Business Case for the Establishment of a Single Catchment Management Agency

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Version Draft
Executive Summary

Background

Amongst the key strategic policy decisions of the Department of Water and Sanitation is the establishment of Catchment Management Agencies (CMA) which are aimed at decentralising water management and facilitating inclusive stewardship of water resources. The department’s decision to decentralise water resources management through CMAs originates from the 1996 White Paper on Water and Sanitation and has been reaffirmed in the 1998 National Water Act, the two versions of the National Water Resources Strategy (2002 and 2013) and the National Policy Positions on Water (2014).

The Department of Water and Sanitation (DWS) took the decision in June 2017 to establish a single CMA to manage all water resources in South Africa, amid growing concern regarding the costs associated with the establishment of multiple institutions and the need to rationalize and align existing institutions as a mechanism to unburden the state of burgeoning service costs. The CMA is seen as a vehicle to assist the South African Government to achieve its broader socio economic objectives as referenced in the National Development Plan.

The boundaries of the nine Water Management Areas consider catchment and aquifer boundaries, financial viability, coherence of interests of participation stakeholders and equity considerations. The National Water Resources Management Strategy 2 (2013) carries the vision of the NWA and delineates nine Water Management Areas (WMA) which must be provided with water resource management services. These WMAs are Vaal, Limpopo, Pongola-Umzimkhulu, Mzimvubu-Tsitsikamma, Orange, Breede-Gouritz, Inkomati-Usuthu, Olifants and Berg-Olifants WMAs.

Strategic Motivation

The DWS vision for water custodianship is to protect, use, develop, conserve, manage and control water resources to achieve sustainable and equitable development in South Africa now and for future generations (NWRS II, 2013). Unfortunately, South Africa’s water resources have been in a steady state of decline and urgent intervention is required if the DWS vision is to be realised. Previous studies investigated the nature of the prevalent water resources challenges and their root causes. It is argued that if the root causes of the decline, are primarily of a structural nature, it would then suggest that there is a case for changing the institutional arrangements for water resources management.

Why should water be managed at a catchment level?

Although the single CMA will have one board, all water resources will be managed at catchment level. Water resources management is defined in the National Water Act as including the protection, use, development, conservation, management and control of water resources; in particular the equitable allocation and beneficial use of water in the public interest, and the protection of the quality of water resources necessary to ensure sustainability of the nation’s water resources in the interests of all water users.

A key driver of the national water policy and the National Water Act is the need to achieve equity in access to water for productive purposes, and in equity in the benefits derived from water. This requires a profound change in the allocation and use of water in the country and in access to the economic development of the country, with a particular focus on improving the situation of poor black communities who have been disadvantaged by the racial-spoils system of apartheid.
The National Water Act is founded on the principle that National Government has overall responsibility for and authority over water resource management and that that Minister is the custodian of the nation’s water resources. This is a critical principle that must be supported by any institutional arrangements that are put in place. Ultimately, the Minister remains responsible for ensuring that the goals of equity, sustainability and efficiency in water resources management are achieved.

What is the motivation for managing water resources using an integrated approach at the catchment level rather than at a national, provincial or local level?

The White Paper describes the complexity of water resource management and concludes that an integrated approach to water resources management is necessary: “The range and variety of issues which affect or are affected by water management show how important it is to address it in an integrated manner. Quality can only be managed jointly with quantity; economic considerations must be weighed together with social and environmental ones; groundwater has to be managed with surface water, and international water allocations cannot be considered in isolation from the domestic context. Nor can water management easily be separated from other activities. Land use, human settlements, industrial activity and mines all impact upon (and are affected by) the water cycle and our management of it. Water resource management functions which should be approached in an integrated manner include resource allocation and protection, use and conservation, monitoring, planning, development and operation.”

This complexity, together with a context of resource scarcity and the need for trade-offs between competing uses, strongly points to the benefits of managing water at the catchment level. This is stated in the White paper as follows: “The complexity of an integrated approach to water management reinforces the need to assess competing water-uses on the basis of optimum rather than simply beneficial use. It has been concluded that the most appropriate unit in which this can be done is either the catchment, part of a major catchment or a water system in which a number of catchments are linked.”

Management at the catchment level supports transformation

Management of water resources at the catchment level enables stakeholders in the catchment to engage with water managers more directly, and to hold them more directly accountable than when water is being managed by a national department. One of the key drivers, globally, behind the development of catchment management agencies has been the building of this relationship between managers and beneficiaries.

In South Africa, however, there are particular challenges pertaining to equity and development that must be addressed. In order to support this, it is important that all water resources management takes place within a policy context that is profoundly transformational, and that all management structures are held accountable against this policy context.

Within such a policy framework, management at the catchment level and improved accountability between managers and beneficiaries can enable the optimal use of the water resources in the catchment in support of economic development and transformation. It is important, however, that transformation in water use and access to the benefits of water is a critical indicator of the Management at the catchment level need not and must not compromise national authority.

The White Paper notes that, “whatever arrangement is introduced, it must be clear that it will remain subject to national authority.” Of particular importance in this regard is that management at the catchment level must support, enable and drive national development and socio-economic transformation objectives, under the custodianship role of the Minister of Water Affairs.

\footnote{Extracts from the 1997 White Paper (Policy Principle 7) and the National Water Act (preamble and introductions to chapters).}
The case for transformed institutional arrangements stems from the following challenges:

An analysis of the National Water Resources Strategy and other sector documents highlighted the following 10 challenges. These challenges include, amongst others:

- The lack of transformation of the water sector
- Declining water quality
- Compromised water security
- Backlogs in issuing water authorisations
- Inadequate regulation of the water sector
- Insufficient funding for water resources management
- Ineffective involvement of stakeholders in water resources management
- Limited water resources management skills and expertise; and
- Declining condition of water resources infrastructure
- Reduced capacity to meet international water obligations

In assessing the root causes of the challenges, the analysis revealed that there was a strong case for changing the institutional arrangements for water resources management. The root causes for nearly all of the challenges were institutional/structural in nature and therefore resolving the institutional arrangements, would, improve the state of water resources management.

The establishment of the Single CMA would:

- Allow DWS to devolve operational functions and to facilitate a clear separation from its policy and regulatory roles
- Create an institution that is focused solely on water resources management
- Allow for water to be managed at a local level
- Provides a more effective platform for stakeholder engagement and partnerships
- Facilitates greater transparency on decisions and performance around water resources management

This document provides the rationale, requirements and considerations for the listing of the new entity in terms of schedule 3 of the Public Finance Management Act (PMFA), which will be conferred all the functions of a Catchment Management Agency (CMA).
Table of Contents
List of Figures ....................................................................................................................... iv
List of Tables ........................................................................................................................ iv
Abbreviations ......................................................................................................................... v
1 Introduction .......................................................................................................................... 1
2 Description of the Water Management Area ...................................................................... 1
  2.1 Climate ............................................................................................................................ 2
  2.2 Population ....................................................................................................................... 3
  2.3 Water Resource Availability ......................................................................................... 3
  2.4 Water Management Area Challenges ....................................................................... 3
3 Strategic Motivation ............................................................................................................. 6
  3.1 Water Resource Related Challenges in South Africa .................................................. 6
  3.2 Policy Context ............................................................................................................... 8
  3.3 Water Resources Management Best Practice Principles .......................................... 9
    3.3.1 Management According to Hydrological Boundaries ......................................... 9
    3.3.2 Principle of Subsidiarity ...................................................................................... 9
    3.3.3 Developmental / Empowerment Role .............................................................. 9
    3.3.4 Financial Viability of the CMA ....................................................................... 9
  3.4 A Framework for CMA Establishment ..................................................................... 10
    3.4.1 Principles ............................................................................................................ 10
    3.4.2 Legal Basis ......................................................................................................... 10
4 Corporate Form .................................................................................................................. 11
5 Functions of the Single Catchment Management Agency ................................................ 11
  5.1 Introduction ................................................................................................................... 11
  5.2 Delegation of Functions ............................................................................................... 11
  5.3 Transfer of Functions .................................................................................................... 12
    5.3.1 Phase 1: Developing Relationships and Legitimacy ....................................... 13
    5.3.2 Phase 2: Building Capacity and Consolidate ................................................. 13
    5.3.3 Phase 3: Fully Functional Authority ............................................................... 14
  5.4 Considerations for the Establishment Process ........................................................... 15
  5.5 Outsourcing or Development of a Technical Support Pool ........................................ 15
6 Organisational Arrangements ............................................................................................ 16
  6.1 Proposed Functional Structure of the Single Catchment Management Agency .......... 17
    6.1.1 Overview of the Executive Structure of the Single Catchment Management Agency .... 17
    6.1.2 Overview of the Water Management Area Structures of the Single Catchment Management Agency .......... 18
  6.2 Operational area and activities of the Single Catchment Management Agency .......... 20
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2.1</td>
<td>Office of the Chief Executive / Board</td>
<td>20</td>
</tr>
<tr>
<td>6.2.2</td>
<td>Water Use Catchment Regulation</td>
<td>21</td>
</tr>
<tr>
<td>6.2.3</td>
<td>Institution and Stakeholder Coordination</td>
<td>22</td>
</tr>
<tr>
<td>6.2.4</td>
<td>Water Information Management</td>
<td>22</td>
</tr>
<tr>
<td>6.2.5</td>
<td>Catchment Strategy Programmes and Planning</td>
<td>23</td>
</tr>
<tr>
<td>6.2.6</td>
<td>Corporate Services</td>
<td>23</td>
</tr>
<tr>
<td>7</td>
<td>Organisational Requirements</td>
<td>24</td>
</tr>
<tr>
<td>7.1</td>
<td>Staffing Requirements</td>
<td>24</td>
</tr>
<tr>
<td>7.2</td>
<td>Human Resource Considerations</td>
<td>24</td>
</tr>
<tr>
<td>7.2.1</td>
<td>Recruitment of Staff</td>
<td>24</td>
</tr>
<tr>
<td>7.2.2</td>
<td>Grading and Remuneration</td>
<td>25</td>
</tr>
<tr>
<td>7.3</td>
<td>Organisational Systems</td>
<td>26</td>
</tr>
<tr>
<td>8</td>
<td>Financial Arrangements</td>
<td>27</td>
</tr>
<tr>
<td>8.1</td>
<td>Source of Finance</td>
<td>27</td>
</tr>
<tr>
<td>8.1.1</td>
<td>Water Use Charges and the Pricing Strategy</td>
<td>27</td>
</tr>
<tr>
<td>8.1.2</td>
<td>Financial Support</td>
<td>28</td>
</tr>
<tr>
<td>8.2</td>
<td>Flow of Capital</td>
<td>31</td>
</tr>
<tr>
<td>8.3</td>
<td>Financial Systems Arrangements</td>
<td>31</td>
</tr>
<tr>
<td>8.4</td>
<td>Financial Analysis</td>
<td>33</td>
</tr>
<tr>
<td>8.4.1</td>
<td>CMA Establishment / Investment Costs</td>
<td>33</td>
</tr>
<tr>
<td>8.4.2</td>
<td>Single Catchment Management Agency Operating Costs</td>
<td>34</td>
</tr>
<tr>
<td>8.4.3</td>
<td>Volumetric Data and Water Use Charges</td>
<td>37</td>
</tr>
<tr>
<td>9</td>
<td>Institutional, Governance and Co-operative Governance Arrangements</td>
<td>39</td>
</tr>
<tr>
<td>9.1</td>
<td>Corporate Governance Principles</td>
<td>39</td>
</tr>
<tr>
<td>9.2</td>
<td>Single Catchment Management Agency Governing Board</td>
<td>39</td>
</tr>
<tr>
<td>9.2.1</td>
<td>Role of the CMA Board</td>
<td>39</td>
</tr>
<tr>
<td>9.3</td>
<td>Board Membership</td>
<td>40</td>
</tr>
<tr>
<td>9.4</td>
<td>Process for Appointment of Board</td>
<td>40</td>
</tr>
<tr>
<td>9.5</td>
<td>Governance Committee Structures</td>
<td>40</td>
</tr>
<tr>
<td>9.5.1</td>
<td>Finance and Audit Committee</td>
<td>41</td>
</tr>
<tr>
<td>9.5.2</td>
<td>HR and Remuneration Committee</td>
<td>41</td>
</tr>
<tr>
<td>9.5.3</td>
<td>Technical Committee</td>
<td>41</td>
</tr>
<tr>
<td>9.6</td>
<td>Appointment of CEO</td>
<td>41</td>
</tr>
<tr>
<td>9.7</td>
<td>Catchment Management Committees</td>
<td>41</td>
</tr>
<tr>
<td>10</td>
<td>Mechanisms for Regulation and Oversight</td>
<td>44</td>
</tr>
<tr>
<td>10.1</td>
<td>Single Catchment Management Agency Business Planning</td>
<td>44</td>
</tr>
<tr>
<td>10.2</td>
<td>Financial Control</td>
<td>44</td>
</tr>
<tr>
<td>11</td>
<td>Options for Establishment Process</td>
<td>45</td>
</tr>
</tbody>
</table>
11.1 The need for and interim operating model................................................................. 47
12 Change Management........................................................................................................ 48
  12.1 Change Management .................................................................................................. 48
  12.2 Communication, Branding and Stakeholder Engagement Strategy ......................... 49
13 Single Catchment Management Agency Establishment Road Map .................................. 49
14 Risk ................................................................................................................................. 52
  14.1 Risks During Pre-Establishment ................................................................................ 52
  14.2 Risks During Establishment ....................................................................................... 53
  14.3 Risks During Operations ........................................................................................... 54
15 Implementation Considerations ......................................................................................... 55
List of Figures

