INFRASTUCTURE BUILD, OPERATE AND MAINTENANCE (IBOM)

Resource Management Plan

LUBISI DAM

REPORT – Volume 4 of 5

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WATER IS LIFE - SANITATION IS DIGNITY

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water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

2030 NDP

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- Department of Water and Sanitation;
- Eastern Cape Department of Transport: Maritime Safety;
- Eastern Cape Department of Rural Development and Agrarian Reform;
- Eastern Cape Department of Economic Development, Environmental Affairs and Tourism;
- Intsika Yethu Local Municipality;
- Emalahleni Local Municipality;
- Chris Hani District Municipality;
- Cooperative Governance and Traditional Affairs;
- Traditional Authorities;
- Ward Councillors of Ward 2 of Emalahleni Local Municipality and Ward 20 of Intsika Yethu Local Municipality; and
- Community members of Zote, Njombela, Lubisi, Rwantsana and Tsakana.

Acknowledgement is also extended to all other stakeholders who attended and participated in the various stakeholder engagements during the development of this plan.

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Review Period	Month	Year				
Annual Review of Business Plan (BP)	December	2020[1]	2021	2022	2023	2024
Five (5) Yearly Review of Resource Management Plan (RMP)	December	2024				

[1]The implementation of the RMP and BP requires one financial year planning ahead.

AMENDMENTS PAGE

Revision No	Description	Date
1	Draft RMP for DWS Review	15/11/2017
2	Draft RMP for DWS Review	14/02/2018
3	Draft RMP for Public Review	20/02/2018
4	Final Draft RMP for DWS Approval	28/03/2018
5	Final RMP for DWS Approval	30/04/2018
6	Final RMP for DWS Sign Off	21/09/2018
7	Final RMP for DWS Approval	05/03/2019
8	RMP for DWS Approval	03/12/2019

EXECUTIVE SUMMARY

Purpose of the Resource Management Plan: A Resource Management Plan (RMP) provides the principles and guidance within which the Dams must be used for recreational purposes. The principles and guidelines seek to promote community participation and beneficiation, environmental conservation and unlocking socio-economic opportunities associated with the recreational use of the Dam. This RMP is for Lubisi Dam, herein after referred to as the Dam, which is part of the Infrastructure Build, Operate and Maintenance (IBOM) Southern Operations.

This RMP was developed in accordance with the Guidelines for the Compilation of Resource Management Plans (DWAF, 2006), to attain the objectives underlying sustainability in Section 2 of the National Water Act, 1998 (Act No. 36 of 1998) [NWA], with particular relevance to Section 26 and 113 relating to the use of water and access and use of government waterworks for recreational purposes.

Mandate of Department of Water and Sanitation: The Department of Water and Sanitation (DWS), through the National Water Act (NWA), 1998 (Act No. 36 of 1998), mandates the minister as the custodian of the nation's water resources to ensure that the government waterworks (GWWs), including Lubisi Dam, are protected, used, developed, managed and controlled in a sustainable manner, to the benefit of all, as contemplated in Section 2 of the NWA. To assist the Minister in fulfilling this mandate, the DWS initiated and commissioned the development of the RMP for the Dam.

A number of factors have prompted the need to compile a Resource Management Plan (RMP) for GWWs which amongst others, include the following:

Resource Management:

- The water resource located within or outside a protected area whether is subject to protection by legislation;
- Invasive Alien species; and
- Water quality issues.

Recreational Industry Involvement:

- Conflict between users due to no management tool in place;
- Public safety with regards to the use of inland vessels; and
- Uncontrolled developments within the Dam basin.

Community Participation and Beneficiation:

- Challenges of communities regarding physical access and access to the water-based economy of the resource;
- Participation and beneficiation of surrounding communities remains a challenge;
- Unlocking the economic potential of the Dam through the establishment of effective Public Private Partnerships (PPPs); and
- Equitable and sustainable benefit flow into the community through the creation of appropriate institutional arrangements.

Public Policy:

- The water resource should be identified as a local development objective in terms of an Integrated Development Plan (IDP) or Strategic Development Framework (SDF) for the relevant local and/or district municipalities. The zoning plan for the water resource must either be developed or updated.

