need to put in place appropriate protocols to ensure that this is possible.
- *Information assessment:* The CMA must be in a position to analyse the information to provide trends and evaluation assessment to the planning and management sections so that they are able to respond appropriately to ensuring effective use and management of water resources.

The information manager must be an integrator, facilitating the integration of water resource information to corporate and strategic information systems, in particular keeping up to date information on registrations and water use to support revenue collection and strategic planning process at WMA and National level.

7.1.4 Institutional and Stakeholder Coordination

The institutional and stakeholder coordination functional area will focus on

- establishing and fostering credibility within the water management area
- establishing, overseeing and providing support to water user associations, (except those that manage government waterworks or have government guaranteed loans)
- ensuring co-ordination between water management institutions and relevant government departments and organs of state in the water management area, and
- establishing and maintaining stakeholder consultation forums and mechanisms, with a particular focus on ensuring the participation of poor and marginalised communities.

Due to the different contexts of the amalgamated water management areas under the jurisdiction of the Limpopo-Olifants CMA, it may be necessary to split this unit in three areas as captured in the Figure 5 above. The split is commensurate to the three sub-areas of the WMA, namely: Limpopo; Olifants; and Marico and Crocodile West jointly. Such a split will also facilitate effective stakeholder engagement while also ensuring that stakeholder relationships built previously are kept alive and strengthened accordingly. Bearing in mind the size of the water management area and the nature of the challenges permutations on the various office locations could be considered and so, for instance, there is a strong argument for an office in Bronkhorstspruit, leaving Polokwane and Rustenburg as others. A satellite office might also be considered, if deemed necessary, in Thohoyandou.

In the new Limpopo-Olifants WMA, the initial focus should be on coordination and mobilisation of stakeholders, including building legitimacy, trust and strategic relationships with key partner institutions, including establishing and supporting consultative bodies such as stakeholder forums. This institutional coordination function complements the information management function through effective stakeholder engagement to ensure that the CMA is marketed to water users.

7.1.5 Corporate Services, Finance and Support

The corporate service, finance and support functional area will be responsible for collection and administration of water resource management charges, corporate financial management, corporate strategic planning, human resource management, and general administration of the organisation. Some of its key areas of focus include:

- *Billing, revenue collection and management:* focusing primarily on the billing and collection of water resource management charges, and the administration of all activities related to revenue collection, including issuing of invoices and managing debt associated with non-payment, including managing transfer of revenue collection from DWS.
- *Finance:* to ensure general financial sustainability and viability of the CMA through effective financial planning and budgeting and management of accounts for the CMA, including ensuring that financial controls and reporting systems are in place.
- *Administration*: to manage and ensure effective office administration and general logistic / office support is in place, including effective records management
- *Human resource management*: The human resource development and performance management will be oriented towards the broader human capital management and to ensure employee well-being through processes such as:
    - Development and implementation of human resource systems and policies
    - Recruitment and retention of staff
    - Managing staff performance
    - Managing the internal Limpopo-Olifants CMA change management and transformation process
    - Employee assistance programmes
    - Managing employee occupational safety
    - Awareness and capacity building programmes
    - Coordinated training and skills development interventions

This function integrates the operations of the core functional elements of the CMA through effective coordination and management of administration and support requirements.

8. ORGANISATIONAL REQUIREMENTS

Given the functional analysis and description of key areas of focus discussed above, the proposed organisational structure is discussed below. The Limpopo-Olifants CMA will require five executive management positions consisting of Executive Managers for Water Resource Planning, Water Resource Management, Integrated Information Management (CIO), Institutional and Stakeholder Coordination, and Corporate Services and Finance (CFO). The CMA team is led by the CEO. The company secretary located in the office of the CEO will provide legal services expertise to the Limpopo-Olifants CMA. However, the company secretary reports directly to the Board and will provide support to the CEO and executive management.

The operational area of the Limpopo-Olifants CMA is vast, and to facilitate effective implementation of integrated water resource management, operations are split into three main areas: Crocodile West and Marico; Olifants and Limpopo sub areas, with its head office located in Polokwane. The three offices are selected based on the sub-catchment areas as indicated in the general description of the WMA, although as noted above the size of the WMA may require consideration of a far north office at Thohoyandou and a southern office then located at Rustenburg whilst the existing Bronkhorstspruit office remains closer to both Gauteng and Levuvhu/Letaba communities.

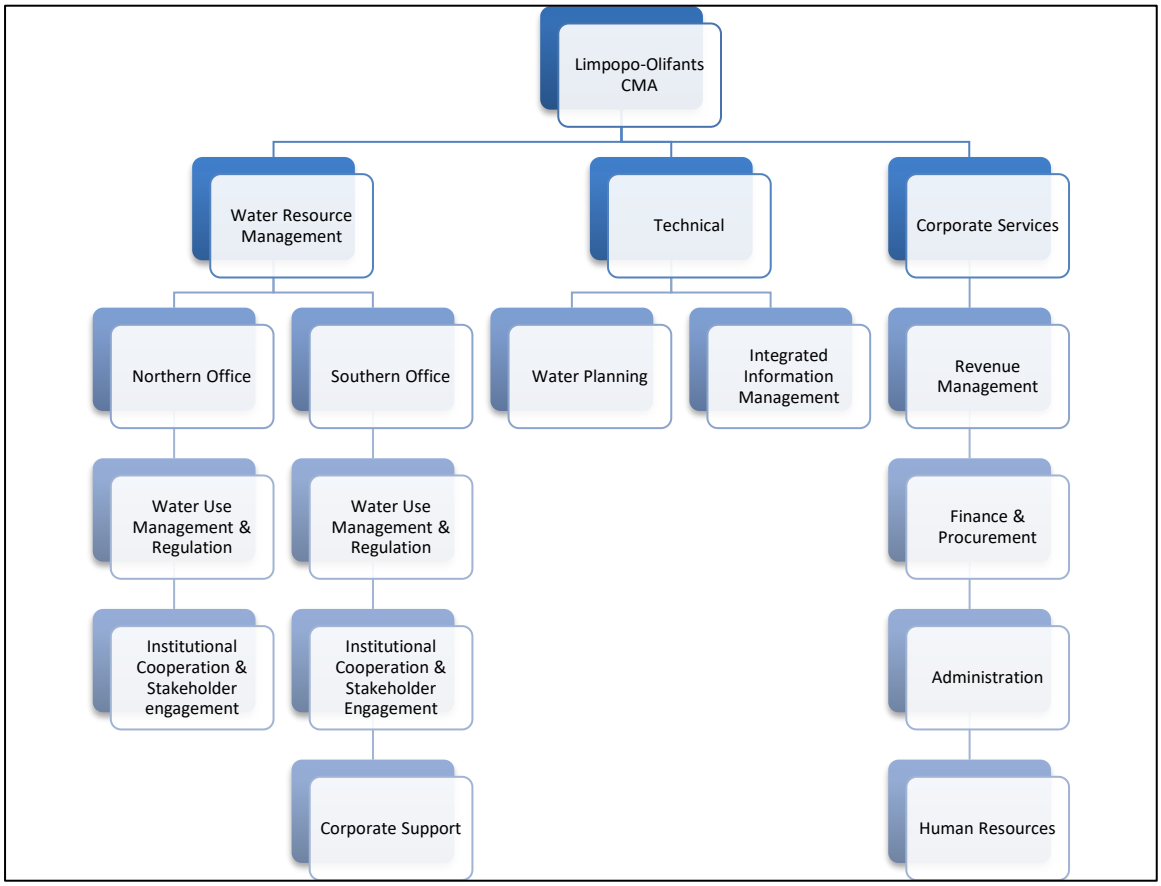

Figure 6: High level organisational design for the Limpopo-Olifants CMA

8.1 STAFFING REQUIREMENTS

8.1.3 Office of the CEO

Implementation of the strategy and business plan of the Limpopo CMA will be driven by an executive management team lead by the CEO. The team will consist of the Company Secretary, and all Executive Managers. The Office of the CEO is the strategy hub – providing strategic guidance, and shaping the direction that the CMA must take. Strategic branding and marketing for the CMA also takes place in this office managed by the Manager: Strategy and Marketing. This division will have a staff compliment of four (4), including the CEO, the Manager: Strategic Planning and Marketing, Company Secretary and a Personal Assistant.

The Board/ Company Secretary will play a dual role. The first role is that of providing strategic legal support, including managing and coordinating activities of the board, and keeping records to ensure that the Board performs its functions effectively. The second role is providing legal support to the executive management team of the CMA and managing the legal affairs of the organisation. The Company Secretary performs legal services for the CMA. Whilst the Company Secretary reports directly to the Board, he/she will operate at the same grade/ post level as executive managers that report directly to the CEO.