Figure 1: Water Management Areas in South Africa ................................................................. 2
Figure 2: Core principles of South Africa’s water resources legal framework ......................... 17
Figure 3: Single Catchment Management Agency Central Office structure ......................... 18
Figure 4: WMA Structural Organogram ................................................................................. 20
Figure 5: Single Catchment Management Agency Governance Framework .......................... 43
Figure 6: SWOT analysis for the expansion of 1 functional CMA into the CMA ..................... 47
Figure 7: CMA Establishment Implementation and Governance and Oversight Structure ...... 49
Figure 8: Single CMA Implementation Road Map ................................................................. 51

List of Tables

Table 1: Summary of WMA Climatic Conditions ..................................................................... 2
Table 2: Population by Water Management Area ..................................................................... 3
Table 3: Available Yield and Water Requirements by Water Management Area .................... 3
Table 4: DWS funding support for the Single Catchment Management Agency ..................... 30
Table 5: Single Catchment Management Agency Operating Costs ........................................ 35
Table 6: Registered volumes per water use category ............................................................... 37
Table 7: Average CMA tariffs across 9 Water Management Areas ........................................ 37
Table 8: Annual Revenue for the Single Catchment Management Agency ............................ 38
Table 9: Risks during pre-establishment ................................................................................ 52
Table 10: Risks during establishment ..................................................................................... 53
Table 11: Risks during operations .......................................................................................... 54
Table 12: Institutional Establishment ...................................................................................... 55
Table 13: Organisational Development ................................................................................ 55
Table 14: Operationalisation ................................................................................................. 56
Table 15: Stakeholder Engagement and Capacity Building .................................................... 57
Abbreviations

AC - Advisory Committee
BEE - Black Economic Empowerment
CMA - Catchment Management Agency
CMF - Catchment Management Forum
CMS - Catchment Management Strategy
CSIR - Council for Scientific and Industrial Research
DM - District Municipality
DWS - Department of Water and Sanitation
EFR - Environmental Flow Requirement
ER - Environmental Reserve
GB - Governing Board
HA - Hectares
ISP - Internal Strategic Perspective
IWRM - Integrated Water Resources Management
LM - Local Municipality
MAP - Mean Annual Precipitation
MAR - Mean Annual Runoff
NGO - Non-Governmental Organisation
CMA - Single Catchment Management Agency
NWRS - National Water Resource Strategy
PE - Public Entity
PFMA - Public Finance Management Act
PSP - Professional Service Provider
RO - Regional Office
RPF - Resource Poor Farmer
SP - Selection Panel
ToR - Terms of Reference
WMA - Water Management Area
WSA - Water Services Authority
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WSDP</td>
<td>Water Services Development Plan</td>
</tr>
<tr>
<td>WUA</td>
<td>Water User Association</td>
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<tr>
<td>NWA</td>
<td>National Water Act</td>
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1 Introduction

Catchment Management Agencies (CMA) are aimed at decentralising water management and facilitating inclusive stewardship of water resources. The Department of Water and Sanitation’s decision to decentralise water resources management through CMAs originates from the 1996 White Paper on Water and Sanitation and reaffirmed in the 1998 National Water Act, the two versions of the National Water Resources Strategy (2002 and 2013) and the National Policy Positions on Water (2014).

The decision to establish CMAs has also been approved by Cabinet and any decision to deviate from the model will therefore require Cabinet approval. CMAs are seen as vehicles to assist the South African Government achieve its broader socio economic objectives and were referenced in the National Development Plan, with a target of 2015 for the establishment of all CMAs amongst other water institutions required to implement appropriate water resources management and water service provision. The decision to establish CMAs has also been ratified by Cabinet through its approval of the National Policy Positions in 2013.

The Department of Water and Sanitation (DWS) took the decision in June 2017 to establish a single CMA, amid growing concern regarding the costs associated with the establishment of multiple institutions and the need to rationalize and align existing institutions as a mechanism to unburden the state of burgeoning service costs. The CMA is seen as a vehicle to assist the South African Government to achieve its broader socio economic objectives as referenced in the National Development Plan.

This document follows the National Treasury guideline for developing business cases and provides the rationale for the listing of the new entity in terms of schedule 3 of the Public Finance Management Act (PMFA), which will be conferred all the functions of a Catchment Management Agency (CMA).

2 Description of the Water Management Areas

The National Water Act (NWA) provides for the establishment of Catchment Management Agencies (CMAs) to take responsibility for the implementation of water resources management at a Water Management Area (WMA) level. The NWA states that WMAs are to be defined in the National Water Resources Strategy (NWRS).

The first NWRS (2004) delineated 19 WMAs. This was reduced in the second edition of the NWRS (2013) to nine WMAs to be established to take responsibility for the catchments in South Africa. It is intended that the single CMA will manage water resources across all nine WMAs.

The boundaries of the nine Water Management Areas consider catchment and aquifer boundaries, financial viability, coherence of interests of participation stakeholders and equity considerations. These boundaries are not aligned with provincial or local government boundaries as a result of the considerations listed.
The National Water Resources Management Strategy 2 (2013) carries the vision of the NWA and delineates 9 Water Management Areas which must be provided with water resource management services set the goal for the establishment of the 9 CMAs by 2016. There are currently 2 well established CMAs namely the Inkomati-Usuthu and Breede Gouritz. Of the remaining 7 proposed CMAs, 4 Proto CMAs have been gazetted.

### 2.1 Climate

South Africa is a considered a semi-arid country receiving an average rainfall of 460mm per annum. The climate, rainfall patterns, demographic profile and economic activities varies significantly across the 9 WMA’s. Table 1 contains a summary of the climatology in the 9 WMA’s comprising the single Catchment Management Agency.

#### Table 1: Summary of WMA Climatic Conditions

<table>
<thead>
<tr>
<th>Water Management Area</th>
<th>Mean Annual Temperature (ºC)</th>
<th>Mean Annual Precipitation (mm/annum)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaal</td>
<td>15 ºC</td>
<td>466</td>
</tr>
<tr>
<td>Limpopo</td>
<td>20 ºC</td>
<td>700</td>
</tr>
<tr>
<td>Pongola-Umzimkhulu</td>
<td>N/A</td>
<td>1150</td>
</tr>
<tr>
<td>Mzimvubu-Tsitsikamma</td>
<td>17 ºC</td>
<td>600</td>
</tr>
<tr>
<td>Orange</td>
<td>16ºC</td>
<td>850</td>
</tr>
<tr>
<td>Breede-Gouritz</td>
<td>N/A</td>
<td>1575</td>
</tr>
<tr>
<td>Inkomati-Usuthu</td>
<td>N/A</td>
<td>800</td>
</tr>
<tr>
<td>Olfants</td>
<td>N/A</td>
<td>663</td>
</tr>
<tr>
<td>Berg-Olfants</td>
<td>16 ºC</td>
<td>1850</td>
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</table>
2.2 Population

South Africa houses a population of approximately 52 million people spread across the 9 WMAs, the largest of which is the Vaal Catchment which not only experiences significant migration patterns in the form of an annual influx of people resulting in urban densification and growing informal settlements, but also contains notable economic development and activity. The summary of the population per WMA is shown in Table 2 below.

Table 2: Population by Water Management Area

<table>
<thead>
<tr>
<th>Water Management Area</th>
<th>Population Served</th>
</tr>
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<tbody>
<tr>
<td>Vaal</td>
<td>10 648 225</td>
</tr>
<tr>
<td>Limpopo</td>
<td>8 658 308</td>
</tr>
<tr>
<td>Pongola-Umzimkhulu</td>
<td>10 600 000</td>
</tr>
<tr>
<td>Mzimvubu-Tsitsikamma</td>
<td>6 360 000</td>
</tr>
<tr>
<td>Orange</td>
<td>1 299 439</td>
</tr>
<tr>
<td>Breede-Gouritz</td>
<td>821 016</td>
</tr>
<tr>
<td>Inkomati-Usuthu</td>
<td>2 153 500</td>
</tr>
<tr>
<td>Olifants</td>
<td>3 382 193</td>
</tr>
<tr>
<td>Berg-Olifants</td>
<td>4 676 312</td>
</tr>
</tbody>
</table>

2.3 Water Resource Availability

The availability of water resources, much like the climate, varies significantly across the WMAs. Of particular concern is the finding that in most of the WMAs, the surface water resources are currently fully developed and the demands exceed the present resource availability. Table 3 below presents the available yield versus the current resource requirements in each WMA. The table indicates that 5 of the 9 WMAs can be considered stressed catchment areas with particular emphasis on the Vaal, Umzimvubu-Tsitsikamma and Pongola-Umzimkhulu Water Management Areas.

Table 3: Available Yield and Water Requirements by Water Management Area

<table>
<thead>
<tr>
<th>Water Management Area</th>
<th>Available Yield (million m³/annum)</th>
<th>Water Requirement (million m³/annum)</th>
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</thead>
<tbody>
<tr>
<td>Vaal</td>
<td>3000</td>
<td>3883</td>
</tr>
<tr>
<td>Limpopo</td>
<td>1872</td>
<td>1831</td>
</tr>
<tr>
<td>Pongola-Umzimkhulu</td>
<td>1917</td>
<td>2539</td>
</tr>
<tr>
<td>Mzimvubu-Tsitsikamma</td>
<td>260</td>
<td>1358</td>
</tr>
<tr>
<td>Orange</td>
<td>4449</td>
<td>4116</td>
</tr>
<tr>
<td>Breede-Gouritz</td>
<td>1282</td>
<td>1327</td>
</tr>
<tr>
<td>Inkomati-Usuthu</td>
<td>2021</td>
<td>1192</td>
</tr>
<tr>
<td>Olifants</td>
<td>1265</td>
<td>1249</td>
</tr>
<tr>
<td>Berg-Olifants</td>
<td>1015</td>
<td>1300</td>
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2.4 Water Management Area Challenges

The profile of water challenges in the Water Management Areas closely reflect and highlight the issues that have led to the need for institutional reform to better manage the water resources for future generations. The challenges in each WMA can be characterised as follows:

Vaal

The surface water resources of the Vaal catchment are currently fully developed with the demand significantly exceeding the available yield. The catchment also has one of the highest rates of socio economic disparities and people living in poverty which makes the requirement for rapid and equitable water allocation reform more urgent and acute. In addition, illegal water abstraction, non-compliant
waste discharges into the resource and increasing pollution incidences resulting from the decanting of acid mine water, are amongst some of the key challenges in the Vaal catchment. These issues will place increasing pressure on the water tariffs in the catchment which must be taken into account when developing the Catchment Management Strategy for this WMA.

Limpopo

Limpopo is a region faced with rapidly increasing economic activity particularly mining in areas like Lephalale. One of the primary challenges in this catchment area will be ensuring that the developments are accompanied by secure water resources that can accommodate the economic growth. The water resources in the area are largely fully developed with high utilization linked to the existing available supply. There are currently limited avenues for further resource development with water quality being a major concern in the catchment due to large quantities of effluent discharged into the resource from urban and industrial water users. Furthermore, there are severe eutrophication problems in some of the dams in the WMA further highlighting the need for more stringent controls and enforcement of effluent standards in the WMA. It is anticipated that the implementation of the ecological reserve in this WMA will also result in significant water deficits which must be accommodated in current and future planning especially during the development of the CMS.

Pongola

The water quality within the WMA is declining. Point source pollution such as the discharge of inadequately treated wastewater effluent from wastewater treatment works and irrigation, dairy farming, piggery pulp production and other industrial effluent are concerns that have an impact on the water quality in the Mgeni River. There is an increase in the urban and industrial demand for water in the expanding Durban-Pietermaritzburg complex and the Richards Bay industrial complex. While these users can afford to pay, there is a need for the distribution of water to poor subsistence farmers in the WMA as well.

Mzimvubu-Tsitsikamma

The Mzimvubu-Tsitsikamma WMA is among the most disadvantaged catchments in the country with high levels of poverty and unemployment. This catchment is also prone to water shortages and droughts particularly in the western part of the WMA. The technical challenges prevalent in this area include high salinity and eutrophication in a number of the rivers, a high concentration of alien invasive plants, which is further exacerbated by the significant information gaps which make it difficult to manage the resource more appropriately. One of the key advantages that can be exploited in this catchment is the underdevelopment and utilization of ground water which will become increasingly important as part of the strategy to diversify the water mix in the catchment given the limitations in surface water availability.

Orange

The water resources in the Orange WMA are fully developed with the region largely dependent on the resources of the Upper Orange for sustenance. Some of the key challenges in the WMA include inefficient irrigation, water use monitoring and control which impact significantly on the long term planning horizon of this WMA and its ability to support further development. Greater emphasis will have to be placed on efficient flood management and cooperation between the up and down stream water users in order to protect the resources of the Lower Orange, alleviate poverty and support the emerging farmers in view of the significant role played by the agricultural industry in the WMA.

Breede-Gouritz

One of the key issues facing the WMA is the implementation of Water Allocation Reform which is necessary to redress historical imbalances. Compulsory licensing will therefore continue to be a key
priority for the WMA in order to ensure equitable distribution of water resources in line with the spirit of the NWA. The current water demands exceed the available supply from the resource further compounded by the high water salinity resulting from the leaching of fertilisers on irrigated farmlands in the area. Consequently, there has been a steady decline in ecosystem health. Within the coastal belt of the Breede-Gouritz WMA and the Riviersonderend River, invasive alien plants account for a reduction in yield of more than 31 million m³/a. Clearing of IAPs could offer significant benefits towards meeting the requirements of the Reserve and augment the low summer flows.