To assist the Minister in fulfilling this mandate, the DWS initiated and commissioned the development of the RMP for the Dam.

Description and Location of the Dam: The Dam is an arch Dam that impounds the Indwe River. The construction of the Dam was completed in 1968. At full capacity the dam has a water surface area of approximately 1115 hectares with a capacity of 158 million cubic meters.

The Dam is situated on the municipal boundary of Emalahleni Local Municipality (ELM) and

Intsika Yethu Local Municipality (IYLM) within the jurisdiction of the Chris Hani District Municipality (CHDM) in the Eastern Cape Province of South Africa. The centre point co-ordinates of the Dam are 31°47'45"S and 27°25'49"E.

Purpose of the Dam: The primary purpose of the Dam is to provide water for irrigation to the Qamata Irrigation Scheme. The Dam currently offers subsistence fishing.

Dam Ownership and Management: DWS owns the Dam and surrounding state land. It also operates the Dam for its primary purpose. Currently there is no institutional structure managing the Dam for secondary (recreational) use. Through the development of the RMP process, an appropriate Implementing Agency (IA), such as CHDM, shall be appointed by DWS to facilitate the implementation of the objectives and identified action projects in line with the requirements of the Lubisi Dam RMP on behalf of DWS. The IA will sign a Memorandum of Agreement (MOA) with DWS, which shall be a legal binding document outlining the roles, responsibilities and conditions that must be followed by both parties for the management of the water resource for recreational use.

Stakeholder Engagement: The success of the development and implementation of the RMP depends on the cooperation of all stakeholders [Authorities and Interested and Affected Parties (I&APs)]. Authority and public meetings were conducted to obtain inputs (challenges and objectives) regarding the Dam. These meetings were conducted in accordance with the DWAF Guidelines for Public Participation (2001) that outlines three broad phases for public participation namely the Planning, Participation and Exit phase.

Identified Objectives and Vision: During the authority and public meetings, issues and concerns were raised from which the following objectives were identified:

- Water quality monitoring and reporting;
- Removal of alien and invasive species;
- Fencing and enclosure of the Dam to ensure safety of the people and animals;
- To introduce aquaculture at the Dam;
- To promote subsistence fishing and fisheries at the Dam;
- To introduce a boat as a mode of transport or to construction a pedestrian bridge to reach the opposite villages;
- To establish more tourism facilities (B&Bs and resource centres) and recreational activities (i.e. boating, swimming and water sports);
- To construct water ponds near the Dam to supply water for crop irrigation and to promote farming and livestock watering; and
- To uplift the local economy and increase benefit flows to the surrounding communities through community empowerment.

Vision: A 20-year vision for the Dam, formulated from the objectives identified by stakeholders, is as follows:

"To create a safe environment at the Dam by conducting public awareness in-order to uplift community participation, beneficiation, empowerment and local economy through potential tourism developments".

Tourism Potential The potential recreational developments identified to enhance tourist attraction includes:

- Refurbish day visitor's area; and
- Developments of resource centers.

The key challenges identified comprise:

- Inconclusive if the water is fit for recreational use owing to the absence of test samples for all water quality constituents (DWAF, 1996);
- Presence of invasive alien fish species (smallmouth yellow fish) in the Dam;
- Lack of access control which leads to vandalism of the existing recreational

facilities as well as the infrastructure of the Dam;
- Drowning incidences;
- Fishing within the Safety and Security Zone of the Dam wall;
- The extent of the DWS purchased boundary is unknown;
- Lack of fencing around the Dam results to vandalism of the existing recreational facilities at the Dam;
- Unclear if the farm portions (Mutote and Nqele) within Lubisi Dam, forms part of the properties where land claims are proposed by the Lubisi Village (previously known as Southeville);
- Community members make use of the Dam wall to get to the villages located on the other side of the Dam;
- The Dam is situated close to Lubisi, kwaZothe and Jombela communities where domestic livestock such as cattle, goats and sheep graze and drink water from the Dam.
- During seasons of draught there is a risk of livestock getting stuck into the mud while trying to reach for water in deeper parts of the Dam; and
- Lack of community beneficiation.