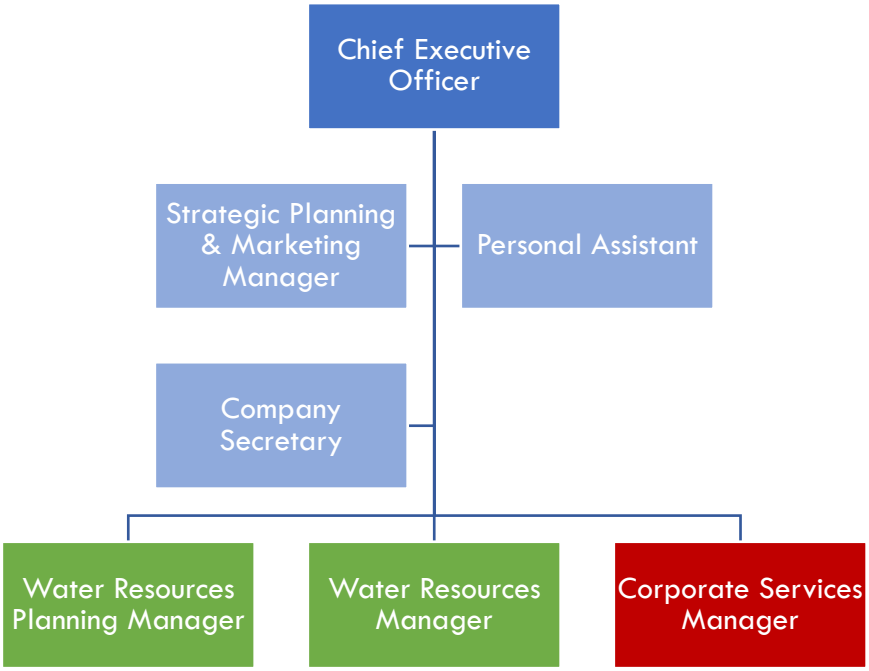

Figure 7: Office of the CEO and support structure

8.1.4 Head Office and operational office staff

The required number of staff for the CMA head office and the three sub-area offices would require careful consideration and would be based upon the specific water resource challenges at hand. For instance, an office in Rustenburg would have strength in water quality issue, whilst an office in Thohoyandou may have stronger focus on water supply and developmental issues.

The Limpopo-Olifants CMA will require a staff compliment of 250 staff across the various line functions, noting that this CMA brings together Proto-CMA staff from two DWS Regional

Offices, and the water management area covers a substantial area of the North West, Mpumalanga, Gauteng and Limpopo Provinces. The sections that follow provide further detail regarding the reporting and organisational arrangements that are proposed in each functional division of the Limpopo-Olifants CMA. Some indicative skill sets are provided for some of the key staff so as to reflect the skills and experience required to perform functions. Section 8.2 briefly discusses remuneration, performance management, conditions of employment, human resource management systems and policies that the CMA management needs to take into consideration.

8.1.5 Water Resources Planning

The Executive Manager Water Resources Planning will lead the water resources planning and programmes division of the CMA, managed by a qualified engineer with at least 10 years' experience. Specialists in integrated water resources planning, coordination and management are responsible for coordinating the planning and management of water resources. It is envisaged that the Water Resources Planning sub-division will rely on strategic relationships with other public and private institutions to implement its mandate. A close working relationship with the DWS planning units will be essential.

This component of the Limpopo-Olifants CMA has a total staff complement of 38 members and is a highly technical division of the CMA and since the functions and posts of this division reside within the Proto-CMA, DWS needs to assist the CMA and the Regional Office manage the transfer of functions and related staff. An engineer with significant experience relevant for water resource planning and management will lead this division. The incumbent must understand the role of water in socio-economic development and poverty alleviation, including understanding the significance of IWRM in the WMA. The water resource planners and water resource management specialists must have at least a bachelor's degree in water resource engineering, hydrology or closely related field coupled with five (5) years' experience in the planning, development, conservation, administration, and management of surface water resource or a master's degree in civil engineering, water resource engineering, hydrology or closely related field may be substituted for two years of the experience requirement. Comprehensive knowledge of water laws and regulations pertaining to surface water resource development, administration and management is an important characteristic of this job.

8.1.6 Water Resource Management

A technical team with industrial water use, legal /enforcement and environmental acumen will provide operational support to the executive manager. The executive must preferably be a qualified engineer or water resource manager with significant experience, supported by water management specialists /assistant managers that have a bachelor's degree/ diploma from an accredited technical college or university with major work in chemistry, biology, environmental sciences, urban planning, public administration or related fields, and two years of administrative experience related to integrated water management and understanding of the regulatory environment is recommended.

The water use and regulations unit will have a total staff compliment of 41 employees. In total, 8 experienced senior water resource practitioners will form the core part of the team, and will provide the operational core of this unit and the CMA. Some 30 water resource technicians will be critical for the effective management of both the regulatory compliance and water use management functions of the CMA, and must preferably have a degree or certificate in wastewater treatment or water quality technology. Comprehensive knowledge of water laws and regulations pertaining to surface water resource development, administration and management is critical.

8.1.7 Integrated Information Management

This is a highly specialised division with technical specialists in GIS and WARMS, and a hydrologist managing each sub-division of the unit forming a team that is led by a Manager: Information Management or Chief Information Officer (CIO). The WARMS division consists of 12 officers responsible for managing the WARMS database, while a qualified hydrologist supervising water technicians will manage the hydrological information section in each sub area of operation. It is envisaged that the information management division will rely on strategic relationships with DWS and private institutions to implement its mandate.

In total the division will have a compliment of 9 staff members that will be gradually recruited to build organisational capacity and ensure operational efficiency. Minimum requirements for the GIS specialist include BSc degree or formal education in GIS; or degree in geography, natural resources, computer science or related field; including professional experience as an advance GIS user will also be considered.

8.1.8 Institutional and Stakeholder Coordination

This division is critical for developing trust, building legitimacy and publicising the institution as a champion for water resource management in the WMA. A water sector institutional specialist with extensive knowledge of the water sector and the related institutional arrangements leads this division. The incumbent must have a deeper understanding of the impact of institutions on water resource management in the WMA. An operational team of 25 staff members will work across the WMA and due to the nature of this work will need to be based across all of the offices so as to provide local presence.

8.1.9 Corporate Support and Finance

The Corporate Services component is a support function of the CMA. Its management and staff complement is led by an executive manager who is a Chief Financial Officer. The senior management team of the unit will consist of a Revenue/ Accounts manager, Procurement manager, HR manager and an Administration Officer all reporting directly to the CFO. The revenue / accounts manager is responsible for administering the collection and management of water use charges, and is supported by a debtor's clerk, a payroll officer and an accounts clerk. The administration officer supervises three admin support personnel, and the procurement unit if managed by the procurement manager supported by three officers. The reporting structure of the corporate services division is presented below indicating the various posts.

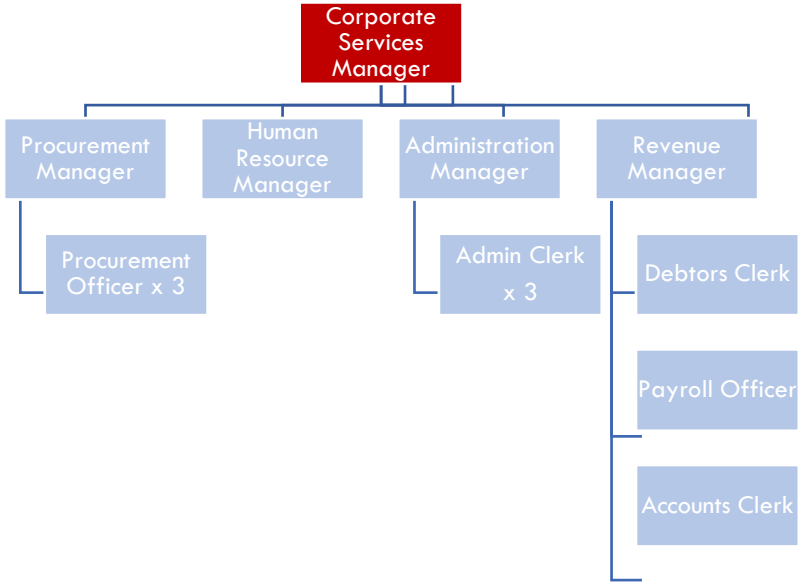

Figure 8: Corporate services structure

The management systems of the key components of this division such as the Revenue Management, Procurement, Administration and HR are located at head office (Limpopo Office). However, to ensure administrative efficiency, auxiliary services proposed for the three sub-area offices (Bronkhorstspruit; Crocodile West and Marico; and Thohoyandou) will not have administrative staff but largely comprise of technical support services.

The revenue/ accounts manager has a responsibility to manage and administer the general finances of the CMA. Organisational development, staffing and general human capital management will be the responsibility of the human resources practitioner. These management posts are graded at a similar grade level, with possible variations depending on the number of positions directly reporting to each post. In total the Corporate Services and Finance division will have a total of 37 employees.