**Inkomati-Usuthu**

Coal mining around this catchment poses a very serious threat to the quality of the water Inkomati-Usuthu. A number of the mines discharge untreated wastewater into the rivers while Mondi irrigates their trees with wastewater which seeps into the ground. The pollution control dams where the mining takes place and where Mondi operates are unlined, thereby leading to the pollution in the water either seeping into the ground or flowing with the run-off. In Carolina acid mine drainage is already impacting negatively on the quality of municipal water supplies. It is important that ways to mitigate this risk are found. The Inkomati CMS identifies a number of challenges that will require a response from the CMA. These challenges include a high degree of public discontent about water management in the area, as well as scepticism and resultant apathy towards water resource issues. This is related to both the perceived and actual poor progress in implementing the requirements of the National Water Act and integrated water resources management by DWS. In addition, poor inter-governmental planning, co-ordination and control has led to uncontrolled urban and rural development, mining and forestry expansion, degradation of scenic areas and pollution from

**Olivants**

The Olifants WMA is characterized by high levels of economic development with the Upper Olifants supporting a sizeable mining industry. The large coal mining industry and its activities have resulted in serious threats to the water resources from acid mine drainage. Further to this, the fiscal burden for remediating the damage to the water resources is becoming increasingly burdensome with the proliferation of defunct and ownerless mines. Inflows of untreated and partially treated sewerage into the resource by the WSA’s poses serious challenges for the WMA with severe eutrophication observed in some of the dams such as the Los Kop Dam. The Middle Olifants is plagued by high levels of eutrophication, salinity and sedimentation with significant water pollution caused by the extensive agricultural activities and entry of herbicides and pesticides into the rivers and dams within the catchment. The Lower Olifants is dominated by significant mining and agricultural activities. The irrigation activities in particular have expanded and resulted in a fully allocated resources with no room for further significant allocations to support new activities.

**Berg-Olifants**

The most pertinent challenge facing the Berg-Olifants WMA is the deteriorating water quality which has a significant impact on the ecological health of the catchment supported by the resource. Surface water protection must therefore be a paramount priority for the management of the WMA. This catchment is currently highly stressed and the current water use has neither been validated nor verified. The prevalence of alien invasive plant species is presently depleting the ground water resource and must be addressed swiftly in order to prevent further significant depletion of the resource. In addition, there is a need to protect and preserve the ecological infrastructure with specific reference to the estuaries in this catchment. This will require proper provision and maintenance of the ecological reserve and that the water resources in this catchment meet the set RQO’s.

Details of the WMA business cases are contained in Annexure A.
3 Strategic Motivation

3.1 Water Resource Related Challenges in South Africa

The DWS vision for water custodianship simply stated is to protect, use, develop, conserve, manage and control water resources to achieve sustainable and equitable development in South Africa now and for future generations (NWRS II, 2013). Unfortunately, South Africa’s water resources have been in a steady state of decline and urgent intervention is required if the DWS vision is to be realised. Previous studies investigated the nature of the prevalent water resources challenges and their root causes. It is argued that should the root causes of the decline be primarily of a structural nature, it would then suggest that there is a case for changing the institutional arrangements for water resources management.

An analysis of the National Water Resources Strategy and other sector documents highlighted the following 10 challenges. It must be noted that the list is not exhaustive but it does capture some of the most critical challenges for the sector:

1. **Transformation of the water sector.** The NWRS points to the slow pace of water allocation reform and attributes much of the cause to weak internal coordination (fragmentation), poor external coordination, legislative impediments and the lack of support for HDIs to use water more productively. Other issues that were identified included the shifting focus within DWS (greater emphasis on provision of basic water and sanitation services).

2. **Deteriorating water quality.** The NWRS and the “Water Quality Strategy” indicate that water quality in more than 75% of the country’s rivers fails to meet the set resource quality standards. The challenge has largely been attributed to inadequacy of compliance, monitoring and enforcement, ineffective stakeholder engagement, weak co-operative governance, incomplete classification processes, absence of regulation and failure to implement the Waste Discharge Charge System.

3. **Compromised water security.** The first version of the NWRS (2002) highlighted that more than 50% of the then 19 water management areas were in deficit. This situation has progressively deteriorated and it is projected that demand will outstrip supply in South Africa by 2025. The lack of integrated planning, ineffective stakeholder engagement, high levels of unlawful water use, ineffective management systems, failing infrastructure (due to funding constraints) and other such issues are seen to be the primary issues impacting on water security.

4. **Authorisation backlogs.** The NWRS highlights that backlogs in issuing water use authorisations stands at 500. Delays in issuing authorisations has severely impeded economic development, transformation and water resources management. While weakness in management systems (absence of allocation plans, incomplete Validation and Verification (V&V) processes and limitations of the Water Allocation Reform Management System (WARMS) contribute to the problem, structural inadequacies (in the form of delegations, centralised approvals, etc.) also contribute significantly.

5. **Inadequate regulation.** Sector stakeholders have pointed to the fact that while mechanisms and frameworks for regulation of water resources exist, there has been ineffective implementation. It has been argued that more effective regulation will result in an improvement in the state of our water resources. The incomplete separation of the DWS roles in respect of policy maker, regulator and water resources manager was cited as the primary reason.
6 **Inadequate funding for WRM.** Constrained funding has impacted on the extent of water resources management. This has been attributed to two factors, these being that tariffs are not cost reflective (and do not provide for the full range of activities required to manage the resource) and there has been inadequate collection of revenue (perceived poor performance, inadequate stakeholder engagement, etc.). Both of these issues have their roots in the prevailing institutional weakness.

7 **Ineffective implementation of IWRM.** There are concerns that there is insufficient involvement of water users in the management of water resources. This has manifested in non-compliant behaviours, poor payment of water use charges, etc. Much of this has been attributed to the disconnect with water users as a result of centralisation of some functions, lack of capacity and the lack of transformation.

8 **Limited capacity in the water resources sector.** The NWRS highlights that there are significant capacity constraints in the water sector. While some of the contributing factors are outside of the control of the water sector, issues such as the ongoing institutional uncertainty, incomplete institutional reform, ineffective systems to train and develop water sector professionals, restrictive remuneration policies, etc. have all contributed to the current state of affairs.

9 **Ineffective leadership in international water resources management (regional).** South Africa's involvement in bi-lateral and multi-lateral forums on water resources management has declined in recent years. In addition there are concerns from neighbouring countries around South Africa's continued inability to meet its international obligations, either in terms of water quality targets or volume targets. While it is a complex issue, it has its roots in the lack of capacity to participate effectively in the transboundary water management institutions and platforms.

10 **Aging water resources infrastructure.** Continued under investment in asset maintenance and capital renewals has resulted in the need for urgent refurbishment of much of the country's water resources infrastructure. The lack of funding (development, operations and maintenance), technical capacity, lack of integrated planning and incomplete institutional reforms were identified as the root causes for the infrastructure challenges.

In assessing the root causes of the challenges, the analysis revealed that there was a strong case for changing the institutional arrangements for water resources management. **The root causes for nearly all of the challenges were institutional/structural in nature and therefore resolving the institutional arrangements, would in theory, improve the state of water resources management.** A detailed analysis of the status quo of water resources management in South Africa is included in **Annexure B.**

The establishment of the Single Catchment Management Agency will achieve the following in the water management landscape:

- Allows DWS to devolve operational functions to facilitate a clear separation from its policy and regulatory roles. This position has been reaffirmed in the Presidential Review Committee Report on State Owned Entities (2013)
- Creates an institution that is focused solely on water resources management (as opposed to also dealing with water services), and provides a vehicle to consolidate (de-fragment) water resources management within the respective catchment areas
- Allows for water to be managed at a local level ensuring more responsive and speedy decision making around Water Resources Management (WRM)
- Provides a more effective platform for stakeholder engagement and partnerships
Facilitates greater transparency on decisions (as well as utilization of water use charges) and performance around WRM

Creates accountability at a local level for WRM

Provides an opportunity to create a more customer focused culture for water resources management (difficult to course correct in the current institutional model)

Aligns with international best practice for WRM

The National Water Act and the proposals to establish CMAs are regarded to be amongst the most progressive in the world.

South Africa has been the beneficiary of significant donor funding (DFID, Netherlands and DANIDA) over the years to support the implementation of the CMA model. DWS continues to benefit from Dutch funding through the King Fisher Project which seeks to capacitate the CMA through the Department in its water governance role and to facilitate local economic development through the principles of Integrated Water Resources Management.

In addition, elements of our legislation have been adopted by a number of developed and developing countries such as Zambia, Kenya, Mexico and Brazil. Many of these countries have surpassed the progress made by South Africa in the implementation of the legislation.

A review of institutional models in Kenya, Mexico and Brazil highlights the following:

- There is a separation of policy, regulation and operational roles pertaining to water management
- There is a separation of water resources and water services roles and functions
- Water resources management is undertaken through agencies that are external to the government department
- The result of this institutional model is an improvement in the state of water resources management

This further emphasises the strength of the case for the establishment of a Single CMA to achieve the long term sustainable management of water resources and the relevance of the principles underlying this approach as the most appropriate model to implement IWRM.

3.2 Policy Context

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 Strategy (2004), a process that included extensive public participation, 19 water management areas were defined for the country.

The revised edition of the National Water Resources Strategy (2012) states the benefits of reducing the original 19 Catchment Management Agencies to nine. Some of the advantages to reduce the number of Water Management Areas are better cooperation and coordination on a regional, provincial and international level, stronger revenue streams and available technical and specialised skills can be better distributed. This principle is embraced and strengthened through the decision to establish one CMA with 9 decentralised WMA based structures which will support coherence in the fiduciary decision making of the board structure while still achieving localised water management and agile and adaptive problem solving.
3.3 Water Resources Management Best Practice Principles

South Africa is a water scarce country, with less than 1700 m3 per capita water available per annum. Even in areas where water is relatively bountiful, there is serious inequity in distribution and availability. In lieu of the challenges and the required response, Integrated Water Resource Management (IWRM) has been internationally recognised as the most appropriate paradigm for managing water particularly in support of basin wide water management. The principles of IWRM are enshrined in the White Paper on a National Water Policy, and the National Water Act. Some of these aspects are highlighted below.

3.3.1 Management According to Hydrological Boundaries

Water is best managed in an integrated manner, taking cognisance of the linkages between land and water, between groundwater and surface water, and between the social and natural environment. Water is most easily managed within the natural boundaries of catchments (within which water drains into one river system) allowing for integrated management of that system. The establishment of the CMA will embrace the management of scarce water resources according to hydrological rather than political boundaries, as is best practice internationally through the decentralised WMA units accommodated in its structure.

The National Water Policy also recognises the protection of aquatic ecosystems as critical to ensuring sustainable delivery of resource-related goods and services. Management of water resources according to hydrological boundaries will enable more effective and integrated protection of river systems.

3.3.2 Principle of Subsidiarity

As a social and economic good, water is critical to peoples' lives and livelihoods. Accordingly, to ensure equity and sustainability, the establishment of the CMA will take cognisance of the fact that water resource management must be based on the principle of subsidiarity (i.e. taking decisions at the lowest appropriate level) such that all relevant stakeholder groups are actively involved and consulted in the decision-making process. This is also important in the effective functioning of a democratic developmental state.

3.3.3 Developmental / Empowerment Role

International best practice shows that decentralised institutions often have a greater developmental and empowerment role than centralized institutions. Decentralised institutions have a greater ability to respond to developmental needs and opportunities on the ground as a result of reduced bureaucracy and smaller, more effective organizations. While the fiduciary functions of the CMA will be performed through one centralised board, operational/implementation oriented functions will be performed at the WA level which will ensure that stakeholders are involved in the decision-making process and the management of the resource. This will contribute significantly to the redress of historical inequities and support the equitable allocation and effective management of this limited resource.

3.3.4 Financial Viability of the CMA

This issue will be discussed in much greater detail later in this document, but effective water resources management is premised on efficient and effective institutions with the appropriate resources to deliver. The financial viability of the CMA is crucial to ensure adequate resources in the delivery and sustainability of these functions over the longer term. Ensuring financial viability and good governance requires strong financial systems and controls, linked to the requirements of the Public Finance Management Act (Act 1 of 1999) and Treasury Regulations, amongst others. Financial viability refers to the requirement for the CMA to be financially sustainable in the long-term, taking into account all possible sources of funding, which include, in particular, revenue from water use charges and fiscal transfers from DWS.
3.4 A Framework for CMA Establishment

3.4.1 Principles

Chapter 1 of the National Water Act (Act 36 of 1998) sets out equity, sustainability, efficiency and representivity 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 Paper2: “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 approach to the business of water resources management.

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). Associated with, and inherent to, this process is the significant transfer of roles, responsibilities and functions from DWS to the CMA as a catchment oriented structure, that will allow for the clear separation of the DWS regulatory and oversight role from implementation of WRM.

3.4.2 Legal Basis

Chapter 7 of the National Water Act makes provision for the progressive establishment of CMAs and states the purpose of establishing a CMA is to assign or delegate water resource management to the regional or catchment level and to involve local communities in the decision-making processes. The intention is for water resource management to:

- meet the basic human needs of present and future generations;
- promote equitable access to water;
- redress the results of past racial and gender discrimination; and
- facilitate social and economic development.

The Act requires the progressive development of a national water resource strategy\(^3\) (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\(^4\) in defined water management areas\(^5\) (WMA). In addition, the Act requires for the progressive development of a Catchment Management Strategy (CMS) for each WMA. This process will be facilitated through the CMA and it’s WMA structures to ensure that this process unfolds in accordance with the Act. This CMS must be in harmony with the NWRS\(^6\). Both the NWRS and CMS must engage stakeholders and ensure participation\(^7\).

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3 Section 5(1) of the NWA

4 Section 6(1)(j), (k) and (l) of the NWA

5 Section 6(1)(c) of the NWA

6 Section 9(b) of the NWA

7 Section 5(5)(b) and (c) and Section 8(5)(b) and (c) of the NWA
4 Corporate Form

The establishment of the CMA will commence with the Minister issuing a notice in the Government Gazette. This will be done in terms of the procedure outlined in Section 78 (3) (a)-(c) of the NWA (Act 36, 1998). Given the primary driver for the NWRM being service oriented with respect to Water Resources Management, the CMA will be established as a public entity in terms of schedule 3A of the PFMA. Research and convention indicates that public entities are the most appropriate corporate form for stewardship and research entities, service delivery entities as well as regulatory and statutory entities.