Recommendations:

This RMP recommends the following immediate actions:
- Appoint CHDM as an IA to manage recreational use of the Dam on behalf of DWS;
- Establishment of a Dam Management Committee (DMC) to serve as an advisory committee to the proposed IA;
- DWS to survey the Lubisi Dam to determine the extent of the DWS purchased boundary;
- To avoid conflict amongst users, uncontrolled development and to protect the water resource, the permissible and non-permissible activities on the water- and shoreline surface are delineated in the Zoning Plan and covered under Section 4.2;
- To ensure public safety with regards to the use of inland vessels, the maximum level of recreational use the water resource can accommodate is covered under Carrying Capacity in section 4.2.3; and
- The key performance areas for Resource Management, Resource Utilisation and Benefit Flow Management is covered under the Strategic Plan in section 4.3.

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LIST OF ACRONYMS

ADU	Animal Demographic Unit
AtoN	Aids to Navigation
B&B	Bed and Breakfast
BBBEE	Broad Based Black Economic Empowerment
BID	Background Information Document
BP	Business Plan
CATHSSETA	Culture, Arts, Tourism, Hospitality, Sports Sector, Education and Training Authority
CD: IO MANCO	Chief Directorate: Infrastructure Operations Management Committee
CHDM	Chris Hani District Municipality
CIWSP	Cooperative Inland Watercourse Safety Programme
CoGTA	Cooperative Governance and Traditional Affairs
CPF	Community Policing Forum
D: ATS	Directorate: Aquaculture Technical Services
DAFF	Department of Agriculture, Forestry and Fisheries
DALA	Department of Agriculture and Land Affairs
DARDAR	Department of Rural Development and Agrarian Reform
DEA	Department of Environmental Affairs
DHS	Department of Human Settlement
DMC	Dam Management Committee
DoT	Department of Transport
DPW	Department of Public Works
DRDLR	Department of Rural Development and Land Reform
DSR	Department of Sports and Recreation
DWAF	Department of Water Affairs and Forestry
DWS	Department of Water and Sanitation
ECC	Effective Carrying Capacity
EIA	Environmental Impact Assessment
ELM	Emalahleni Local Municipality
FP	Financial Plan
FSL	Full Supply Level
GIAMA	Government Immovable Asset Management Act, 2007 (Act No.19 of 2007)
GP	Guideline Programme
GPS	Global Positioning System
GVA	Gross Value Added
GWWs	Government Waterworks
I&APs	Interested and Affected Parties
IA	Implementing Agency
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
IBOM	Infrastructure Build, Operate and Maintenance
IDP	Integrated Development Plan
IEE	Integrated Environmental Engineering
IRMP	Integrated Resource Management Planning
IYLM	Intsika Yethu Local Municipality
KPAs	Key Performance Areas
LAAP	Local Accountable Aton Parties

MOA	Memorandum of Agreement
NDT	National Department of Tourism
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEMBA	National Environmental Management Biodiversity Act, 2004 (Act No.10 of 2004)
NEMPAA	National Environmental Management Protected Areas Act, 2003 (Act No.56 of 2003)
NPSC	National Project Steering Committee
NT	National Treasury
NWA	National Water Act, 1998 (No. 36 of 1998)
OMC	Operations Management Committee
PB	Purchased Boundary
PCC	Physical Carrying Capacity
PFMA	Public Finance Management Act, 1999 (Act No.29 of 1999)
PP	Public Participation
PPP	Public Private Partnership
QDS	Quarter Degree Square
RCC	Real Carrying Capacity
RMP	Resource Management Plan
SAMSA	South African Maritime Safety Authority
SAPS	South African Police Service
SASCOC	South African Sports Confederations and Olympic Committee
SDF	Spatial Development Framework
SWOT	Strengths, Weaknesses, Opportunities and Threats
ToR	Terms of Reference
WMA	Water Management Area

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND

The Department of Water and Sanitation (DWS), through the National Water Act (NWA), 1998 (Act No. 36 of 1998), mandates the Minister as the custodian of the nation's water resources to ensure that the government waterworks (GWWs), including the Lubisi Dam, are protected, used, developed, managed and controlled in a sustainable manner and to the benefit of all as contemplated in Section 2 of the NWA.