8.2 HUMAN RESOURCE CONSIDERATIONS

The CMA has not yet been functional; hence, this means that most of the powers and functions earmarked for assignment to the CMA remained in DWS Regional Offices (Proto-CMA). A gradual process of transferring powers and functions to the new Limpopo-Olifants WMA should be initiated as soon as the WMA is promulgated and gazetted. Such a process will however, directly impact on staff currently employed by the Proto-CMA performing water resource related functions. This section discusses some of the key considerations that relate to staff transfer, including remuneration, performance management, systems and policies necessary for effective human capital management.

8.2.3 Transfer of staff

Section 197 of the Labour Relations Act (LRA) allows for staff to be transferred as part of "a going concern" to another organisation provided that the conditions of service are "substantively the same". As a result, we propose to consult with affected staff and ensure that the conditions of employment are at least as good as that which they enjoyed as DWS employees. Where appropriate, staff could be seconded to the CMA within parameters as envisaged in the Labour Relations Act 66 of 1995 (as amended) (LRA). Seconded staff will then

be transferred from the Regional Office to the CMA in line with the requirements of Section 197 as mentioned above. Consultation with affected parties is critical and it must be ensured, and where possible written agreements may be put in place, and salaries and conditions of employment need not be less than those applicable currently.

8.2.4 Grading and remuneration

The topic on remuneration of staff is a vexed one as it affects the organisation's capacity to attract and build its internal capacity, and staff motivation. As such, the Limpopo CMA will be a technical institution, with a requirement to enable government meet its national obligations while also building a reputable international presence through acceptable IWRM practices. This means that it will depend largely on the availability of high level technical and coordination skills to perform its functions effectively. Such technical skills are required for both strategic and operational management. With these issues in mind, we propose two remuneration models, one for the Board and another for staff of the CMA. Each of these systems has a sound basis and is defensible.

1.1.1.1 8.2.2.1 Board remuneration

Where a board consists of members from the public and private sectors the following principles may be applied:

Public Sector Board Members: As these individuals will be employed and paid through public sector funds, the principle is that they do not earn fees for sitting on the Board. In essence, they should spend part of their working day on the Board in an official capacity and, as a result, should not accrue additional fees. Obviously, expenses would need to be reimbursed at cost. In addition, the risks incurred in terms of fiduciary accountability would not necessarily reflect directly on the individual in his/her personal capacity. Should a breach occur, it is unlikely that the Public Sector Board Members would face direct repercussions from their host Department. The proviso would naturally be that the individual would need to act in good faith in terms of the mandate given by their employer. The net effect is that the risk for the individual is minimised directly by the nature of their employment.

Private Sector Board Members: In contrast, those individuals serving in a personal professional capacity on the Board would do so in their own time. As a result, there is a good case for remunerating them for their contribution. In addition, as full members of the Board, their risk exposure is greater than their public sector counterparts are. The rationale is that breaches in governance would have a direct effect on the future employment prospects of such individuals or their credibility to serve on other boards of directors.

For both their time as well as reward for exposure to risk we propose to remunerate these individuals on the basis of a grading system as stipulated by National Treasury. To this end, a sitting allowance will be proposed in alignment with similar levels within comparative institutions.

1.1.1.2 8.2.2.2 Remunerating of staff

The DWS is currently working with on the development of a grading and remuneration system which has clear links to external benchmarks and salary surveys, particularly DPSA salary scales. Effective implementation of any remuneration system requires a clear definition of job

descriptions in preparation for benchmarking and grading. The DWS will work closely with the Governing Board in this regard.

1.1.1.3 8.2.2.3 Performance management

Performance management is a two-way process integrating both the organisation and the individual. This is based on the understanding that the success of both the individual and the organisation are interdependent. However, it is not the scope of this document to suggest a specific approach to performance management by the CMA. That responsibility is vested in the board.

1.1.1.4 8.2.2.4 Organisational systems and policies

From a water resource management point of view, information management systems are critical. Since the CMA will be required to collect and manage revenue to ensure its sustainability, a standardised revenue management system is desirable. This should be coupled with water resource management systems to capture and ensure efficient management of data. Key among these are:

- Geographical Information Systems
- Hydrological Information Systems
- A standardised billing system
- WARMS
- Waste Discharge Charge System
- General administrative systems for finance and HR

1.1.1.5 8.2.2.5 Organisational policies

It is important to ensure marketability and stability from the early stage of CMA establishment. From human capital management perspective organisational policies are critical. A table of contents for a typical set of policies would include sections on:

- Employment practices
- Performance management
- Salary administration
- Leave
- Employee benefits
- Labour relations
- Discipline and rules
- Training and development

The DWS is currently developing a “Starter Pack” that will provide a range of pro-forma policies and tools that CMAs can use as the basis for their own policy and systems development. Human resource aspects of this starter pack have been identified as critical, together with the financial aspects.

9. FINANCIAL ARRANGEMENTS

The viability of any institution is made up of a number of aspects that go beyond the purely financial. Whilst very important, some of these aspects can be addressed and developed over time, whereas financial viability has a very direct impact from early on in the institutional development process and remains a key factor in the longer term. It is equally important to note that these financial aspects are not static and shift over time, and this is particularly the case in the establishment and development of new institutions or where there are functional, and financial, transitions from a certain management regime to another.

The CMA's financial arrangements need to support the performance of water resource management functions in the Limpopo-Olifants WMA and should provide for an increasing level of responsibility over time, whilst the DWS's role also fundamentally shifts over time.

9.1 SOURCE OF FINANCE

Principally, the establishment costs of the Limpopo-Olifants CMA are to be funded by the department, from its parliamentary appropriation. Water use charges are to be ring-fenced for implementation of water resources management in the catchment, not for the establishment of new institutional arrangements.

While the intention is that the CMA should be funded from water use charges, some operational funding from the DWS may be required where subsidy arrangements exist.

Section 84 of the National Water Act (NWA) gives the CMA full authority to raise funds for the purpose of exercising its powers and duties. The Act details the sources of funding for the CMA as:

- Parliamentary appropriation
- Water use charges
- Money obtained from any other lawful source, including:
    i. recreational concessions,
    ii. license application fees,
    iii. donor support and sponsorship,
    iv. contractual payments,
    v. return on Investment, and
    vi. in-kind contributions.

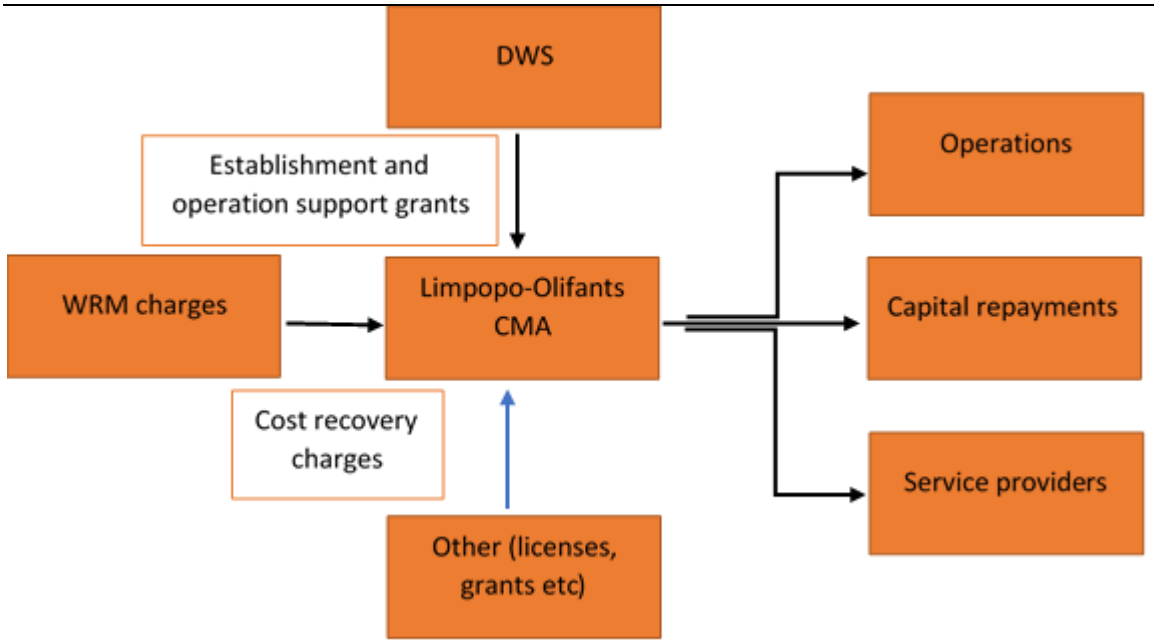

Figure 9: Financial arrangements for the Limpopo-Olifants CMA

9.1.3 Water use charges and the pricing strategy

The primary source of finance for the CMA will come from water users. Water uses as defined in the NWA can be broadly grouped under three categories:

- Abstraction related uses[15]
- Waste discharge related uses[16]
- Non-consumptive uses[17]

Over time, the Pricing Strategy, established under the NWA, will allow DWS/CMA to levy charges for most of the water uses defined above, after consultations with stakeholders. Charges are already in place for abstraction related uses and are currently collected by the DWS. The Waste Discharge Charge Strategy, on the other hand, will be piloted in three catchments around the country over the next two years. While assumptions can be made about the implication of implementing the waste discharge charges strategy, the pilot testing will reveal the real implications of the system. Lastly, a strategy has been developed for charging for recreational use, as a non-consumptive water use, however, there is some institutional clarity required as to roles and responsibilities in this regard. These will be clarified by the DWSs Institutional Reform and Realignment process.