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

- The CMA will be 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 largely 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 and delegated the functions of a CMA in terms of the NWA;
- may be partially funded from the National Revenue Fund;
- would be accountable to Parliament; and
- would not be authorized to carry out on a business activity providing goods and services in a market environment.

A comprehensive analysis of the corporate form of the CMA in terms of the legal issues, accountability relationships, governance arrangements, financial arrangements, human resources and powers of the is contained in Annexure C.

5 Functions of the Single Catchment Management Agency

5.1 Introduction

The functions that the CMA will perform fall into three categories and are informed by the National Water Act, as described below:

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

In addition to these functions, there are a number of functions not specified in the Act, which are required for the CMA to achieve its objectives, such as human resource and financial 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 CMA.

5.2 Delegation of Functions

The CMA will operate with the full delegated powers and functions of a Catchment Management Agency. The DWS has expressed that these delegations are to happen on establishment. In addition to this, most of these delegated functions are to be decentralized to ensure agility in decision making and issue resolution. The key principles applied in the
determination of whether the functions should be centralized (performed at the level of the central executive CMA office) or decentralized (performed at the WMA level) are considered to be as follows:

- Performance of functions closest to the resource
- Minimisation of duplication where possible
- Availability of expertise
- Cost
- Responsiveness

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 approach is that DWS will only retain those functions that are strategic in nature and can only be performed at the level of the DWS Head Office. Thus, in determining whether a function should be delegated to the CMA and its WMA structures, the following issues should be considered:

- The spatial scale at which the function must be performed.
- 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.
- The principle that a WMI cannot regulate or audit itself.

The details of the operational delegations must form the basis of the choice in the organizational design option chosen. Based on these principles, this section briefly sets out the powers and functions which will be delegated to the CMA, the proposal around the level at which each of the functions should be performed in order to fulfil the specifications and spirit of the NWA and the rationale for delegation of the functions to the centralised CMA or WMA structures which will be localised extensions of the CMA. Annexure D contains the list of CMA delegations as well as the roles that will be fulfilled by the DWS National and Regional Offices with respect to the delegated functions.

5.3 Transfer of Functions

It is envisaged that all CMA functions will be transferred to the CMA immediately on establishment. Lesson learned from previous CMA establishment processes have highlighted the challenges related to the slow delegation of functions particularly around water use licensing and billing and revenue collection. These have resulted in huge backlogs in the licensing system, slow transformation and water allocation reform and financially constrained entities which struggle to perform even the very basic functions which has been evident in some of the existing proto-CMAs. The establishment process of the CMA will thus focus on applying a phased approach to developing capacity and the implementation of the delegated functions rather than on phasing the delegation of functions which will allow the CMA the discretion and flexibility to effectively address the most pertinent issues which affect the day to day functioning and sustainability of the entity, as well as the ability to manage the water resources in the best interest of all consumers. An outline of the generic phases is given below as a guideline to support effective development and establishment of the CMA.

It is recommended that a plan for the development and establishment of capacity be agreed to between the Board and DWS within 6 months of the establishment of the CMA so that both sides are clear on how the CMA will be enabled to perform its functions including the transfer of establishment funds, so that appropriate arrangements can be made by both sides to support the effective and efficient appointment of critical staff and launch of the CMA.
When established, the CMA is expected to carry out the initial \textit{(original) and inherent functions} (as specified in Section 80 of the NWA). Apart from these functions, all other functions will also be delegated from the outset however their implementation may be phased in, in line with the initial thinking around the phasing of the delegations themselves. As discussed above, the Minister may delegate 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 implementation of functions that should be used as a guideline in the development of the CMA.

\textbf{5.3.1 Phase 1: Developing Relationships and Legitimacy}

The first two years of the CMA's existence should be focused on developing administrative systems, developing Catchment Management Strategies for each of the WMAs, building relationships with stakeholders and building its profile in the WMAs.

During this period the CMA will be engaged in implementing its initial or original functions, such as development of the CMS' and engagement with stakeholders.

Within the first two years, the following additional functions may be carried out by the CMA through its local WMA offices:

- 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, the CMA should, during this phase, determine the 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, during this phase, verify account information generated by DWS before the distribution of bills, and manage customer queries and customer care.

\textbf{5.3.2 Phase 2: Building Capacity and Consolidate}

The second implementation phase will start after the CMS' have 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 are outlined below:

\textit{(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 each WMA. All reserve determinations that are inter-WMA or have strategic importance will be undertaken by DWS.

\textit{(ii) Water Resources Monitoring}

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.

(iii) Disaster Management

During this second phase, the CMA should be able to assess and manage droughts, floods and water quality disasters in the WMAs. The CMA should have developed a disaster management plan (DMP) as part of the CMS, which it should now implement.

(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.

(v) Operating of Waterworks

Under specific circumstances, the CMA may be required to either develop or operate waterworks. During this phase this function may be executed if necessary or deferred to the 3rd as required.

(vi) Issuing of general authorisations and limited authorisation functions

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

(vii) Institutional Oversight

The CMA will, from establishment, be responsible for institutional oversight within the WMAs, 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 establish Water User Associations (WUAs) that do not manage government waterworks and do not have government guaranteed loans.

5.3.3 Phase 3: Fully Functional Authority

During the third phase the following functions should be carried out by the CMA:

(i) Water Use Authorisation and Licensing

During the final phase, the CMA should be able to authorise water use and issue licenses.

(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 should be in a position to undertake compulsory licensing.

(iii) Issuing of Directives

Refer to Annexure A for additional information
As the responsible authority, the CMA should 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; and
- controlling, limiting and prohibiting water use.

### 5.4 Considerations for the Establishment Process

Both the Governing Board of the CMA and the Minister will have their own view of what functions should be prioritised by the CMA at what point in time, and the outline offered above should be seen as a guideline only, not a proscriptive list.

The rate and order of the execution of functions 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.
- The status of support functions such as finance and corporate services within the CMA.

### 5.5 Outsourcing or Development of a Technical Support Pool

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

It is envisaged that highly technical and operational delegated functions such as water quality testing could be outsourced with the regulatory and oversight oriented delegations carried out by internal skills and resources.

Implications for DWS Structure and Functions

Once the CMA has been established as responsible the responsible authority, the functions to be performed by DWS will be significantly reduced, with implications for the structure and budget of DWS as well. 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 the CMA 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 the CMA, 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 the CMA implements 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.
• Negotiating and overseeing agreements in trans-boundary basins.

6 Organisational Arrangements

The organisational design of the CMA should be based on its strategy and core objectives. As outlined previously, the primary mandate of the CMA is to serve as a mechanism to decentralise and involve local communities in the management of water resource.

The vision for an integrated approach to water resource management was clearly laid out in the 1997 Water Policy and the 1998 National Water Act. South Africa became the world leader with its forward thinking and best practice legal framework. Nearly 2 decades on, implementation of the vision has proved to be very challenging. The legal framework however remains best practice, and still provides the structure on which to build good water stewardship.

The water resources management landscape has evolved with the advent of the Sustainable Development Goals which in essence call for more responsible, adaptive and sustainable use and management of natural resources. The implications of this for the CMA, and the contribution it can make to the achievement of the SDG’s is as follows:

• Improved water quality through effluent treatment
• Improved water efficiency through application of 5R principles: reduce, reuse, recover, recycle, replenish
• Equal, affordable, and safe access to water, sanitation, and hygiene for employees and communities
• Protection of water-related ecosystems and biodiversity

A summary of the key guiding principles for the CMA is contained in Figure 2 below.
Given the clear mandate and the functions to be delegated to the CMA, coupled with the broader objective of sustainable development, the following section outlines the options for the functional structure of the organisation as well as the analysis of each option in order to arrive at a feasible and fit for purpose vehicle for the efficient and effective implementation of water resources management.

6.1 Proposed Functional Structure of the Single Catchment Management Agency

The key functions of the Single Catchment Management Agency can effectively be grouped into the following four core functional areas:

- Water Use Management
- Water Quality Management
- Stakeholder management
- Corporate Services
- Chief Executive and Administrative Services

One of the key issues related to the functional structure of the CMA, which will be critical to its overall capacity to operate, is the division of the geographic area into functional units and sub-units. The NWA is very clear on the implementation of water resources management in Water Management Areas as defined in the NWRS. A core component of this structure will therefore be the WMAs which will largely be responsible for the day to operational and implementation oriented functions of the CMA.

6.1.1 Overview of the Executive Structure of the Single Catchment Management Agency

The establishment of a Single Catchment Management Agency (CMA) would mean the appointment of 1 Governing Board, 1 CEO, 1 Chief Financial Officer (CFO), 1 Chief Information Officer and 1 Chief of Corporate Services (CS). As per the PFMA, an Audit and Risk Committee must support the Board. Other Board Committees are recommended specifically, an HR Committee and Technical Committees. In this way, it is anticipated that
this structure would contain inherent cost efficiencies which are not contained in a multiple CMA model that would require multiple executive structures which constitute the most costly layer of any organisation aside from specialized resources.

Each water management area would have its own area based manager. The proposed structure for the governance and senior management of the CMA is shown in Figure 3.

![Figure 3: Single Catchment Management Agency Central Office structure](image)

This top structure will form the basis of each of the operational models discussed.

At the level of the WMA, each of the WMA areas would have staff fulfilling the core competencies of the CMA. The summary of the departments or units that would be incorporated into the WMA structure, in line with the operational functions delegated to the WMAs, would include water use catchment regulation, water information management, stakeholder engagement, catchment management strategy and planning, support services, finance and a small administrative component.

### 6.1.2 Overview of the Water Management Area Structures of the Single Catchment Management Agency

A number of organisation structural designs were considered for the decentralised WMA units however the geographic design was found to be the most appropriate for the functioning of the CMA as a coherent unit with the decentralised structures as operational units. The geographical organisational structure is based on hydrological boundaries. Each geographic unit has its own reporting lines and autonomy to control all activities within its area. The units are still directed by the overall company policy at the central CMA office, and report directly to the CEO. Command flows vertically.

The basic organisational design structure is illustrated in Figure 4 below. This model emphasises each unit as an individual operational centre with a head of department for each unit within the WMA structure supported by the requisite technical resources to undertake the function. The size of the units will be determined by the size of the WMA and the priority category (importance) to which that function is allocated in the WMA in line with its CMS.
details of the staff requirements for each WMA are contained in the business case in Annexure A.

One of the key benefits of having one central executive office, as would be the case for the CMA, is that there would be consistency in WMA structure and operation which would make performance monitoring evaluation a far less complicated process where like structures can effectively be compared on similar criteria, KPI’s and performance areas. This would also assist substantially with cost control measures where benchmarks can be set and ratios determined to govern staffing requirements and allocation. Currently, while some similarities do exist in the structure of the proto-CMAs and existing fully fledged CMAs, to a large extent, each CMA and proto-CMA is configured differently in terms of structure and in some instances, the activities performed to carry out the delegated functions. The figure below illustrates a standardised structure for the WMAs which will ensure homogeny in structure while still accommodating the unique features and requirements of each WMA through resource allocation rather than difference in form given that the functions to be performed remain the same across the board.

This approach places more emphasis on the CMA as a regulatory, support and oversight vehicle and the WMA offices as the operational units and implementers of WRM. It is essential that formal mechanisms for the inclusion of stakeholders are set up and co-ordinated within the WMAs.

This should be done through:

- Various statutory and non-statutory committees that can resolve issues at a catchment level, or raise them at a higher level if necessary
- The existing systems of stakeholder engagement and support services in the local government sector to ensure the needs of previously disadvantaged groups are catered for
- Water use sector engagement and representation structures (agriculture, forestry, industry, conservation, mining, energy, and business)

In order to develop a structure that is fit for purpose and delivers services in the most efficient manner possible, the following criteria were applied in the evaluation of the options presented:
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- Water use sector engagement and representation structures (agriculture, forestry, industry, conservation, mining, energy, and business)

In order to develop a structure that is fit for purpose and delivers services in the most efficient manner possible, the following criteria were applied in the evaluation of the options presented:

- Decentralisation of water management - localised decision making
- Stakeholder involvement - extent of stakeholder involvement and participation
- Skills and capacity – number of human resources required to carry out functions
- Reporting and oversight - ability of the central office to effectively monitor performance and manage performance and reporting
- Administration and overheads – ease of organisational management and financial efficiency of the structure

6.2 Operational area and activities of the Single Catchment Management Agency

6.2.1 Office of the Chief Executive / Board

The Office of the Chief Executive will be responsible for the following activities:
• **Chief Executive Officer** will be responsible for providing strategic leadership and ensuring that the organisation’s long-term goals are achieved.
• **Company Secretary** will be a person with a legal background, to serve as both company secretary and legal advisor to the organisation and Board.
• **Board Secretary** will be an administrative person, responsible for the administration in the Office of the Chief Executive, and provide secretarial and legal support to the Board.
• **Internal Audit** will be responsible for organisational oversight.

### 6.2.2 Water Use Catchment Regulation

#### 6.2.2.1 Water Use Authorisation

The Water Use Management unit within the WMA will have administrative and stakeholder liaison officers as well as Water Use Inspectors.

**Administration Officers** will be responsible for the following:

- Management of incoming and outgoing correspondence
- Retrieval, issuing and tracing of files to officials
- Ensure a neat filing system
- Process accommodation and transport requests for officials
- Organise flights and vehicle hire for officials
- Inspect pool vehicles, issue trip authorities and monitor trips where official vehicles are utilized
- Process invoices
- Take minutes during meetings

#### 6.2.2.1.2 Compliance Monitoring and Enforcement

The Compliance Monitoring and Enforcement unit will have control officers based at the WMAs. Compliance monitoring and enforcement is a regulatory function that includes the process to issue directives in response to unlawful activities. As such, this unit will work closely with the DWS Head Office Compliance Monitoring and Enforcement unit as well as similar regulatory units in other governmental spheres, such as the Green Scorpions of environmental affairs.