A number of factors have prompted the need to compile Resource Management Plans (RMPs) for GWWs, which *inter alia* include the following:

Resource Management:

- The water resource located within or outside a protected area whether is subject to protection by legislation;
- Invasive Alien species; and
- Water quality issues.

Recreational Industry Involvement:

- Conflict between users due to no management tool in place;
- Public safety with regards to the use of inland vessels; and
- Uncontrolled developments within Dam basin.

Community Participation and Beneficiation:

- Challenges of communities regarding physical access and access to the water-based economy of the resource;
- Participation and beneficiation of surrounding communities remains a challenge;
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- Equitable and sustainable benefit flow into the community through the creation of appropriate institutional arrangements.

Public Policy:

- The water resource should be identified as a local development objective in terms of an Integrated Development Plan (IDP) or Strategic Development Framework (SDF) for the relevant local and/or district municipalities. The zoning plan for the water resource must either be developed or updated.

To assist the Minister in fulfilling this mandate, the DWS initiated and commissioned the development of the RMP and its Business Plan (BP) for Lubisi Dam, hereafter referred to as the Dam.

1.2 PURPOSE OF THIS RMP

A Resource Management Plan (RMP) provides the principles and guidance within which the Dam must be used for recreational purposes (secondary use). The principles and guidelines seek to promote community participation and beneficiation, environmental conservation and unlocking socio-economic opportunities associated with the recreational use of the Dam. This RMP is for Lubisi Dam, herein after referred to as the Dam, which is part of the Infrastructure Build, Operate and Maintenance (IBOM) Southern Operations.

This RMP is developed in accordance with the Guidelines for the Compilation of Resource Management Plans (DWAF, 2006) for the Lubisi Dam, and to attain the objectives underlying sustainability in Section 2 of the NWA, with particular relevance to Section 26 and 113 relating to the use of water and access and use of government waterworks for recreational purposes.

1.3 DESCRIPTION AND LOCATION OF THE DAM

The Lubisi Dam is an arch Dam that impounds the Indwe River. The construction of Lubisi Dam was

completed in 1968. At full capacity the dam has a water surface area of approximately 1115 hectares with a capacity of 158 million cubic meters**. Table 1** shows the Dam profile.

The Dam is situated on the municipal boundaries of Emalahleni Local Municipality (ELM) and Intsika Yethu Local Municipality (IYLM) within the jurisdiction of the Chris Hani District Municipality (CHDM) in the Eastern Cape Province of South Africa, as shown in **Figure 1**. The centre point co-ordinates of the Dam are 31°47'45"S and 27°25'49"E.

1.4 PURPOSE OF THE DAM

The primary purposeof the Dam is to provide water for irrigation to the Qamata Irrigation Scheme. The Dam currently offers subsistence fishing.

1.5 DAM OWNERSHIP AND MANAGEMENT

DWS owns and operates the Dam for its primary use. Currently there is no institutional structure managing the Dam for recreational purposes. Through the development of the RMP process, an appropriate Implementing Agency (IA), such as CHDM, shall be appointed by DWS to facilitate the implementation of the objectives and identified action projects in line with the requirements of the Lubisi Dam RMP on behalf of DWS.

Table 1: Lubisi Dam Profile

Lubisi Dam Profile	
Location	South Africa
Province	Eastern Cape
District Municipality	Chris Hani
Local Municipality	Emalahleni and Intsika Yethu
Nearest Town	Lady Frere
Completion Year	1968
GPS Coordinates	31°47"45'**S**27°25"49'E
Purpose	Irrigation
Owner	DWS
Quaternary Catchment	S20C
Water Management Area	Mzimvubu to Tsitsikamma
River	Indwe
Capacity (Mm^3)	158.2
Surface area (ha)	1 115
Wall type	Arch
Wall Height (m)	51
Crest Length (m)	236

Source: Adapted from Department of Water and Sanitation (2016)