To be clear there are also a number of water uses that are not subject to pricing under the Pricing Strategy. These include:

- water use under Schedule 1 of the NWA,

[15]Section 21 (a), (b) and (d) of the NWA (1998)

[16] Section 21 (e), (f), (g) and (h) of the NWA (1998)

[17]Section 21 (c), (e), (i), (j) and (k) of the NWA (1998)

- basic human needs (Reserve),
- ecological sustainability (Reserve), and
- international obligations.

9.1.4 Financial support

Although the objective is to have water users pay for water resources management, DWS will also need to financially support the CMA for the performance of certain functions, particularly those with national significance. There are a number of reasons that serve as motivation for this financial support, at least in the short-term:

- The Limpopo-Olifants CMA will be performing water resource management functions that are in the national strategic interest. For example, more than half of the country's GDP is generated in the WMA, and as such there are responsibilities attached to ensuring this water remains available.

- A need exists for allocation reform and redress within the WMA, as a national and regional priority, and therefore issues of affordability and equity require careful consideration.

- Although the long-term financial viability of the CMA is not a cause for concern because the WMA is regarded as mixed agriculture, mining, urban and industry, initial financial support may be required to ensure short-term viability until there is adequate cost recovery. Issues of ability-to-pay and willingness-to-pay are anticipated in the WMA in the short-term and for a young institution these can be challenging to deal with and hence the DWS support both financially and technically will prove critical.

- Whilst the Limpopo-Olifants CMA is legally mandated to perform the function of billing and collecting of water use charges there are a range of institutional and systems issues that require attention. Therefore, DWS will be collecting water use charges in the interim and hence, financial support/transfers from DWS will be required.

- The Pricing Strategy introduces a cap on water use charges for agriculture (1.5c/kl) and forestry (R10/ha). Where water resource management costs are in excess of this cap, that portion of the charge in excess of the cap should be provided as a subsidy transfer from DWS

9.2 FLOW OF CAPITAL

Funds flow into the Limpopo-Olifants CMA from water use charges, and from DWS establishment and operational support grants, in the first instance. As described above, other sources of finance may be identified, but these are unlikely to represent long-term sustainable sources of funding.

Funds from the WRM charge will ultimately flow into the CMA on a monthly basis, with some water users billed monthly (characteristically large users) and other users billed six-monthly (characteristically smaller users). The CMA will, in due course, collect these charges and be responsible for debt management. The efficiency of collection of charges has been a matter of concern in some parts of the country. In the nearby IUCMA, this efficiency seems to have

been particularly low, and at one point was in the order of as low as 26%. WRM charges represent a stable source of income and cash-flow for the CMA and as an institution that is closer to water users, has a more direct relationship with stakeholders than DWS, and will be more directly dependent on revenue from water use charges than DWS, it is expected that the CMA can quickly improve upon these levels of collection.

As the establishment of the Limpopo-Olifants CMA is a new beginning in terms of being a functional CMA, the establishment grant will entail a "once-off" establishment costs of the CMA. These funds should be transferred into the CMA account as a lump sum early in the establishment of the institution, to enable it to continue the establishment process without encountering cash-flow constraints.

A 3-year budgetary cycle needs to be put in place for on-going operational support grants required by the CMA to make effective planning and execution possible. This can be transferred at the beginning of each financial year as a lump sum deposit, after the necessary adjustments for incorrect assumptions about key determinants of the budget e.g., inflation. A lump sum transfer is justified, as the funds are relatively small and interest accruing over the financial cycle will be limited. Significantly, lump-sum transfers enable the CMA to conduct its operations and undertake its functions without encountering cash-flow constraints.

During the initial institutional establishment period capacity may well be stretched and the use of service providers will be required to assist with key operational matters. Payments from the Limpopo CMA will be based on contracts between it and the service providers.

9.3 FINANCIAL SYSTEMS ARRANGEMENTS

Importantly, differing financial arrangements will exist during the evolution of the CMA, which have an important bearing on their financial responsibility and CMA viability. It is anticipated that the billing and collection of WRM charges for CMAs will initially be undertaken centrally, but that once a CMA has been established and is demonstrating sound governance and revenue management, a process of decentralisation would begin (probably resulting in the development of a separate billing and financial management system by the CMA). This process is discussed here in more detail:

- While DWS is still performing CMA functions in the WMA, the DWS regional office (and importantly a different Regional Office to that of Limpopo) will collect revenue and allocate funds within DWS (from the Trading Account). The existing system and business process for billing and collection of water use charges, with a consolidated invoice and centralised management of the system, is appropriate. All risk is borne by DWS, and this is supportive of a fledgling and formative institution.
- Following establishment of the Limpopo-Olifants CMA and the secondment of staff, the early CMA will be focused on stakeholder buy-in and becoming a credible, customer-oriented organization within the WMA and initiate work towards the implementation of the Catchment Management Strategy within the Limpopo-Olifants WMA. Noting the institutional shifts, the CMA will seek to cement its credibility and legitimacy around its role in the new WMA and must be able to respond to queries on

water use authorisation and associated billing soon after establishment. Concurrently, the CMA will encounter a range of establishment costs, within the broader WMA as office premises are secured and information systems are developed across the CMA. At this point, the billing and collection cycle will be split between the CMA and DWS as follows.

- the CMA will take over the customer relations responsibility, begin to set water use charges and undertake revenue collection.
- DWS will ensure that the CMA has access to key systems such as WARMS that assist the CMA with issues regarding registration of water use.
- The centralised DWS billing system will be used for billing, debt management and financial accounting, with WRM charges submitted to DWS by the CMA. Transfers from the trading account would be made to the CMA account according to the arrangements agreed to in the CMA business plan. These transfers would include funds generated through WRM charges and establishment support[18] from DWS. Operational support from DWS may also be required.

- During consolidation of the CMA, DWS staff will have been transferred, the financial, information and HR systems strengthened and the CMA will have assumed its fiduciary and governance responsibilities. If revenue recovery rates are adequate and revenue flow approximates the requirements of the business plan, the billing and debt management function may be decentralised to the CMA.
  - Account payments would be directly to the CMA account and relevant entries would be made by the CMA onto the billing system.
  - Limited or no payments would be due to DWS for WRM functions (as these would largely have been taken up by the CMA as legally mandated), but there may be payments for WRC levy and/or Working for Water (WfW) projects if these are included in this invoice.
  - Operational support from DWS may be required where a subsidy is in place for the agricultural/forestry sectors (i.e. capping of the WRM charge at 1.5c/ kl escalated at CPI per annum) or where the CMA is not able to recover the costs of delivering efficient and effective WRM services through user charges, due to low affordability of charges following redress and allocation reform.
  - Accordingly, risk is shared between the CMA and DWS, with the business plan as the key reference for the financial and governance audit.

[18]Including:-i) establishment infrastructure, ii) setting up financial, HR and information systems, iii) developing a first CMS and iv) extending participation. In addition, there are a number of once-off strategic interventions, including:-i) transformation, ii) classification, iii) compulsory licensing, and iv) development of functioning information systems and water use databases.

- After the CMA takes up the responsible authority functions, it assumes full responsibility for cost recovery and is largely financially self-sufficient.
    - At this point, the CMA may develop its own billing, debt and/or financial management systems, with oversight and support from the DWS;
    - Risk is shifted to the CMA in its entirety, with the CMA fully accountable for fiduciary management and corporate governance. The business plan serves as the framework for audit and DWS oversight;
    - It is likely that cost recovery will be dramatically improved as the CMA is dependent on this source of revenue for its financial viability.

9.4 FINANCIAL ANALYSIS

The financial analysis has been based on a simple financial model for the CMA for the 5 years 2020/21 to 2024/25. It is based on detailed expenditure, differentiating salary, overhead, outsourcing and capital repayment costs, with recovery through a combination of water use charges and financial support. It takes account of a number of issues, including non-payment by users.

9.4.3 CMA Expenditure

Based on the assumption that the Limpopo-Olifants CMA would be fully functional after 5 years[19], Table 6 presents the possible increase in costs over the five-year period, based on 6% inflationary increase on staff costs, estimated outsourcing and other establishment costs.

There will be a process to appoint a new Governing Board as well as a process to appoint a CEO. During this period, considerable effort will be applied in engaging stakeholders and some service provider support may be engaged. In addition to the routine operating expenditure, the process of setting up the CMA would incur various once-off costs, to be funded by DWS. These may distinguish between those that are necessary for the CMA organisational establishment and initial WRM costs associated with functions that may also be funded through water use charges (and therefore may not require DWS support in the first few years). The proposal makes certain assumptions about this support, which are not dissimilar to the figures outlined in Table 6.