The functions of each of the sub-units are as follows:

**Environmental Control Officers** will be responsible for the following:

- Ensure the implementation and administration of water allocation in the WMA
- Ensure the processing of water use authorisation applications in the WMA
- Ensure an integrated environmental planning framework to facilitate inter-governmental / sectoral liaison and co-ordination in the WMA
- Facilitate and support effective Environmental Compliance Monitoring and Enforcement (policy)
- Manage compliance monitoring and enforcement in the WMA
- Ensure implementation of integrated water pollution management within the WMA and the implementation of Air quality management within the WMA
- Ensure the promotion of environmental awareness in the WMA
- Ensure the implementation of integrated pollution and waste management within the WMA

**NOTE:** Control Environmental Officer post is a high level, advanced production, supervisory and managerial post and is created on departments’ establishments. • The post of Control Environmental Officer consists of 2 grades namely B and C.

**Enforcement and Compliance Officers** will be responsible to:

- Render support with the suspension and withdrawal of entitlements to water use in terms of Section 54 of the National Water Act
- Assist in providing legal guidance to the Department on compliance issues
• Assist in managing the investigation of transgressions and offences of water use under the National Water Act
• Ensure the co-operation and assistance of the law abiding members of the public and deterrence of prospective offenders

6.2.3 **Institution and Stakeholder Coordination**

6.2.3.1 **Stakeholder Management Officers**

**Stakeholder Liaison Officers** will focus on:

- Establishing and fostering credibility within the WMA
- Establishing, overseeing and providing support to water user associations, (except those that manage government waterworks or have government guaranteed loans)
- Ensuring coordination between water management institutions and relevant government departments and organs of state in the WMA, and
- Establishing and maintaining stakeholder consultation fora and mechanisms (Catchment Management Committees), with a particular focus on ensuring the participation of poor and marginalised communities.

6.2.4 **Water Information Management**

6.2.4.1.1 **Technical Officers**

**Technical Officers** are technical persons, capable of managing both small regional projects and using or updating GIS systems.

The Technical Officers will be responsible for the following actions:

- Water resource protection, which includes the typical oversight over pollution control and includes the registration of waste discharge and developing measures for effective resource protection and compliance. This also includes determining reserves and resource quality objectives, managing the river health programme, and protecting the state of water resources.
- The River Health Programme (RHP) primarily makes use of biological indicators to assess the condition or health of river systems. The rationale for using biological monitoring is that the integrity of biota inhabiting river ecosystems provides a direct, holistic and integrated measure of the integrity or health of the river as a whole. The goal of the RHP is to support the rational management of rivers by serving as a source of information regarding the ecological state of river ecosystems in South Africa.
- Activities such as the registration and licensing of water users, ensuring the license backlog is addressed, which will be achieved by engaging DWS and water users on the existing backlog. Key programmes will include driving validation and verification of water use and compulsory licensing initiatives. Lessons learnt from the establishment of other CMAs have highlighted the urgency of fast-tracking the registration and licensing process and improving license turnaround times.

6.2.4.2 **Information Systems**

**Information Systems** office will include data and information acquisition, management and sharing/dissemination is a key to fulfilling the role of the 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.

### 6.2.5 Catchment Strategy Programmes and Planning

The Catchment Strategy Programmes and Planning divisions within the WMAs will be responsible for the coordination and the development of catchment management strategies; water allocation planning; planning and coordination of augmentation and reconciliation; classification and reserve determination; and developing crisis interventions.

**Resource Planners** will be responsible for planning the development, allocation and utilisation of water resources to meet resource quality objectives for quantity (RQO), and to reconcile supply and demand, including the operation of water resources infrastructure. This sub-unit 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 and allocation
    - 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.

### 6.2.6 Corporate Services

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:

**Supply Chain/Asset Management** for purchasing goods and services

**Human resources:** 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
- Internal change management and transformation processes for the CMA
- Employee assistance programmes
- Managing employee occupational safety
- Awareness and capacity building programmes
- Coordinated training and skills development interventions
**IT Support** for internal IT support end user computing

- **Administration / Contract Management** will be responsible to manage and ensure effective office administration and general logistic / office support is in place, including effective records management.

**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.

**Revenue collection Debtors/ Creditors**: 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.

Early during the initial phases of establishment, the focus of this functional unit will be on managing initiating functions and training the recruited staff.

The corporate service functions will primarily be carried out by the central CMA office especially during the establishment phase. It is however envisaged that given the breath of the services provided under this function, each WMA office will have a small corporate service staff component that will carry out the HR and finance component to ensure the smooth day to day running of the WMA. The central office will be responsible for developing and setting the corporate policies, processes and systems for human resource and financial management as well as monitoring and ensuring that the due processes are followed by the WMAs in the execution of their functions and duties.

### 7 Organisational Requirements

#### 7.1 Staffing Requirements

The CMA will have matrix structure which is essentially a hybrid between a functional and geographic structure (see discussion in Chapter 6). Some functions will be carried out by the central CMA executive office and rest through the WMA offices.

It is estimated that there will be approximately 835 personnel in the CMA when it is fully functional. Ideally, 25% of the total staff compliment should be recruited on establishment to commence with some of the critical CMA tasks on establishment.

#### 7.2 Human Resource Considerations

##### 7.2.1 Recruitment of Staff

The DWS has taken the decision that no personnel transfers from DWS National or Regional offices will be transferred to staff the new entity however temporary secondments will be made to support the establishment of the new CMA and it transition phase. It is anticipated that the posts will be advertised and a full recruitment process will be followed with first preference given to staff in the existing proto-CMAs to apply for the new positions. Considerable thought must be given to the change management process within DWS Regional and Head offices. Presently, a significant component of WRM functions are being undertaken by the Regional Offices in some instances, with specific reference to the Western Cape Regional Office in which 75% of the budget allocation is directed toward WRM programmes. In addition, the DWS head office has an extensive and cost intensive WRM programme focussed on sampling and monitoring specific points in the national water systems, a function which according to the delegations, is being handed over to the CMA. A decision must be reached regarding what will happen to this staff once the CMA has been
established and whether the financial allocation associated with the national programme will be transferred to the CMA, considering that no budgets have been set aside for this in the current budget items of the existing CMAs and proto-CMAs.

The recruitment process will require substantive thinking and consideration of the following:

- The minimum criteria and job-related testing required for the interview process
- The effective start date for each position and the phasing of the recruitment according to functional priorities in each WMA
- The conditions of employment including remuneration, leave and other benefits
- The job descriptions, job titles, reporting structures and job grading
- The handling of post-retirement medical aid funding, if appropriate

An allowance of at least 12 months should be made for the establishment of the entity and the recruitment of basic critical staff at all 9 existing WMAs. This time frame will be influenced by decisions related to what will happen to the existing fully established CMAs in terms of disestablishment or retention of the existing structures with the current staff compliment.

7.2.2 Grading and Remuneration

7.2.2.1 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. 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.

7.2.2.1.1 Job Grading, Staff Remuneration and Benefits and HR Policy

The conditions of employment, job grading system, staff remuneration and other benefits will be defined in the CMA Human Resources Policy Manual.

The DWS has determined that the human resource policies of CMAs including conditions of service must be aligned to Department of Public Service Administration (DPSA) guidelines.

- Human resource regime: The CMA will develop its own HR regime within guidelines developed by DWS 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 DWS guidelines and aligned to the framework prescribed by DPSA.
- **Pension and medical aid**: The CMA will adopt the GEPF, GEMS and other schemes associated with the public service conditions of service.

The DWS will issue a directive to the CMA upon the establishment for the CMA to adopt and implement all Public Service Administration policies and standards.

Possible exceptions may apply for specialist resources which may be incentivised to work for the CMA through a separate management incentives and bonus schemes. Keeping largely in line with the DWS job grading and remuneration systems will however minimise internal conflict while still adequately attracting a decent level of requisite skills.

All grading systems rely heavily on proper job descriptions and job specifications for grading, which are ultimately linked to remuneration. Each and every job at the CMA must have a comprehensive job specification and job description.

**7.2.2.1.2 Performance Management**

A performance management system is a two way process of integrating the organisation and the individual and is an important consideration in effective organisations.

The CMA must have performance compacts, starting with the Board, Executive Management and all the way down to the functional staff. These performance compacts should ideally be signed within 3 months of commencing duties, and reviewed annually.

The performance compacts may take the form of a "balanced scorecard" or a conventional compact outlining the tasks and performance standards. The choice will remain with the Executive, once installed at the CMA.

**7.3 Organisational Systems**

The Single Catchment Management Agency will require various systems to manage and support the various operations. Some of the core systems typical of an organisation of this nature will include:

- A **financial system** for financial and management accounting, as well as debtors and creditors
- A **supply chain management system** to facilitate the procurement of goods and services
- A **human resources system** to manage employee benefits, payment of salaries and staff personnel information
- A **geographic information system** for capturing spatial data
- A **hydrological information system** to record water resources flow data
- **WARMS** for water use registration and licensing

It is our understanding that the SAP Enterprise Resources System will be standard across all DWS entities. It is recommended that the CMA install the following SAP modules:

- Accounting modules with only financial accounting (ledger, accounts payable and accounts receivable)
- Logistics module with materials management for supply chain activities
- Human resources modules with personnel management and payroll

The SAP Enterprise Resources System comes at a significant cost in terms of installed hardware required to run the software, the software and on-going software development and maintenance, and staff training to effectively use the system for operations and reporting purposes.
8 Financial Arrangements

The viability of the CMA is predominantly dependent on two key factors:

- Profit / Loss or Cash flow both for survival and growth
- Value creation for stakeholders (customers and funders)

This may be achieved through:

- Having effective and efficient systems, processes and “tools”
- Developing a brand identity / forging strong stakeholder relationships

The financial objectives of the CMA, which may change over time, have to support these critical viability factors. Financial resources should therefore be directed at:

- Ensuring the correct establishment of the CMA
- Ensuring that activities are validly required and supported by:
  - Operating income
  - Any financial grants that may be required to ensure value creation

8.1 Source of Finance

It has been accepted, in principle by DWS, that the establishment costs of the Single Catchment Management Agency will be funded from the parliamentary apportionment. Water use charges are to be ring-fenced for implementation of water resources management in the WMAs, 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 and for ongoing functions to address “the public good”.

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:
  - recreational concessions,
  - license application fees,
  - donor support and sponsorship,
  - contractual payments,
  - return on Investment, and
  - in-kind contributions.

8.1.1 Water Use Charges and the Pricing Strategy

The primary source of finance for operating activities in the CMA will come from water users. Water uses as defined in the NWA can be broadly grouped under three categories:
• Abstraction related uses
• Waste discharge related uses
• Non-consumptive uses

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

8.1.2 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 and/or “for the public good”. There has been an ongoing debate related to the nature and extent of the “public good” function of the national DWS office for which it must provide financial support. For the purposes of this business case, the assessment of what constitutes a public good was based on three main criteria which are:

1. Apportionability - the division of the service into consumptive units
2. Exclusivity – the ability to exclude other users from direct benefit of the service provided
3. Exhaustibility - the potential for the exhaustion of the consequential benefits in the absence of the service provided

In order for a function to be classified purely as a “public good” function, it would have to meet the 3 criteria in full in terms of being non-apportionable, non-exclusive and non-exhaustible. In view of the definitions provided, it was determined that, of the functions delegated to the CMA, while some may not be clearly apportionable or exclusive such as the determination of the reserve and RQO’s, neither of the functions would result in enduring benefit should the services or function be terminated. The result of this is that all the functions of the CMA will either be a particular service which should be funded fully through water use charges or a quasi-collective service that should be paid for by the water users and government. The

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9 Section 21 (a), (b) and (d) of the NWA (1998)
10 Section 21 (e), (f), (g) and (h) of the NWA (1998)
11 Section 21 (c), (e), (i), (j) and (k) of the NWA (1998)
component of the “public good” support or funding would result primarily from the acknowledgement that although to a large extent the direct beneficiaries of the services that use the resource for economic purposes would be the water users in each respective WMA, there is a small component of the resources that is utilised by users that do not pay for the services. This occurs by virtue of the right granted in the constitution and largely mainly applies to rural communities that make use of the resource for subsistence purposes.

There must however be a clear separation between “public good” support to be funded permanently from the national fiscus and the water allocation reform objectives and support aimed at equitable distribution of water, which does not denote free use of the resource but rather balanced allocation of the resource in order to provide fair opportunities for social and economic development. This would be the case for example in the support provided to resource poor farmers, part of which may be temporary exemption or rebates associated with payment for the WRM services. It is however envisaged that over time, this support would be progressively and systematically reduced until this layer of the socio economic strata is at a point where it can pay for economic use of the services in the same manner that all the other users are paying for the services provided by the state.

Further to this, the National Pricing Strategy for Water Use Charges sets out a few key principles related to funding the custodianship of water resources. These principles upon which the funding structure of the funding mechanisms for the CMA is based are:

1. The user pays principle - WRM is undertaken primarily for the benefit of water users within defined geographical and hydrological boundaries to ensure the enduring benefit and sustainability of the resource for social, economic and environmental advancement. It is therefore the responsibility of the water users that will derive direct benefit from the water resources managements services of the CMA in each WMA to pay for the services rendered
2. Water tariffs must vary according to the location and contextual requirements of the water resources in the varying locations
3. Water use charges should be activity based. Water tariffs should be based on the division of management activities by the registered volumetric water use. The implication is that the higher the registered volume of each user, the higher their cost associated with the provision of the service.
4. Water Management Areas with surplus water should base the water use charges on the allocable not registered yield
5. Public good/interest charges should be carried by the state

Given the diverse objectives that the CMA is meant to fulfil, coupled with the guiding principles outlined above, it is envisaged that it will be funded from a combination of water user charges with a small component to be funded from the national fiscus. Previous studies have indicated that the allowance for the public good function is a 15% subsidy on the WRM charge. The NWRS however shows estimated rural water use of 4% (separate to the irrigation component of ± 60%) and water transfers of 1% of the total national water demand to meet transboundary and international obligations. In view of these 2 components that do not carry direct benefit for water users that pay for the service, which add up to approximately 5% of the total demand, it is argued that the “public good” function should essentially be no more than a 5% subsidy on the WRM charge.