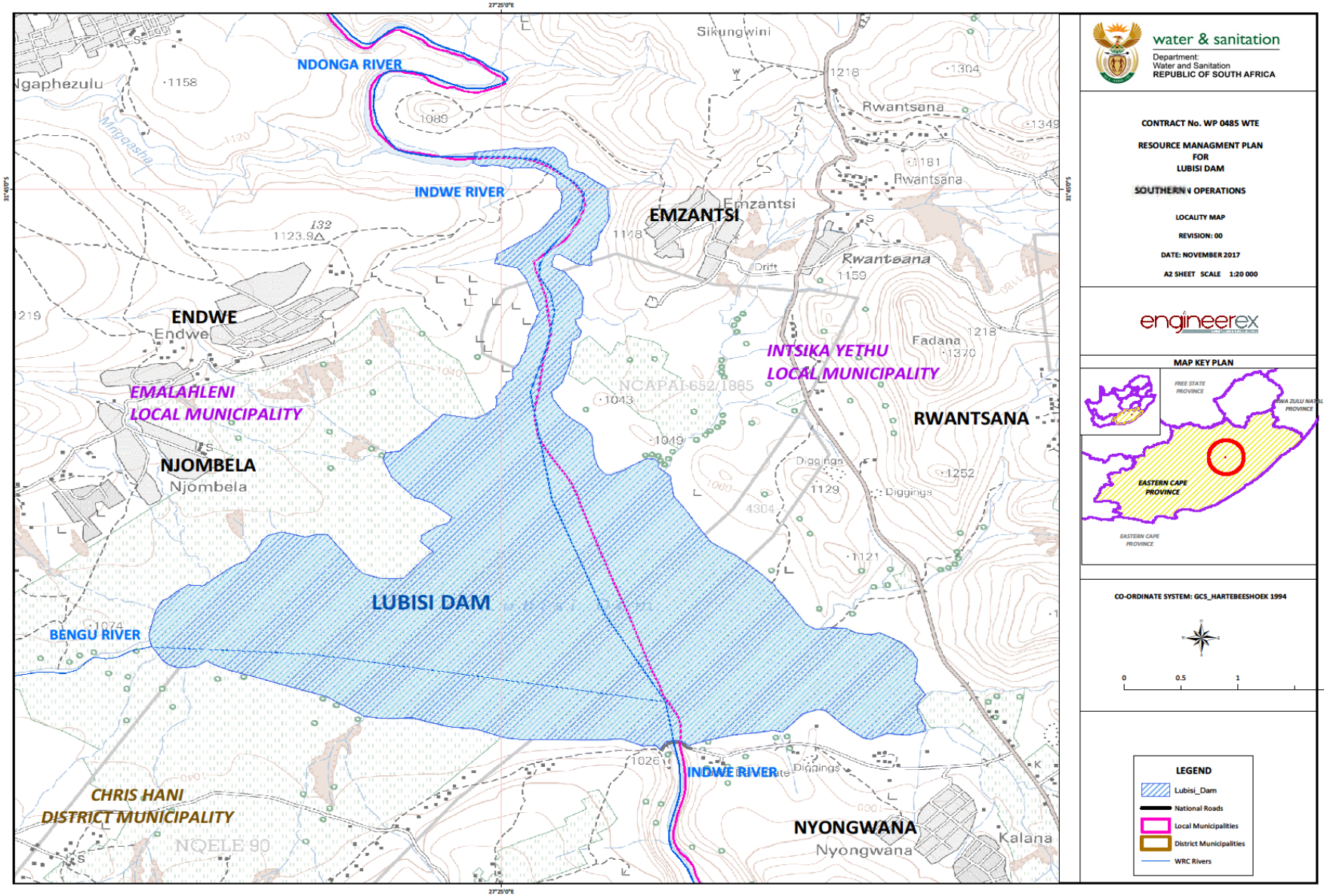

Figure 1: Locality Map for Lubisi Dam

1.6 LEGISLATIVE FRAMEWORK

Provided in the table below are the key data sources used to develop the RMP and the legislative framework applicable to the management and use of the Dam for recreational purposes.