Table 6: Estimated CMA expenditure (in R' 000)

	2020/21	2021/22	2022/23	2023/24	2024/25
Expenditure (R'000)	**144,102**	**180,748**	**189,913**	**199,628**	**209,925**
Staff costs	113,297	120,095	127,301	134,939	143,035
Board costs	1,164	1,234	1,308	1,386	1,470
Employee costs	112,133	118,861	125,993	133,552	141,566
Executives	4,537	4,809	5,098	5,404	5,728
Non-executives	107,596	114,052	120,895	128,149	135,838
Consultants	4,839	5,129	5,437	5,763	6,109
Travel and subsistence	5,468	5,796	6,144	6,512	6,903
Laboratory costs	-	-	-	-	-

[19]year 1 - initial functions, year 3 - intermediate and year 5 - fully functional

Other operational costs	20,498	21,728	23,032	24,413	25,878
Establishment Cost	-	28,000	28,000	28,000	28,000

Organisational establishment costs include:

- appointing the governing board and initially building its capacity (additional to the cost of the Board operations and administration covered in the CMA expenditure) as well as including change management processes;
- appointing a CEO
- setting up the CMA business and information management systems to enable its operation, including the first business plan and human resources strategies;
- setting up the CMA in terms of appointing or transferring its initial staff complement and developing the first revised business plan; and
- initial capital expenditure on communications, computers and obtaining /remodelling premises.

Initial WRM costs (depending upon funding available) may include:

- extending stakeholder participation, initial empowerment/capacity building of disadvantaged communities, and awareness creation around WRM and CMA establishment (some of which would be done through the IWRM project); and
- developing the first catchment management strategy for the entire WMA (an initial function of the CMA),

The actual CMA expenditure will vary from the numbers in the table, but they are indicative of the level of expenditure for the purposes of this high-level analysis.

9.4.4 Projected revenue

The CMA costs estimated above must be covered by user charges (under the pricing strategy) and/or by transfers from the fiscus (via DWS budgetary process), although other donor transfers for specific initiatives may be possible. The section describes four scenarios, representing different assumptions about user charges and financial support to CMAs. The aim of these is to showcase the impact of different financial support on the CMA viability in the short and long term. It must pointed out that the DWS has taken a decision to ensure that all CMAs shall use one tariff such that the Limpopo and Olifants shall use one tariff. The scenarios relate to:

1. *No financial support*: funding only through water use charges, with different assumptions about users and billing recovery rates
2. *Charge-capping operating subsidy*: DWS transfer for lost income related to the policy of capping water use charges to agriculture and forestry.
3. *Public-interest operating subsidy*: DWS transfer for functions performed by the CMA that are in the public interest, rather than for direct water user benefit.

In all of the scenarios, the CMA costs were escalated by an assumed inflation rate of 6% from the base costs at 2020.

No financial support: Water use charges

The registered water use for urban (domestic-industrial), agriculture (irrigation) and forestry (stream flow reduction activities) totals 2 002 million m^3/ annum and excludes a transfer out of the WMA of 297 million m^3/ annum. The volumes per sector are shown in Table 7.

Table 7: Water use volumes per sector (million m^3)

Water Use								
Name	**TOTAL**	**Urban/ Non-Urban**	**Agriculture**	**Forestry**	**Mining**	**Power generation**	**Water Supply Services**	**Export**
Limpopo	**2001528**	212 425	1 298 660	9 621	183 071	14 639	232 495	
Olifants	**1753**	704	981	53	-	-	-	15
Totals	**2 003 281**	**213 129**	**1 299 641**	**9 674**	**183 071**	**14 639**	**232 495**	**15**

The Table 8 below indicates the total costs divided by total volume and the user charges required for full cost recovery within the CMA. While it is possible to have the CMA fully self-sufficient, it is an unlikely scenario due to a number of reasons. The first is that the CMA would not be able to collect 100% of the charges, especially from year 1 and therefore requires an establishment subsidy to cover the first 2 years of costs. This timeframe also allows for the collection system to be updated and passed to the CMA to ensure more effective collection of charges. Since current collection is between 40-80% of charges, a reasonable assumption can be made that collection of charges shall never exceed 90%. The second is that there is currently an agricultural cap of 2c/kl plus CPI, and the current charges when the system stabilises is more than double the cap amount.

Table 8: Full cost recovery and user charges

	Full Cost Recovery through Charges				
Year	**1**	**2**	**3**	**4**	**5**
Total CMA costs (R'000)	144,102	180,748	189,913	201,307	213,386
Approved WRM charges (c/m3) - Limpopo	3,05	3,17	3,31	3,52	3,77
Approved WRM charges (c/m3) - Olifants	3.03	3.24	3.44	3.65	3.86
WRM charges (c/m3) Full Cost for Limpopo - Olifants	3.42	4.29	4.50	4.78	5.06

The Table 9 below represents the implications of maintaining the WRM charge cap on agriculture and forestry as per pricing strategy, which was set at 3.05c/m3 in 2018 is now approximated at 3.52c/m3 for the 2020 financial year (increased by CPI). The analysis is based on including the establishment grant and water use charges for full cost recovery, except that there is a need for a charge-capping subsidy to be transferred to the CMA upon delegation of the charge collection function. The basis of the cap is that this is an affordability issue that must be addressed through fiscal support (not cross-subsidisation from domestic and

industrial users) and that domestic and industrial users do not generally have an affordability challenge. This scenario partially addresses the affordability issue for agriculture and forestry, but would need to be implemented concurrently with subsidisation and/or management of under-recovery over the medium term. It also implies that municipal users pay over 100% higher charges that agriculture, which may lead to conflict between users with some negative impact for the CMA in the long-term.

Table 9: Charges with establishment and agricultural grants (capped charges)

	Establishment grant and Agricultural capping						
	Year	**1**	**2**	**3**	**4**	**5**	**6**
Limpopo – Olifants CMA	WRM charge for agriculture (c/m3)	2,69	2,81	2,93	3,12	3,16	3,25
	Establishment grant (R'000)	28 000	28 000	28 000	28 000	28 000	
	Pricing policy capping grant (R '000)	29 575	10 276	5 711	21 661	22 961	24 338
	Agriculture grant (R '000)	1257	1510	1660	1707	1754	1697

The public interest functions are collective in nature, required to attain government's social and economic goals and cannot be achieved without collective effort and more effectively and efficiently delivered by collective effort. The public interest grant reflected in **Error! Not a valid bookmark self-reference.** below recognises that some CMA functions are in the public interest and should be funded from the fiscus. This is implicit in the current situation where a part of the total DWS Regional Office proto-CMA costs are not allocated for recovery by WRM charges.

Table 10: Charges with a public interest operating subsidy

	Public Interest Operating Subsidy					
	Year	**1**	**2**	**3**	**4**	**5**
Limpopo – Olifants CMA	WRM charge (c/m3) Full Cost	3.42	4.29	4.50	4.78	5.06
	Public interest grant (R '000)	37,467	46,995	49,377	51,903	54,581

1.1.2

9.4.5 Financial support to the CMA

The aim is not to make the CMA financially self-sufficient, as the reality is that some form of fiscal financial support is required. Table 11 below indicated the combination of support as described above.

Table 11: Financial implications for subsidy to the CMA

	Year	1	2	3	4	5
Limpopo – Olifants CMA	Establishment grant (R'000)	28,000	28,000	28,000	28,000	-
	Pricing policy capping grant (R '000)	3,438	31,644	31,862	32,094	32,340
	Public interest grant (R '000)	37,467	46,995	49,377	51,903	54,581
	Total subsidy per annum (R'000)	**68,905**	**106,639**	**109,239**	**111,997**	**86,921**

The establishment grant is required to ensure that the CMA is set up and functional. The pricing policy cap is to ensure affordability in the agriculture and forestry sectors. The public interest grant provides for a more equitable reduction in charges and covers charges which are in the public interest.

9.5 Financial Viability Constraints

In order to consider a CMA financially viable, one might need to consider whether the CMA can operate sustainably by covering its expenditure with its own revenue over the foreseeable future. As such, there are several critical risk areas for the financing of the CMA, any one of which may result in the need for a change in the CMA expenditure or sources of funding, thereby making the CMA less financially viable or sustainable. From understanding the context within which the proposed CMA shall be operating (and of course with lessons from the BGCMA and IUCMA operational period), the following issues should be considered, and management solutions need to be explored to mitigate their impact in order to ensure the financial viability of the CMA

- Dependence of the CMA on government financial support due to lower water use charges – the current capping of water charges means that CMAs cannot generate revenue that meets the cost of operating the institution.
- Incomplete validation and verification and registration of water users, thereby limiting the possible revenue and potentially damaging the credibility of the CMA for the registered users.
- Reductions in water use due to improved authorization & enforcement of license conditions (or compulsory licensing), particularly in water-stressed parts of the WMA.
- Non-payment of charges by registered water users, either due to unaffordable charges and/or non-acceptance of the legitimacy of the charges (willingness to pay).