In order to ensure effective and equitable provision of services by the CMA without excessive reliance on, or influence by the large water users who would pay for the services, it is anticipated that the state would fund 4 sustenance components for the CMA. These allocations are summarised in Table 4 below.
Table 4: DWS funding support for the Single Catchment Management Agency

<table>
<thead>
<tr>
<th>Financial Support Type</th>
<th>Description</th>
<th>2017/18</th>
<th>2018/19</th>
<th>2019/20</th>
<th>2020/21</th>
<th>2021/22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establishment</td>
<td>Support provided for establishment of the CMA over a 2 year period before the entity takes over billing and collection of water use charges</td>
<td>0</td>
<td>26,358,893</td>
<td>168,138,399</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Under Recovery</td>
<td>Support provided for the under-recovery of water use charges. Fund estimate is based on full cost recovery being achieved within 8 years of CMA establishment</td>
<td>20,878,490</td>
<td>22,339,985</td>
<td>23,903,783</td>
<td>25,577,048</td>
<td>27,367,442</td>
</tr>
<tr>
<td>Charge Capping</td>
<td>Support provided for the maintenance of the charge cap on agriculture and forestry charges</td>
<td>60,000,000</td>
<td>64,800,000</td>
<td>69,984,000</td>
<td>75,582,720</td>
<td>81,629,338</td>
</tr>
<tr>
<td>Public Interest</td>
<td>Support provided to cover the public good/interest functions carried by the national custodian with respect to the delegated functions of the CMA</td>
<td>38,949,945</td>
<td>41,798,662</td>
<td>44,166,493</td>
<td>44,412,260</td>
<td>47,325,272</td>
</tr>
</tbody>
</table>
8.2 Flow of Capital

Funds will “flow” into the CMA from water use charges, and from DWS establishment and operational support grants, in the first instance. There may be other sources of finance 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 with national collection rates remaining in the 60% range. WRM charges represent a stable source of income and cash flow for the CMA and as an institution that is closer to water users, it is likely to have a more direct relationship with stakeholders than DWS. It will be more directly dependent on revenue from water use charges than DWS and it is therefore expected that the CMA should be able to quickly improve upon these levels of collection.

As the establishment of the CMA is an institutional shift from the existing status quo of proto-CMAs operating within Regional Offices, the establishment grant from DWS will cover the first two year’s operating expenditure of the CMA (as the CMA will not be in a position to collect charges yet) and the “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 3-5 year budgetary cycle needs to be put in place for ongoing 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. Significantly, lump-sum transfers will 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 CMA will be based on contracts or Service Level Agreements (SLA) between it and the service providers.

8.3 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 viability. It is anticipated that the billing and collection of WRM charges for the CMA will initially be undertaken by DWS Head Office, but once the CMA has been established and is demonstrating sound governance and revenue management, a handover process would begin resulting in the development of a separate billing and financial management system by the CMA. This process is discussed below in more detail:

- While DWS is still performing CMA functions in the WMAs that will be delegated to the CMA, the DWS Regional Offices will most likely continue to 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 institution.
• Following establishment of the CMA, the CMA will be focused on stakeholder buy-in and becoming a credible, customer-oriented organization within its sub-areas of operation as well as developing and implementing the Catchment Management Strategies across the WMAs. Noting the institutional shift, the CMA will seek to cement its credibility and legitimacy around its role in the WMAs and must be able to respond to queries on water use authorisation and associated billing soon after establishment. 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 support12 from DWS. Operational support from DWS may also be required.

• During the establishment of the CMA, key staff would’ve been recruited, 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 will, at this point be transferred entirely to the CMA.
  - Account payments would be made 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 will 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.

• Once 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 which consolidates inputs from the nine WMAs with nine individual chapters will serve 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.

12 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.
8.4 Financial Analysis

The financial analysis is based on a number of assumptions, which are as follows:

- The analysis period extends over 5 years
- Cost escalation of 8% per annum has been applied
- Offices are leased and not purchased
- Vehicles are mainly covered by travel allowances (owned by staff) with only a few "pool vehicles"

8.4.1 CMA Establishment / Investment Costs

**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.
- Personnel costs for appointment of 25% of the total staff base to commence training in preparation for taking over the delegated WRM functions

*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 throughout all nine WMAs; and
- Developing catchment management strategies for all the WMAs (an initial/original function of the CMA),
The initial establishment cost of approximately R137 million over a 2 year period will be funded by DWS, and will be separate from the WRM charges paid across to the CMA. These establishment costs will cover the following components:

- Full operational costs for the establishment of the CMA Central Executive Office in the 2018/2019 financial year
- Partial operating costs for the WMA offices broken down as follows
  - Recruitment 100%
  - Administration 25%
  - Buildings and facilities maintenance 100%
  - Communications 25%
  - Furniture and Equipment 100%
  - Governance costs 100%
  - Information Technology Systems and Licenses 100%
  - Personnel Costs 25%
  - Stationary and Printing 25%
  - Training 25%
  - Travel and subsistence 25%
  - Vehicles 25%

The purchase and implementation of the SAP Enterprise Management system has not been included in the above estimate. The cost of this system will be borne by DWS separately and will depend largely on the choice of implementation of the various modules within the SAP system.

### 8.4.2 Single Catchment Management Agency Operating Costs

The major operating costs for the Single Catchment Management Agency will include:

- Manpower
- Office rental and the payment of utility costs
- Communications
- Management and operation of vehicles
- Travel for staff
- Staff development and training
- Water quality testing
- Service Providers
- Governance costs

The estimated operating costs of the CMA are shown in **Table 5**.
### Table 5: Single Catchment Management Agency Operating Costs

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>CMA Central Executive Office</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managerial Personnel</td>
<td>8,694,000</td>
<td>9,389,520</td>
<td>10,140,682</td>
<td>10,951,936</td>
<td>11,828,091</td>
</tr>
<tr>
<td>Administrative and operating personnel</td>
<td>9,126,000</td>
<td>9,856,080</td>
<td>10,644,566</td>
<td>11,496,132</td>
<td>12,415,822</td>
</tr>
<tr>
<td>Communication</td>
<td>212,486</td>
<td>229,484</td>
<td>247,843</td>
<td>267,671</td>
<td>289,084</td>
</tr>
<tr>
<td>Office Space</td>
<td>1,455,667</td>
<td>1,572,121</td>
<td>1,697,890</td>
<td>1,833,721</td>
<td>1,980,419</td>
</tr>
<tr>
<td>Information technology systems and license</td>
<td>531,214</td>
<td>573,711</td>
<td>619,608</td>
<td>669,177</td>
<td>722,711</td>
</tr>
<tr>
<td>Stationary and printing</td>
<td>212,486</td>
<td>229,484</td>
<td>247,843</td>
<td>267,671</td>
<td>289,084</td>
</tr>
<tr>
<td>Training</td>
<td>136,890</td>
<td>147,841</td>
<td>159,668</td>
<td>172,442</td>
<td>186,237</td>
</tr>
<tr>
<td>Travel and subsistence</td>
<td>1,699,885</td>
<td>1,835,875</td>
<td>1,982,745</td>
<td>2,141,365</td>
<td>2,312,674</td>
</tr>
<tr>
<td>Governance and annual reports</td>
<td>1,836,000</td>
<td>1,982,880</td>
<td>2,141,510</td>
<td>2,312,831</td>
<td>2,497,858</td>
</tr>
<tr>
<td><strong>Total Central Office Operating Costs</strong></td>
<td><strong>23,904,627</strong></td>
<td><strong>25,816,997</strong></td>
<td><strong>27,882,357</strong></td>
<td><strong>30,112,945</strong></td>
<td><strong>32,521,981</strong></td>
</tr>
<tr>
<td><strong>Water Management Area Operating Costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td>65,165,423</td>
<td>69,58,812</td>
<td>74,086,764</td>
<td>75,390,630</td>
<td>60,079,907</td>
</tr>
<tr>
<td>Buildings and facilities maintenance</td>
<td>28,861,968</td>
<td>31,062,812</td>
<td>33,375,948</td>
<td>35,388,664</td>
<td>43,671,118</td>
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<tr>
<td>Compliance and scientific services</td>
<td>223,557,706</td>
<td>236,760,600</td>
<td>248,255,883</td>
<td>211,989,082</td>
<td>199,134,458</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>---------------</td>
<td>---------------</td>
<td>---------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Communication</td>
<td>7,488,856</td>
<td>7,944,710</td>
<td>8,352,508</td>
<td>7,636,549</td>
<td>5,882,813</td>
</tr>
<tr>
<td>Dam safety</td>
<td>11,721,745</td>
<td>12,659,485</td>
<td>13,672,243</td>
<td>14,766,023</td>
<td>15,947,305</td>
</tr>
<tr>
<td>Furniture and equipment</td>
<td>11,853,119</td>
<td>12,698,789</td>
<td>13,551,640</td>
<td>12,965,370</td>
<td>12,257,838</td>
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<tr>
<td>Governance costs</td>
<td>600,000</td>
<td>648,000</td>
<td>699,840</td>
<td>755,827</td>
<td>816,293</td>
</tr>
<tr>
<td>Information technology systems and licenses</td>
<td>5,357,767</td>
<td>5,663,348</td>
<td>5,920,819</td>
<td>4,819,194</td>
<td>2,397,696</td>
</tr>
<tr>
<td>Personnel costs</td>
<td>248,022,443</td>
<td>270,008,546</td>
<td>283,890,377</td>
<td>315,222,512</td>
<td>400,452,984</td>
</tr>
<tr>
<td>Pollution control</td>
<td>1,630,770</td>
<td>1,761,231</td>
<td>1,902,130</td>
<td>2,054,300</td>
<td>2,218,644</td>
</tr>
<tr>
<td>Research</td>
<td>27,710,696</td>
<td>29,927,551</td>
<td>32,231,756</td>
<td>34,907,496</td>
<td>37,700,096</td>
</tr>
<tr>
<td>Stationary and printing</td>
<td>6,125,282</td>
<td>6,521,636</td>
<td>6,894,414</td>
<td>6,775,637</td>
<td>5,573,592</td>
</tr>
<tr>
<td>Training</td>
<td>5,803,684</td>
<td>6,169,069</td>
<td>6,505,293</td>
<td>6,473,839</td>
<td>5,132,306</td>
</tr>
<tr>
<td>Travel and subsistence</td>
<td>37,690,558</td>
<td>39,800,642</td>
<td>41,545,334</td>
<td>37,825,861</td>
<td>25,088,445</td>
</tr>
<tr>
<td>Vehicles</td>
<td>14,801,441</td>
<td>15,774,228</td>
<td>16,700,057</td>
<td>16,665,200</td>
<td>19,283,245</td>
</tr>
<tr>
<td>Water allocation and licensing</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2,582,409</td>
<td>2,789,002</td>
</tr>
<tr>
<td><strong>Total WMA Operating Costs</strong></td>
<td><strong>755,094,280</strong></td>
<td><strong>810,156,238</strong></td>
<td><strong>855,447,497</strong></td>
<td><strong>858,132,257</strong></td>
<td><strong>913,983,467</strong></td>
</tr>
</tbody>
</table>
The manpower costs are based on an establishment of 130 staff, whereas the proposed structure is based on 171 staff, plus the additional staff for support functions. It is uncertain whether all positions will be filled once the CMA is established. This will be assessed once the Catchment Management Strategy has been developed. In the interim, the costs of 130 staff is based on the current budget.

The above costs do not include for the implementation, management and training associated with the SAP system.

8.4.3 Volumetric Data and Water Use Charges

Both the yield and registered volumes determine the WRM charge for the Water Management Areas and the CMA as whole. In order to ensure the viability of the CMA in the short and long term, it will be critical for the CMA to focus on verifying on the registered volumes and correcting the deficit between the yield and registered volumes during the first few years of establishment.

For the purpose of revenue projections for this Business Case, the following assumptions are made:

- Yield volumes will be used in the calculations and not registered volumes, and users will be charged on yield volumes, which in time should match the registered volumes.
- The yield volumes will not change significantly with time (this is conservative, and any positive increase will assist the CMA).
- The non-billable volumes are split proportionately between domestic, agriculture and forestry.

The yield volumes, sector tariff projections, revenue generated per sector as well as the total revenue adjusted for billing and collection inefficiencies is shown in Table 6, Table 7 and Table 8 below.