- Inability to efficiently implement the administrative components of the billing and collection system by the CMA either due to inadequate capacity or system inefficiencies
- Poor cash-flow management of the billing and collection process, resulting in delayed payment by water users mainly due to legacy issues from the Water Trading Entity.
- The inability of the CMA to raise capital loans at low-interest rates, due to lack of a financial history.

10. INSTITUTIONAL AND GOVERNANCE ARRANGEMENTS

10.1 CORPORATE GOVERNANCE PRINCIPLES

Although targeted at private sector institutions, the King III and IV reports on corporate governance are increasingly recognised as important guides to the good governance of public entities. The King II report[20]lists seven characteristics that constitute good corporate governance: discipline, transparency, independence, accountability, responsibility, fairness and social responsibility. Further the report refers to triple-bottom-line accounting which embraces the economic, environmental and social aspects of a corporation's activities[21]. These are elements that are critical for good corporate governance, and are characteristics and elements that should, broadly, be reflected in the governance of the Limpopo-Olifants CMA.

While corporate governance in the public sector must reflect these broad principles and good corporate governance, it is also required that public sector institutions in the water sector:

- Contribute to achieving government's objectives as outlined in the twelve outcomes, the State of the Nation Address (SONA) and the Minister's performance agreement with the President.
- Achieve government's transformation objectives, relating to service delivery (Batho Pele), employment equity and preferential procurement.

The CMA as a service delivery entity must reflect and achieve the principles and elements indicated above.

10.2 CMA GOVERNING BOARD

10.2.3 Role of the CMA Board

Based on the nature of the CMA as a public entity with service delivery and stakeholder participation elements, the board will have to have strong integrated management, financial management, legal, human resource and participatory management capabilities.

The role of CMA board will be as set out in Schedule 4 of the Act as well as a service level agreement between the Executive Authority (Minister and Department) and the Accounting Authority (CMA Board). The agreement will require a board charter that will outline the roles, functions and conduct for board members. The charter will be tailored to meet conditions in the Limpopo-Olifants CMA. Among a number of roles for the board the following will be included:

- Ensure that CMA contributes to the achievement of national development objectives and the strategic objectives of DWS;

1 20 KING REPORT ON CORPORATE GOVERNANCE FOR SOUTH AFRICA. INSTITUTE OF DIRECTORS IN SOUTHERN AFRICA 2002

2 21 KING OP CIT P9

- Provide financial management oversight on the CMA
- Review and monitor the CMA's performance and service delivery objectives.
- Review the performance of the CEO and senior management.
- Ensure effective stakeholder participation.
- Ensure internal systems and controls that will ensure effective decision making within the CMA.

10.3 BOARD MEMBERSHIP

The National Water Act sets out certain provisions regarding the membership of the governing board of a CMA:

S81(1) states that: "The members of a governing board of a catchment management agency must be appointed by the Minister who, in making such appointment, must do so with the object of achieving a balance among the interests of water users, potential water users, local and provincial government and environmental interest groups."

The Limpopo-Olifants Catchment Management Agency will be established in terms of section 78(1) of the National Water Act.

In accordance and compliance with the National Water Act, the Minister will appoint an Advisory Committee to make recommendations on the nature and structure of the new Governing Board for the Limpopo-Olifants WMA. The advisory committee will then compile and finalise its recommendations on the composition of the Governing Board for the Limpopo-Olifants CMA as stipulated in Section 81(3) of the National Water Act.

Based on the recommendations made by the Advisory Committee and the evaluation committee on the composition of the board through the submission, The Minister will request for a cabinet memo be drafted and submitted to cabinet to obtain its concurrence on the appointments. When the cabinet memo is drafted it will be submitted to the Minister for approval.

One issue needs to be addressed in the appointment of the new Board for the Limpopo-Olifants CMA, the appropriate size of the Board. It is clearly not appropriate or financially feasible to double the size of the current board in order to reflect the larger WMA boundaries. The issue of size of the Board should thus be addressed. The DWS guideline is that the Board should consist of between 9 and 14 members.

It is therefore recommended that the advisory committee, in considering the membership of the Board, should take into account:

- The DWS guideline on the proposed size of the Board and the intention to appoint a small and efficient Board; and
- The need to have specific legal, financial and human resources skills represented on the Board, in addition to the "object of achieving a balance among the interests of

water users, potential water users, local and provincial government and environmental interest groups".

10.4 PROCESS FOR APPOINTMENT OF BOARD

While the Act specifies the process to be followed in terms of the establishment of a CMA board, the appointment of a Board for the Limpopo-Olifants CMA must engage with the fact that there is now an amalgamation of more than two CMAs into one large WMA. The issue then becomes how to appoint a Board that is appropriate to the larger WMA boundaries.

The process set out in the National Water Act for the appointment of the Board is that the Minister must establish an advisory committee to advise her on "which organs of state and bodies representing different sectors and other interests within the water management area of the catchment management agency should be represented or reflected on the governing board; and the number of persons which each of them should be invited to nominate".

The Minister may also then appoint additional members selected by herself in order to-

(a) represent or reflect the interests identified by the advisory committee;

(b) achieve sufficient gender representation;

(c) achieve sufficient demographic representation;

(d) achieve representation of the Department;

(e) achieve representation of disadvantaged persons or communities which have been prejudiced by past racial and gender discrimination in relation to access to water; and

(f) obtain the expertise necessary for the efficient exercise of the board's, powers and performance of its duties.

Under the provisions of the National Water Act, the existing Limpopo-Olifants CMA Board may continue to function until such time as a new Board has its first meeting. It is therefore recommended that:

- In order to ensure a smooth and swift operationalisation, the process to nominate and appoint the new Board should begin as soon as the new WMA boundaries have been gazetted for comment, so that the new Board can be appointed as soon as the required legal procedures have been completed to amend the boundaries of the WMA and to change the name of the CMA;
- The Minister appoints one national Advisory Committee to advice on the Board membership of all six CMAs to be established.

10.5 GOVERNANCE COMMITTEE STRUCTURES

As a new institution the Limpopo-Olifants CMA will have a number of institutional development tasks that may require professional support to the board, although the experience of the CMA will provide an excellent platform for these institutional development tasks.

It is proposed that the CMA board establish the necessary committees to support its effective functioning, in line with corporate good practice. The committees will not have powers to make decisions but to make recommendations to the board for decision making, unless they have been granted powers to make decisions in writing, by the Board. The following Board committees are recommended:

10.5.1 Finance and Audit Committee

Sometimes these are separate committees, however since the CMA is in its early stages it is recommended that these committees be combined. The Board can decide in due course if it is appropriate to separate them. This committee will be chaired by a professional to be appointed to support the Board or by a Board member with the appropriate training and skills. The role of the audit commit will be to ensure the integrity of financial recording, management, policies and reporting of the CMA. In performing its functions, it will work closely with internal and external auditors (possibly DWS) on how best to manage auditing related challenges of the CMA.

The finance committee will be responsible for the overall financial management and financial performance of the CMA. It will be the role of the committee to provide support that will ensure CMA is in a sound financial footing. This will be done by ensuring that financial challenges are identified, measured and rectified, secondly helping in developing financial strategies that will ensure the CMA's financial viability.

10.5.2 HR and Remuneration Committee

The Human Resources Committee will provide support on organisational structure issues, conditions of employment, employment equity and staff transfer from DWS. It will help develop appropriate policies and procedures that will govern human resource related issues. Sub committees may be established to look at specific issues, such as staff contracts, job grading, and remuneration, if necessary.

10.5.3 Technical Committee

The Technical Committee will be tasked with supporting the CMA Board to address technical issues relating to water resource management. The WMA is made up of a number of sub-catchments; a catchment management committee (CMC) for each sub-catchment with at least one Board member, will be established to assist the Technical Committee to consult with and involve the stakeholders on strategic and water resources related issues.

10.6 Appointment of CEO

The CEO position of the Limpopo-Olifants CMA will be vacant upon the gazetting and promulgation of the WMA, just like several other positions. This gives the Board of the Limpopo-Olifants CMA the option to consider the current salary level and job description of the CEO, as well as the administrative, technical and financial support provided to the CEO, and to advertise the post of CEO in line with the expanded mandate of the CMA.

11. MECHANISMS FOR REGULATION AND OVERSIGHT

Regulation and oversight of the CMA will be facilitated through a number of mechanisms which include the following:

- Ministerial and DWS oversight based on the legislation, policy as well as a service level agreement that will be entered into between the Minister and the CMA Board.
- The Board will be subject to an annual audit of performance, including a review of individual members' performance against clear criteria.
- Accordance with the requirements of the PFMA
- Approval of annual tariffs and the catchment management strategy as being in line with the Raw Water Pricing Strategy and the National Water Resources Strategy;
- Regulation of tariffs by an economic regulator to be established within DWS
- Approval of annual business plans by the Minister

11.1 CMA BUSINESS PLANNING

In terms of the NWA, Schedule 4 Item 21, the CMA Governing Board must prepare its first business plan for not less three years within a period of 6 months of its establishment. The development of a new business plan will need to be done for the Limpopo-Olifants CMA. In doing so, the new CMA will hopefully learn from this experience.

Schedule 4 Item 22 of the NWA indicates the contents of the business plan (in addition to the requirements of the PFMA). The business plan must:

- set out the objectives of the institution;
- outline the overall strategies and policies that the institution is to follow to achieve the objectives;
- include a statement of the services which the institution expects to provide and the standards expected to be achieved in providing those services;
- include the financial and performance indicators and targets considered by the board to be appropriate;
- may include any other information which the board considers appropriate;
- may include any other information determined by the Minister.

In relation to financial matters the business plan must:

- outline the overall financial strategies for the institution including the setting of charges, borrowing, investment and purchasing and disposal strategies;

- include a forecast of the revenue and expenditure of the institution, including a forecast of capital expenditure and borrowings;
- provide for capacity building amongst its board members and officials;
- include any other financial information which the board considers appropriate; and
- include any other financial information determined by the Minister.

Furthermore, the framework for strategic plans and annual performance plans provides a planning and reporting framework with which the CMA will adhere in developing the above mentioned plan.

11.2 FINANCIAL CONTROL

The CMA as a public entity under schedule 3 of the PFMA will, 6 months before the start of the financial year, submit to the Executive Authority (Minister) through the DG a budget of estimated revenue and expenditure for approval. The Minister, through the department, will ensure that the submitted budget for the CMA is appropriate. DWS will be responsible for submitting the information to the Auditor General or National Treasury as and when required.

12. CHANGE MANAGEMENT

In times of uncertainty, collective processes of change are utilized to interact and engage with people to involve them in the process of change in ways that create understanding, generate the necessary insights required for new neural pathways to be formed and create a sense of employee ownership and commitment to the change process. Change management or enablement is all about purposefully and intentionally accelerating and sustaining the adoption and appropriate utilisation of desired behaviours, in order to achieve intended outcomes or results. It is important to remember that change is experienced at three different levels, the individual, the team and the organization. For the purposes of this intervention to support the CMA transition, these levels will be simplified and described as individual and collective change. It may appear that these two levels of change are separate but, in reality, they are highly interconnected. What happens at an individual level impacts the collective and what happens at a collective level impacts the individual.

In this context, managing individual change will require effective communication and direct interaction and engagement with individual employees. The change process will be designed to uncover and anticipate the types of information that will need to be communicated and the types of interaction or engagement required to bring about the necessary changes. This will require structured processes to be designed and implemented, usually by employees' line managers supported by a change specialist.

Collective change however has a different set of dynamics. It is likely that trade unions will work to protect their member's interests and job security through processes of consultation and negotiation, initiated by DWS, whose employees are those most impacted by the intended changes. It is the nature of those consultations and negotiations that will serve to influence what happens from a change perspective at CMA workplaces. If these consultations and negotiations are highly conflictual, it is likely that this will impact employees' perceptions of the overall change process. If there are low levels of trust and respect between the parties to the consultations and negotiations, it is likely that this too will impact the nature of the change to be experienced at a CMA level. It is for this reason that any intentional processes of change will need to take account of what is transpiring at a collective level so that the consequences may be mitigated at a CMA level, as far as this is practically possible.

12.1 KEY ELEMENTS OF THE CHANGE MANAGEMENT PROCESS

To have a successful change management process, the following key elements shall need to be considered

- An honest, detailed assessment and understanding of different stakeholders' reality, their perceptions and expectations. This will be achieved by structured scoping processes that enable this information to be uncovered and gathered.
- Structured processes of communication, engagement, coaching & counselling if required. The messaging behind communication needs to be well thought out with the appropriate content delivered to fill any potential vacuum that would otherwise have existed if nothing had been communicated
- **Focused interventions designed to pro-actively and timeously address potential areas of resistance to change** at both an individual and a group level. Resistance can be either a force that accelerates and guides change, or it can be a force that hinders and retards intended change.

In the establishment of the Limpopo-Olifants CMA, the change management issues pertain particularly to the internal aspects of the organisation, but also relate to the perceptions of stakeholders of the organisation.

12.2 INTERNAL CHANGE MANAGEMENT

Given that the Limpopo Northwest and Olifants CMA only existed on paper, there is a real opportunity for the amalgamated organisation in the new Limpopo-Olifants CMA to build an identity and internal culture of its own from the outset. As such, the structure and staffing of the organisation will change as and when necessary to adopt and adapt to the challenges.

One of the issues that might need to be addressed is the diverse experiences of people who will form and be part of the new Limpopo-Olifants CMA. This might mean a mix of experiences from government, private sector or agencies.

In light of the above, the challenge to the new Board and management of the Limpopo-Olifants CMA will be to:

- Ensure the building of a common identity and culture amongst staff of the Limpopo-Olifants CMA, and that, within this, all staff feel a commitment to and identify with the new institution. It will be important to ensure that no invisible lines exist between and among staff members from diverse backgrounds and experiences as highlighted above.
- Ensure equal commitment to and attention to the different sub-catchments within the Limpopo-Olifants water management area, not only within business plans and budgets, but through implementation as well;
- Manage staff concerns and fears regarding change and possible resistance to change.

To achieve this, the Limpopo-Olifants CMA Board and management will need to develop and ensure the implementation of a proper change management strategy. Key elements of this strategy might include:

- Understanding the assumptions, risks, dependencies, and organisational cultural issues that might affect the change, and how best to address these;
- Effective communication with staff on the need for the change, the nature of the change, and the benefits of successful implementation. Such communication should also contain information on the details of the change, such as timeframes, activities, who will be involved and how it will affect them. The communication should enable a two-way communication process so that employees are able to contribute suggestions and ask questions about the process. The people affected by the change need to agree with, or at least understand, the need for change, and have a chance to influence how the change will be implemented. Face-to-face communications for sensitive elements of the change process, particularly those affecting employees' careers should be used. Email and written reports written are very poor tools in the context of major organisational change.

- A training or capacity building programme for relevant staff so that they can benefit from the change and see it in a positive light;
- Identification and countering of resistance from staff and the alignment of the staff with the new mandate of the organization;
- The provision of personal counselling (where required) to reduce and manage any change related fears;
- Monitoring of implementation and adjustment of the strategy as needed.

12.3 Implementation of Change Management

The first phase of work will involve **scoping change possibilities**. This will require use of the appropriate diagnostic tools such as a survey or structured interview process to uncover and make sense of the reality on the ground at the CMA.

The second phase of work will be directed towards **building the capacity of leaders to lead change.** This will involve a workshopping of what has been uncovered and made visible during the initial scoping phase as well as the establishment of a common change language and skillset

The third phase of work will encompass the **direct engagement and interaction with employees in accordance with the change-related issues, strategy and plan** developed in the second phase of work. These interactions will include:

- The implementation of an aligned **identity, brand and communication programme** designed to increase the visibility and understanding of the role and functioning of the CMA. This will extend to all stakeholders, not just employees. This may also include structure processes of interaction and engagement with a cross-section of important stakeholders.
- **One on one discussions between CMA leaders and their people** in accordance with a structured coaching framework that will have been taught in the leadership change training conducted during the second phase of work
- **Mitigation of change risks** through interactions and engagement, as informed by the change risk register developed during the second phase of work
- **Collective engagement** through a **structured workshop/s** with employees to align them behind the strategy of the CMA, it's intended culture, values and behavioural norms as well as its new institutional arrangements.

12.4 Rebranding and stakeholder engagement strategy

It will be important to ensure that stakeholders in the water management area are fully informed about the proposed changes and about the establishment, purpose and functions of the Limpopo-Olifants CMA. This will require a good communication and rebranding strategy which reaches all stakeholders, particularly the marginalised and disadvantaged. Amongst other things, the rebranding strategy should ensure that stakeholders understand the functions of the CMA, the purpose of the CMA, and how to contact the CMA.

In this process, there is an opportunity to engage with stakeholders about how they view the existing and future CMAs, what services they are expecting, what their requirements are etc, so that the new CMA and the rebranding strategy can address these needs and expectations.

13. RISK

Given an understanding of the nature of the initiative and the purpose of establishment of the Limpopo-Olifants CMA, it is useful to articulate some of the key implementation risks. Managing these risks becomes a central function of the CMA and of DWS in its oversight and regulatory role.

13.1 COMPLEXITY OF THE PROJECT

This water management area is complex and is already under water stress. Management of the area will require balancing the needs of highly vocal and well-resourced sectors with poor, marginalized and water deprived communities. Management will require a high level of technical skills and understanding, as well as social and economic analysis capacity, and the ability to drive transformation in the water sector in the catchment with a particular focus on redress and meeting the needs of poor communities. The issue of capacity is dealt with below.

13.2 SPHERES OF GOVERNMENT

Both Local and Provincial Government have a key role to play in ensuring effective water management in the water management area. The boundaries of the water management area do not coincide with the political boundaries of provincial and local government, and the CMA will need to expend considerable effort to ensure effective relationships with relevant local authorities and provincial departments, and to ensure a proper understanding of the role, boundaries and purpose of the CMA. Buy-in, coordination and cooperation between the three spheres of government are pre-requisites for achieving optimal water management in the area.