### Table 6: Registered volumes per water use category

<table>
<thead>
<tr>
<th>Year</th>
<th>Domestic / Industrial</th>
<th>Agriculture</th>
<th>Forestry</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(m³/annum)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017/18</td>
<td>7,332,480,490</td>
<td>14,177,346,172</td>
<td>1,129,842,152</td>
<td>22,639,668,814</td>
</tr>
<tr>
<td>2018/19</td>
<td>7,332,480,490</td>
<td>14,177,346,172</td>
<td>1,129,842,152</td>
<td>22,639,668,814</td>
</tr>
<tr>
<td>2019/20</td>
<td>7,332,480,490</td>
<td>14,177,346,172</td>
<td>1,129,842,152</td>
<td>22,639,668,814</td>
</tr>
<tr>
<td>2020/21</td>
<td>7,332,480,490</td>
<td>14,177,346,172</td>
<td>1,129,842,152</td>
<td>22,639,668,814</td>
</tr>
<tr>
<td>2021/22</td>
<td>7,332,480,490</td>
<td>14,177,346,172</td>
<td>1,129,842,152</td>
<td>22,639,668,814</td>
</tr>
</tbody>
</table>

### Table 7: Average CMA tariffs across 9 Water Management Areas

<table>
<thead>
<tr>
<th></th>
<th>Domestic/Industrial</th>
<th>Irrigation</th>
<th>Forestry</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMA Average Tariffs (c/m³)</td>
<td>3.26</td>
<td>3.49</td>
<td>3.74</td>
</tr>
<tr>
<td></td>
<td>1.90</td>
<td>2.03</td>
<td>2.17</td>
</tr>
<tr>
<td></td>
<td>1.27</td>
<td>1.35</td>
<td>1.45</td>
</tr>
</tbody>
</table>
Table 8: Annual Revenue for the Single Catchment Management Agency

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CMA Revenue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic/Industrial</td>
<td>211,270,312</td>
<td>226,059,233</td>
<td>241,883,379.68</td>
<td>258,815,216</td>
<td>276,932,281</td>
</tr>
<tr>
<td>Irrigation</td>
<td>222,491,086</td>
<td>238,065,462</td>
<td>254,730,044</td>
<td>272,561,147</td>
<td>291,640,427</td>
</tr>
<tr>
<td>Forestry</td>
<td>13,014,347</td>
<td>13,925,351</td>
<td>14,900,126</td>
<td>15,943,135</td>
<td>17,059,154</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>446,775,744</strong></td>
<td><strong>478,050,046</strong></td>
<td><strong>511,513,549</strong></td>
<td><strong>547,319,498</strong></td>
<td><strong>585,631,863</strong></td>
</tr>
<tr>
<td>Total (Revenue corrected for billing and recovery inefficiencies)</td>
<td><strong>424,436,957</strong></td>
<td><strong>454,147,544</strong></td>
<td><strong>485,937,872</strong></td>
<td><strong>519,953,523</strong></td>
<td><strong>556,350,270</strong></td>
</tr>
</tbody>
</table>
9 Institutional, Governance and Co-operative Governance Arrangements

9.1 Corporate Governance Principles

Although targeted at private sector institutions, the King II, III and IV reports on corporate governance are increasingly recognised as important guides to the good governance of public entities. The King II report\(^{13}\) 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\(^{14}\). 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 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.

9.2 Single Catchment Management Agency Governing Board

9.2.1 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. For this reason, a skills based Board is considered the most effective model to ensure good governance and execution of the fiduciary duty of the entity while providing strategic guidance on matters of stakeholder and water resources management.

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 should be tailored to meet conditions in the 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;
- 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.

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\(^{13}\) King Report on Corporate Governance for South Africa. Institute of Directors in Southern Africa 2002
\(^{14}\) King op cit p9
9.3 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 criteria used by the Evaluation Committee for the composition of the Governing Board include competence; professional skills (skills related to or experience in the water sector as a priority); geographical location; local knowledge; community representation, gender and race representivity.

Based on the lessons learnt during the process to establish other CMAs, three issues need to be addressed in the appointment of the Board for the CMA. The first of these is the appropriate size of the Board. The DWS guideline is that the Board should consist of between 7 and 9 members. The second issue is that, in the past, the CMA boards have been strong on stakeholder representation but weak on some of the critical skills required for exercising proper fiduciary responsibility. The third issue is representation of interested institutions in the board, which often tends to dilute the independence of the board and decisions taken therein. These are critical matters to address to ensure the board of the CMA accommodates the views of stakeholders, while at the same time consisting of the prerequisite capacity and skills required to carry out its fiduciary responsibilities.

It is therefore recommended that the Selection Panel, 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 skills based Board; and
- The need to appoint a maximum number of independent board members with no material interest in the CMA other than their directorship to help run the institution honestly and efficiently. The appointment of such board members should purely be based on technical (financial, legal, water sector and human resource) qualifications and experience required to run public institutions.
- The need to have specific legal, financial, human resources and water resource management skills represented on the Board. The idea to include independent board members, if considered, provides an opportunity to identify and appoint individuals with expertise in the areas indicated above. While the “object of achieving a balance among the interests of water users, potential water users, local and provincial government and environmental interest groups” is critical, it is also recommended that representatives of these sectors must have minimum competency to understand the legal and financial implications of decisions taken by the board.
- The need to create an entity that has a stronger sense of good governance and independent decision-making. The process to establish boards should focus on a model that puts emphasis on capacity and independence in decision-making. The idea of independence applies not just in the context of the role of government; rather it also applies to the impact stakeholder representatives’ have on decision making.

9.4 Governance Committee Structures

As a new institution, the CMA will have a number of institutional development tasks that may require professional support to the board, and lessons learnt from the existing CMA processes 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 good corporate 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:

9.4.1 Finance and Audit Committee

Sometimes these are separate committees, however since the CMA will be a new institution, it is recommended that these committee 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 committee 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 is 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 the CMA is on sound financial footing. This will be done by ensuring that financial challenges are identified, measured and rectified, and secondly by helping in developing financial strategies that will ensure the CMA’s financial viability.

9.4.2 HR and Remuneration Committee

The Human Resources Committee will provide support on organisational structure issues, conditions of employment and employment equity. 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, remuneration, and more importantly on issues relating to change management associated with the establishment of the new institution.

9.4.3 Technical Committee

The Technical Committee will be tasked with supporting the CMA Board to address technical issues relating to water resource management. This committee will be established to assist and support the WMA Managers to consult with and involve the stakeholders on strategic and water resources related issues.

9.5 Appointment of CEO

The Board of the CMA will draft the job description, determine the salary level in consultation with Minister and Minister of DPSA and recommend three suitable candidates to the Minister (DWS) for appointment. The appointment of the CEO rests with Minister and must be ratified by cabinet. The Board also determines performance criteria and contract, and assesses performance of the CEO. However, if necessary, the Minister is empowered to remove the CEO after consultation with the Board.

9.6 Catchment Management Committees

In order to address the immense challenges related to the size of the area serviced by the CMA, together with the plethora of rivers and catchments, it is proposed to establish “Catchment Management Committees” to support the CMA at the WMA level. These are not statutory structures but are designed as a stakeholder participation and cooperative governance mechanism. Conceptually they are somewhat similar to catchment management fora however the intention is that they will be larger; addressing whole river catchments. As such they could contain a number of catchment management fora though it is also possible in some cases that existing catchment management fora could expand to cover a whole catchment. This will facilitate local participation and specialised knowledge of the catchments.
It is proposed that these develop in an organic manner facilitated by the WMA offices, eventually leading to full coverage over a period of perhaps 5 years.

The CMCs will allow stakeholders to gather together to discuss and debate issues that affect the whole catchment. This will provide very valuable insights and guidance to the CMA as to priority areas and stakeholder views. It will also facilitate the mobilisation of activities of a range of individuals and organisations that have a direct stake in the health of the rivers and the specific catchments. This will also allow for the development of coherent long-term goals for catchments that can be addressed by the CMA, together with the CMC.

In the first instance it is foreseen that CMCs will be voluntary and thus the CMA should allow for providing the secretariat function and logistical support for them. A small stipend for civil society and community attendance (and possibly private sector members) is something that should possibly be considered in due course.

An overview of the CMA governance framework is shown in Table 8 below.
Figure 5: Single Catchment Management Agency Governance Framework
10 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.
- Adherence to 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.

10.1 Single Catchment Management Agency Business Planning

In terms of the NWA, item 21 Schedule 4, the CMA Governing Board must prepare its first business plan for not less than three years within a period of 6 months of its establishment. In doing so, the CMA will be able to secure the necessary funding to perform its initial/original functions at minimum.

Schedule 4 section 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.

In accordance with the NWA, each WMA will prepare individual business plans which will be submitted to the CEO and Board for final approval.

10.2 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.
11 Options for Establishment Process

Various options were considered for the rollout of the single Catchment Management Agency which took into consideration the current existence of 2 fully operational CMAs i.e the Breede-Gouritz and Inkomati-Usuthu CMAs as well as 7 proto-CMAs supported by the DWS Regional Office structures, 4 of which have been gazette as CMAs. In this regard, the establishment options considered were:

**Option 1**: The establishment of a new public entity - the CMA.

This option would require the disestablishment of the existing two CMAs in order to establish one CMA that covers the entire country.

**Option 2**: Establish a new public entity for 7 WMAs

This option would require the retention of the existing two CMAs, and the establishment of one new public entity (CMA) which will then cover only the remaining 7 WMAs.

**Option 3**: Utilise an existing CMA as a base for the new public entity

This option would require the renaming of the base CMA and its reconfiguration as a new entity with an expanded area of authority which will cover the 9 water management areas.

With respect to the CMA rollout process, the following decisions were taken:

1. Utilise the Inkomati-Usuthu as a base CMA (Option 3)
2. To disestablish the Breede-Gouritz CMA and the 4 existing non-functional CMAs (in the form of the 4 proto CMAs operating out of the Regional Offices)
3. To change the name and boundary of the Inkomati-Usuthu CMA to incorporate all 9 WMAs

These decisions were made on the basis that the above outlined route is the faster and more efficient mechanism to establish the CMA for the following reasons:

1. There is an experienced CEO in place with a knowledgeable Governing Board that can lend its expertise during the transitional period until a new board and CEO is appointed.

2. The IUCMA is a mature organisation, which having utilized the Inkomati CMA as a base, has operated successfully for over a decade.

3. There are existing financial, IT and HR systems in place.

4. The process of appointing staff and expanding systems should be possible over a shorter time frame given the experience and institutional knowledge, memory and lessons accumulated in the existing structure.

This option will require:

- The Minister to, on approval of the business case by the National Treasury, publish a notice in the gazette setting the proposed establishment of the Catchment Management Agency, the proposed name and the proposed area of operation and invite written comments to be submitted on the proposal for 60 working days. Given the scope and boundaries of this single CMA, the name of the CMA in keeping with the existing naming conventions could be the **National Water Resources Management Agency**
- The Minister to inform the two existing CMAs in writing about the process to establish a single CMA and the transitional process.
• Clear and inclusive engagement on the disestablishment of the existing CMA and non-functional CMAs and the implications of this process on the employees and stakeholders linked to these institutions.

This option also means the retention of the current IUCMA current CEO and Board as Interim CEO and Board, which will be utilised to oversee the transition process. Minister may appoint additional members selected by the Minister in order to represent or reflect the interests identified by the advisory committee; achieve sufficient gender representation; achieve sufficient demographic representation; achieve representation of the Department; achieve representation of disadvantaged persons or communities which have been prejudiced by past racial and gender discrimination in relation to access to water; and obtain the expertise necessary for the efficient exercise of the board's, powers and performance of its duties. A new Board and CEO will be appointed at a later stage once the transition has occurred. It is also possible to set up an Advisory Committee to advise the existing Board about the requisite change management process.

It must however be noted that the functional structure of the CMA will have to be realigned to the standard functional structure that was originally envisaged for the CMAs. The IUCMA is significantly different in this regard, and this has resulted in notably increased staff costs compared to the BGCMA and other Proto-CMA structures. This will have to be addressed through the HR task team within the establishment Implementing Project Structure.
The SWOT analysis for this option is shown in Figure 8 below.

**Figure 6: SWOT analysis for the expansion of 1 functional CMA into the CMA**

This option is not without its complexities and will have to be carefully negotiated and transparently managed with the existing CMAs and Proto-CMAs to ensure a smooth transition process. It will be important to consider and communicate:

1. While an old organisation is being used as a base, a new entity with a new culture and a new way of doing things is being created
2. New does not need to equate unstable and the new entity is an opportunity to change the future of water resources management for the better
3. The expertise and knowledge of each staff member are valuable and have a place in the new entity

**11.1 The need for and interim operating model**

It is anticipated that all CMA functions will be delegated to the single CMA on establishment, but these functions will need to be re-delegated by the Agency to existing structures in the interim while systems are integrated and consolidated and HR matters are resolved. The interim solution will be to retain the existing proto CMAs with support from the DWS Regional Offices in order for the initial/original functions to be continued while the CMA is being established. A Service Level Agreement between the Regional Offices and the CMA will need to be in place which will define governance, monitoring and reporting mechanisms between the 2 institutions. While this option appears the most practical in the short term, it should be noted that some institutional conflict may arise from this arrangement. The Regional Offices are essentially an extension of the DWS National Department, with a clear mandate to regulate and maintain oversight on all water management institutions. It may therefore not be
entirely appropriate for the Regional Offices to report to the CMA as an implementing agent considering the reversal of roles in this instance. The governance framework around this solution will therefore require considerable thought in order to ensure a smooth and legally palatable solution.

12 Change Management

Change management is a structured approach to moving individuals or an organisation from a current state to some desired future state. Very importantly, it is a process that aims to help staff to understand, accept and engage with changes in the organisational environment.

In the establishment of the CMA, the change management issues pertain particularly to the internal aspects of the organisation, but also relate to managing perceptions and expectations of stakeholders in the WMA.

12.1 Change Management

In terms of internal change management, the key challenges that will need to be addressed include building an identity and a culture of service delivery for the new institution. In this regard the challenge to the Board and executive management of the CMA will be to:

- Facilitate and ensure the building of a common identity and culture amongst staff, and to create a sense of common purpose and commitment to the vision and mission of the new institution;
- Ensure equal commitment and attention to the different Water Management Areas and their sub-catchments, not only within business plans and budgets, but also through a seamless implementation process;
- Manage staff concerns and fears regarding change and possible resistance to change.

To achieve this, the 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 institution, and how best to address these;
- Effective communication with staff on the need for the new entity, the nature of the entity, 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. This is critical given that most of the new employees of the new entity will be previous DWS staff who have been part of a different system and way of working. 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 new entity, and have a chance to influence how the entity will be implemented. 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 the new entity in a positive light;
- Identification and countering of resistance from staff and the alignment of the staff with mandate of the organization;
- The provision of personal counselling (where required) to reduce and manage any fears;
- Monitoring of implementation and adjustment of the strategy as needed.
12.2 Communication, Branding and Stakeholder Engagement Strategy

It will be important to ensure that stakeholders in the Water Management Areas are fully informed about the proposed CMA and about its establishment, purpose and functions.

This needs to be an ongoing process and will require a good communication and branding strategy which reaches all stakeholders, particularly the marginalised and disadvantaged, to ensure inclusivity of the new institution. Amongst other things, the branding strategy should ensure that stakeholders understand the functions of the CMA, the purpose of the CMA, and key contact details of each of the WMA offices.

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

13 Single Catchment Management Agency Establishment Road Map

As part of the process to establish the Single CMA, it is envisaged that several structures will be instituted to oversee the developments and to ensure that the process is undertaken in a transparent, consultative and effective manner. The DWS governance arrangements will comprise of 3 structures which are:

1. National Technical Task Team Committee
2. WMA Steering Committees
3. CMA Establishment Project Office

Figure 7 illustrates the lines of reporting as well as how the different structures will fit together to coordinate the activities and be kept informed on the progress linked to the establishment process.

Figure 7: CMA Establishment Implementation and Governance and Oversight Structure

National Steering Committee (Technical Task Ream)
The National Steering Committee (NSC) will essentially be an internal DWS structure which will be drawn from senior managers within DWS and chaired by the acting DG and supported by the acting DDG Regulation. The steering committee will convene on a quarterly basis. The NSC will be an advisory committee with no decision making authority.

The key roles and responsibilities of the NSC will be as follows:

- Provide guidance on policy and legislative challenges impacting on the implementation of the CMA.
- Carry responsibility for the analysis of all project documentation which includes project reports and shall make recommendations to the Board for approval.
- Provide guidance for the development of the CMA Business Case in line with National Treasury rules and guidelines.
- Facilitate availability of human and financial resources within the Department to support the establishment process.
- Provide guidance on issues of staff secondments and facilitate liaison with Unions.
- Oversee the implementation and facilitate knowledge sharing within and amongst WMAs.

Water Management Area Committee

The Water Management Area Committee will primarily be made up of the current Chief Executives of the existing proto CMAs who will guide the operational aspects of the establishment process. This committee will be responsible for the following:

- Establishment of the 9 WMAs chaired by the Regional Head or Director Institutional Establishment at the Regional office.
- Convene stakeholder meetings.
- Coordinate, communicate and engage stakeholders at local level.
- Identify required resources to facilitate the process and advise the national office.
- Find mechanisms for communities to participate in the single CMA establishment process.

Implementation Project Structure

The Implementation Project Structure (IPS) will be set up to establish the CMA and will be overseen by the DDG Regulation, to ensure that the systems and processes required to operate the CMA are in place and that the infrastructure for the activities and transactions to be performed are installed and functional. The IPS will have a Professional Service Provider appointed as the Project Manager to coordinate all the functions of this structure and will work closely with the WMA Committee throughout the establishment process. The IPS will consist of individual task teams which will deal with the human resources, operational processes, Finance and system related components of the establishment process. The key responsibilities will be:

- To roll out the establishment of one CMA.
- Develop the project charter and work breakdown structure.
- Ensure that all tasks and activities are implemented by their respective streams in collaboration with the entire project functional committee.
- Complete reports for the steering committee.
- Overall operational management of the project.
- Consolidation of the stream reports.
- Presentation of operational reports to the National Steering Committee.
The implementation roadmap and timelines for the establishment of the Single CMA are summarised in Figure 8 below. It is expected that the establishment process will be completed within a period of 2 years with the Central Executive CMA office fully established within the first year of the process as depicted.
14 Risk

Managing risk at an organizational level is an important business driver and ultimately an act of survival. The focus of successful organizations is on the early identification of risk and thereafter taking active steps to minimize those risks and nullify the impact as far as possible.

Risk, if not managed properly, may pose numerous challenges and also create uncertainty in the organisation. A comprehensive risk management exercise covering all possible risks and their possible impact, helps an organisation to reduce its exposure to various risks and to increase the sustainability of the business in addition to building competitive advantage.

The CMA will have different types of risk at three distinct phases in its lifecycle:

- Risk during pre-establishment (conception)
- Risk during establishment (growing pains)
- Risk during operations (maturity)

The risks identified will be separated into these three lifecycle phases and are as shown in Table 9, Table 10 and Table 11 below.

14.1 Risks During Pre-Establishment

Table 9: Risks during pre-establishment

<table>
<thead>
<tr>
<th>Risk Description</th>
<th>Area Affecting</th>
<th>Impact</th>
<th>Probability</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial viability</td>
<td>Finance</td>
<td>High</td>
<td>High</td>
<td>Consider office / land purchase rather than leasing, reducing operating costs but increasing capital establishment costs. Look for active ways to increasing other sources of revenue, e.g., waste discharge tariffs etc.</td>
</tr>
<tr>
<td>Fears related to possible job losses for existing DWS staff</td>
<td>Human Resources</td>
<td>High</td>
<td>High</td>
<td>Consultation is key to managing this risk, and often consultation is poorly handled. The process should be mapped out at the start, and each month prior to establishment there needs to be constant feedback and reinforcement of the changes. All consultation processes must be documented. The first task will be to rebrand the image of the CMA and to develop a clear value proposition for the CMA highlighting its advantages for efficient and cost effective WRM in</td>
</tr>
</tbody>
</table>
### Risk Description

<table>
<thead>
<tr>
<th>Establishment delays</th>
<th>Area Affecting</th>
<th>Impact</th>
<th>Probability</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delays in establishment due to abrupt changes in DWS National Office leadership and availability of upfront establishment costs for the CMA.</td>
<td>Full organisation</td>
<td>Medium</td>
<td>Medium</td>
<td>Submit the Business Case for approval and gazetting soon after it has been finalized. Early engagement with the National Treasury will also be necessary to ensure the availability and release of establishment funds</td>
</tr>
</tbody>
</table>

#### 14.2 Risks During Establishment

*Table 10: Risks during establishment*

<table>
<thead>
<tr>
<th>Risk Description</th>
<th>Area Affecting</th>
<th>Impact</th>
<th>Probability</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stakeholder buy-in and building credibility as a new organisation</td>
<td>Full organisation</td>
<td>High</td>
<td>Low</td>
<td>Ensure that the public participation process is robust and thorough. Meet with other government departments and key stakeholder groups and establish relationships.</td>
</tr>
<tr>
<td>Delegated functions are delayed</td>
<td>Operations</td>
<td>High</td>
<td>Medium</td>
<td>Agree the programme for the delegation of functions up front.</td>
</tr>
<tr>
<td>Attracting and maintaining the right calibre of staff</td>
<td>Human Resources</td>
<td>High</td>
<td>Medium</td>
<td>Choosing the head office and regional office locations are key to ensuring that the right staff works at the CMA. Ensure that staff packages are competitive with the private sector. Put in place robust and independent selection and recruitment process.</td>
</tr>
<tr>
<td>Access to technology at regional offices may be expensive</td>
<td>Information Technology</td>
<td>High</td>
<td>High</td>
<td>Siting of the offices is critical. Ensure adequate training in the use of the selected systems is carried out.</td>
</tr>
</tbody>
</table>
### 14.3 Risks During Operations

**Table 11: Risks during operations**

<table>
<thead>
<tr>
<th>Risk Description</th>
<th>Area Affecting</th>
<th>Impact</th>
<th>Probability</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate change and natural disasters</td>
<td>Operations</td>
<td>High</td>
<td>Medium</td>
<td>Ensure that there are disaster management plans established, in place and agreed by stakeholders.</td>
</tr>
<tr>
<td>Declining water resource availability</td>
<td>Operations</td>
<td>High</td>
<td>Medium</td>
<td>Ensure that there are drought management plans established, in place and agreed by stakeholders. Effective WCDM strategies put in place.</td>
</tr>
<tr>
<td>Expenses growing faster than revenue</td>
<td>Finance</td>
<td>High</td>
<td>High</td>
<td>Ensure that there are good management accounting systems in place and that there is a management accountant employed by the CMA. Monthly forecasts need to be produced and approved.</td>
</tr>
<tr>
<td>Poor performance and track record</td>
<td>Human Resources</td>
<td>High</td>
<td>Medium</td>
<td>Implement system of job descriptions and performance management up front.</td>
</tr>
<tr>
<td>Difficulty of managing such a vast area</td>
<td>Operations</td>
<td>Medium</td>
<td>High</td>
<td>Install good communication systems between offices. Implement robust system of delegation to WMA offices to enhance effectiveness and job satisfaction.</td>
</tr>
<tr>
<td>Water quality testing</td>
<td>Operations</td>
<td>Low</td>
<td>High</td>
<td>Consider mobile laboratories with limited testing equipment for quick analysis.</td>
</tr>
<tr>
<td>Vast area and water quality changes with time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
15 Implementation Considerations

The following is a list of the implementation considerations for the CMA.

**Table 12: Institutional Establishment**

<table>
<thead>
<tr>
<th>Process</th>
<th>Key Milestones</th>
<th>Actions</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approve Business Case (BC) and name</td>
<td>Gazette of proposal to establish the</td>
<td>Publish BC and name of CMA (S78(4)) in the Government Gazette, and receive comments.</td>
<td>Stakeholder awareness of processes critical.</td>
</tr>
<tr>
<td>of CMA (S78(4))</td>
<td>establishment of the CMA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establishment of CMA</td>
<td>Establishment of CMA via Govt Gazette</td>
<td>Gazette for public comment. Take comments on Board. Gazette for establishment.</td>
<td></td>
</tr>
</tbody>
</table>

**Table 13: Organisational Development**

<table>
<thead>
<tr>
<th>Process</th>
<th>Key Milestones</th>
<th>Actions</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appoint Governing Board</td>
<td>Inaugural meeting of the Governing Board held</td>
<td>Appoint a Selection Panel/Committee. Selection Panel submits recommendation to Minister. Ministerial approval of Board structure. Call for nominations in parallel with Selection Panel work. Minister appoints Governing Board. Inaugural meeting of the Board. Initial Governing Board training. Board charter developed, based on generic Board charter. Board Committees established.</td>
<td>Need to create strong sense of good governance and therefore, look towards stronger governance model than previous CMA Boards that had more of an emphasis on participation. Appointment of a skills based board has proved more effective in this context.</td>
</tr>
</tbody>
</table>
### Establish initial systems

Initial internal systems including financial, procurement and HR

- Purchase initial financial system. Apply for permission to AG for permission to open account. Account opened. Pro-forma internal systems presented to the Board.

### Appoint CEO

CEO appointed

- Job description finalised and post advertised. Obtain approval of CEO salary (DPSA and Minister: DWS). Interview candidates and appoint.

### Appoint staff

New staff appointed

- Organisational structure developed and job descriptions developed and approved. Posts advertised and provide current staff in proto – CMAs first right of application for the posts. Equipment/asset plan developed. Offices acquired.

### Table 14: Operationalisation

<table>
<thead>
<tr>
<th>Process</th>
<th>Key Milestones</th>
<th>Actions</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop Business Plan</td>
<td>First Business plan submitted to DWS</td>
<td>CEO drives BP development process. Submit first business plan to Minister for approval. Ministerial approval of business plan.</td>
<td>Needs to be completed within 6 months of the appointment of the Board.</td>
</tr>
<tr>
<td>Transfer of seed funds</td>
<td>Initial seed funding transferred to CMA</td>
<td>Obtain NT approval for transfers. Transfer initial tranche to support BP development and initial functions. Transfer second tranche upon approval of business plan.</td>
<td>Ensure NT aligned with financial transfers and institutional development plan.</td>
</tr>
<tr>
<td>Delegations of functions</td>
<td>Functions delegated by Minister</td>
<td>Initial delegations to support initial functions. Second round of delegations to support expanded mandate and implementation of Business Plan.</td>
<td>Plan for the phased delegation of powers and duties to be developed and approved by Minister in order to streamline all processes.</td>
</tr>
<tr>
<td>Oversight and monitoring</td>
<td>DWS overseeing and monitoring CMAs</td>
<td>DWS provides support to institutional establishment and development. DWS provides governance support to Board. DWS supports organisational development. After receiving business plan, DWS establishes monitoring regime.</td>
<td>Monitoring schedule for all milestones of the CMA and its WMA offices to be developed includes NWA and PFMA requirements.</td>
</tr>
</tbody>
</table>
## Table 15: Stakeholder Engagement and Capacity Building

<table>
<thead>
<tr>
<th>Process</th>
<th>Key Milestones</th>
<th>Actions</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish and implement engagement plan</td>
<td>Stakeholder Reference Group functional. Establish Catchment Management Committees (CMCs)</td>
<td>Develop stakeholder engagement framework and implementation plan. Establish stakeholder database. Establish new Reference groups. Facilitate establishment of first few CMCs.</td>
<td>Some areas have a long history of participation that needs to be carefully considered before plotting the way forward. CMCs should probably be established on an evolutionary and issues-based basis. Existing interest and capacity of catchment management fora may also be a consideration here.</td>
</tr>
<tr>
<td>Establish and implement capacity building and support regime</td>
<td>Support and capacity building programme implemented</td>
<td>Identify key groups requiring support. Identify needs and develop appropriate support plan. Provide ongoing support and guidance.</td>
<td>The need to support marginalised groups must not be underestimated.</td>
</tr>
</tbody>
</table>
Annexure A

NB: Water Management Area Business Cases are accessible at DWS website under Institutional Oversight/CMA