13.3 STAKEHOLDER ACCEPTABILITY

The CMA establishment puts forward a new “business model” based on a public entity for water resources management in an expansive area within four key provinces of Gauteng, Limpopo, Mpumalanga, and North West. In addition to government, it is key that this new model is accepted by stakeholders, both current water users and would-be water users across the area of jurisdiction.

13.4 DELEGATION OF POWERS AND FUNCTIONS

The service delivery relates to the rate at which water resources management functions are delegated to the CMA. Once the boundaries of Limpopo-Olifants CMA are changed and the institution is transformed into the amalgamated Limpopo-Olifants CMA, these delegations will automatically apply across the entire new WMA. The risk is that the capacity may not be in place to implement these delegations across the whole WMA, and so the transfer and recruitment of staff and building of capacity must be done in a way that aligns with the need to implement these delegations.

However, there is a further risk that the delegation of the final functions to the CMA may take too long, particularly the delegation of the power to authorise water use and for billing and revenue collection. An agreement should be put in place between DWS and the Limpopo-

Olifants CMA regarding the timeframes and requirements for the final delegation of functions to the Limpopo CMA.

13.5 Financial management

There are a number of dimensions associated with the financial viability risk. The most critical include the inability to collect water use charges as a result of either poor legitimacy of the CMA, inadequate systems and capability on the part of DWS prior to this function being delegated, or the CMA after delegation. The willingness to pay by stakeholders is a critical risk. The issue of affordability is also pertinent, in relation to user groups such as resource poor farmers. Poor revenue collection will mean that the operating costs of the CMA will need to be recovered from a small base of users and as such there is the potential for higher charges that could worsen the cycle of affordability and debt collection.

13.6 Climate change and natural disasters

Climate change and disasters such as droughts and floods are significant risks that could impact on the water availability and safety within the WMA. In particular, the effect of climate change could lead to changing water use patterns, reduced availability and allocation of the resource, and lower ability-to-pay amongst users as enterprises become marginal. Mitigation of this risk through augmentation is limited and accordingly this risk should be quantified and considered carefully in the strategic planning of the Agency.

13.7 Human Resources

The human resources risk is fairly critical and has a major impact on the CMA's ability to undertake its functions effectively. There are a number of sub risks associated with the human resources risk area. These include taking transfer of some among DWS who are de-motivated and demoralised, the inability to attract and develop appropriately skilled staff and the inability to retain these staff once they have been developed. A key concern is that the market for appropriately skilled WRM staff will become more competitive as other CMAs are established.

13.8 Organisational Technologies

The technology risks relate to the integrity of the data to be handed over by DWS. Data of poor integrity may impact on the CMA's ability to undertake its WRM functions effectively, on its financial viability and on the credibility of the CMA. Other concerns around organisational technology relate to the adoption of DWS systems, by the CMA, and the suitability or appropriateness of this technology to the CMA, given its smaller scale.

13.9 Risk management

It is critical that the Limpopo-Olifants CMA builds its relationship with relevant institutions and stakeholder bodies in the WMA. Strong stakeholder relationships, participatory planning and management, and strong governance will go a long way to reducing a number of the risks raised above.

The complex nature of the work of the CMA, including managing complex financial arrangements, requires good strategic, organisational and financial management. Such management will be achieved through appropriate staffing of the CMA, and may require moving beyond the human resource and remuneration policies and approaches of government.

Ultimately, the management of risk will be dependent on strong governance arrangements for the CMA. The role of DWS in regulating and overseeing the performance of the CMA will also be important in this regard. DWS has considerable experience in the oversight of 15 Water Boards, the WRC and the TCTA, and will draw on this experience to ensure effective oversight and regulation of the CMA.

14. IMPLEMENTATION CONSIDERATIONS

The table below sets out some considerations for the implementation of the Limpopo-Olifants CMA. It is important to note that the activities will be starting from scratch since the Limpopo-Olifants CMA only existed on paper and was never functional. The timelines indicated in the table may be revised to reflect the actual establishment.

Process	Key Milestones	Actions	Considerations	Timeframes
Institutional establishment				
Ring-fencing of WRMC revenue per WMA	Revenue ring-fenced	Ring-fence revenue per WMA in the Water Trading Entity and ensure systems are in place for easy transfer of funds to CMA	Timely transfer of funds to the CMA is critical for its effective functioning.	To be confirmed
Develop business case for CMA	Approval of business case by NT/DPSA	Initial meetings with NT/DPSA towards alignment Develop and submit business case List as Public Entity	Need to ensure close working relationship with NT/DPSA	Ongoing (this business case)
Stakeholder engagement		Engagement with stakeholders on the changes to the WMA boundaries and the establishment of the Limpopo-Olifants CMA	Careful management of stakeholder engagement in the Olifants; Crocodile (West), Marico, and Luvuvhu and Mutale area is required to ensure that they do not feel marginalised and on the periphery of the newly established Limpopo-Olifants CMA.	Ongoing
Disestablishment of the Limpopo-Nortwest CMA and the Olifants CMA	Disestablishment Notice yet to be Gazetted	Gazette is required for public comment Take comments on Board Gazette for establishment	Stakeholder awareness of processes critical	Yet to be done

Process	Key Milestones	Actions	Considerations	Timeframes
Establishment of Limpopo-Olifants CMA	Establishment of CMA via Govt Gazette	Gazette for public comment Take comments on Board Gazette for establishment	Stakeholder awareness of processes critical	Still to be done.
Organisational development				
Appoint Governing Board	Inaugural meeting of the Governing Board held Board Committees established	Appoint Advisory Committee Call for nominations in parallel with Advisory Committee work Advisory Committee submits recommendation to Minister Ministerial approval of Board structure Minister appoints Governing Board Inaugural meeting of the Board Initial Governing Board training Board charter developed, based on generic Board charter Board Committees established	Need to create strong sense of good governance and therefore, look towards stronger governance model than previous Boards that had a strong emphasis on participation	Yet to be done for all the listed required actions.
Establish initial systems	Initial internal systems including financial, procurement and HR	Purchase initial financial system Pro-forma internal systems presented to the Board	Must ensure there are financial controls in place prior to opening of account and any funds transferred	Yet to be initiated for all the actions herein.

Process	Key Milestones	Actions	Considerations	Timeframes
		Apply for permission to AG for permission to open account Account opened		
Appoint CEO	CEO appointed	Job description finalised and post advertised Obtain approval of CEO salary (DPSA and Minister: DWS) Interview candidates and appoint	Consider getting blanket approval for CEO posts against a range of packages for large , medium and small CMAs	Yet to be initiated.
Transfer and appoint staff	DWS staff transferred New staff appointed	Ensure Proto CMA is in place and all staff details and functions are documented Functional development plan developed in conjunction with Regional Office Organisational structure developed and job descriptions developed and approved Identification of staff to be seconded and transferred. Staff transfer committee established and process to transfer staff fully monitored Equipment / asset plan developed	Buy-in of organised labour essential Regional Office alignment with functional development of CMA critical Transfer or purchase of equipment for new staff important	Yet to commence.

Process	Key Milestones	Actions	Considerations	Timeframes
		Offices acquired Posts that cannot be filled by DWS staff advertised and filled.		
Operationalisation				
Develop first Business Plan	Business plan submitted to DWS	CEO drives BP development process Submit first business plan to Minister for approval Ministerial approval of business plan	Needs to be completed within 6 months of the appointment of the Board	Yet to commence
Transfer of seed funds	Initial seed funding transferred to CMA	Obtain NT approval for transfers Transfer initial tranche to support BP development and initial functions Transfer second tranche upon approval of business plan	Ensure NT aligned with financial transfers and institutional development plan	Yet to commence
Delegations of functions	Functions delegated by Minister	Initial delegations to support initial functions Second round of delegations to support expanded mandate and implementation of Business Plan	Plan for the phased delegation of powers and duties to be developed and approved by Minister in order to streamline all processes	Yet to commence
Oversight and monitoring	DWS overseeing and monitoring CMAs	DWS provides support to institutional establishment and development DWS provides Governance support to Board DWS supports organisational development	Monitoring schedule for all milestones for CMAs to be developed includes NWA and PFMA requirements	Ongoing Ongoing

Process	Key Milestones	Actions	Considerations	Timeframes
		After receiving business plan DWS establishes monitoring routine		Ongoing
Stakeholder Engagement and Capacity Building				
Establish and implement engagement plan	Stakeholder Reference Group functional	Develop stakeholder engagement framework and implementation plan. Establish stakeholder database Establish new Reference groups	Some areas have long history of participation that needs to be carefully considered in order for DWS to regain lost ground	Ongoing
Establish and implement capacity building and support regime	Support and capacity building programme implemented	Identify key groups requiring support Identify needs and develop appropriate support plan Provide ongoing support and guidance.	The need to support marginalised groups must not be underestimated	Ongoing