Table 2: Key Data Sources Used to Develop the RMP:

Policy and Guidelines	Description
Consideration on Institutional Arrangement for Managing Use of Water for Recreational Purposes (DWAF, 2003)	It outlines some of the institutional issues at a local level and makes recommendations about the conditions under which different Institution Management arrangements may be considered.
1st Draft National Inland Fisheries Policy Framework for South Africa. Department of Agriculture, Forestry and Fisheries, 2018	The Policy seeks to create an efficient regulatory regime for the inland fisheries sector in order to create an enabling environment to promote sustainable growth and transformation of the sector.
General Public Participation Guidelines (DWAF, 2001)	Public Participation refers to the ongoing interaction between Role Players and all stakeholders that is aimed at improving decision making during planning, design, implementation and evaluation of all projects within the state, this includes the proposed development of the RMP.
Government Notice R654 dated 1 May 1964, in terms of the Water Act, 1956 (Act No. 54 of 1956)	Regulates access and use of government waterworks for recreational purposes.
Guidelines for Compilation of Resource Management Plans (DWAF, 2006)	Directs and guides the development of RMPs by providing insight into the purpose and objectives of these plans, the procedure for its compilation and structure of such documents.
Guidelines for Compilation of Zoning Plans for Government Waterworks (DWAF, 1999)	It provides direction on the compilation of zoning plans for government waterworks (within DWS purchased boundary).
Methodology for Carrying Capacity Assessment for the Use of Water for Recreational Purposes (DWAF, 2003)	The carrying capacity of a water resource represents the maximum level of visitor/recreational use and related infrastructure that the water resource and surrounding area can accommodate, without diminishing user satisfaction or adverse impacts upon the local or host community, the economy and culture of the area.
National Treasury Public Private Partnership (PPP) Toolkit for Tourism, 2005,	This toolkit assists the process of development of tourism-based businesses on State-owned Land. The Toolkit make it easier for Institutions and the Private Sector to enter into tourism related partnerships on State Property managed by National and Provincial Government Institutions.
Operational Policy: Using Water for Recreational Purposes (DWAF, 2004)	This policy is the main guideline in support of the RMP process with regards to the basic principles, policies, strategies and actions for regulating the use of water for recreational purposes.

The legislative framework applicable to the management and use of the Dam for recreational purposes is summarized in the table below.

Table 3: Legislative Framework Applicable to the Management and Use of the Dam for Recreational Purposes

Legislation: Acts, ordinances, bylaws	Relevance: Description
Constitution	**Relevance:**
Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996), Environmental Rights (Section 24)	Section 24 - Everyone has the right: 1. to an environment that is not harmful to their health or wellbeing, 2. to have an environment protected for the benefit of present and future generations, through reasonable legislative and other measures that- a. prevent pollution and ecological degradation b. Promote conservation and secure ecologically sustainable development and use natural resources while promoting justifiable economic and social development.
National Legislation	**Significance to the RMP:**
Conservation of Agricultural Resource Act, 1983 (Act No. 43 of 1983) [CARA]	Provides for control over the utilization of the natural agricultural resources of the Republic in order to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants; and for matters connected therewith. Regulation 7 and 8 within the same Act deals with the protection of wetlands and water courses, while regulations 15 and 16 deals with Alien Invasive Plant Species and bush encroachment.
National Environmental Management Act, 1998 (Act No. 107 of 1998) [NEMA]	NEMA serves as South Africa's Environmental Framework Legislation. It was designed to provide for co-operative and Integrated Environmental Governance by establishing a general framework for decision-making on matters affecting the environment.
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) [NEMBA]	This Act aims to provide the framework, norms and standards for the conservation, sustainable use and equitable benefit-sharing of South Africa's biological resources. The Alien and Invasive Species Regulations for this Act came into effect 01 October 2014. NEMBA together with these Regulations aim to prevent the introduction and spread of alien and invasive species across South Africa.
National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) [NEMPAA]	The aim of this Act is to provide for the protection and conservation of ecologically viable areas, which are representative of South Africa's Biodiversity, as well as natural landscapes and seascapes.
National Environmental Management: Waste Act, 2014 (Act No. 59 of 2008) [NEWA]	Provides for the national domestic waste collection standards and national norms and standards for the storage of waste.
National Heritage Resources Act, 1999 (Act No. 25 of 1999) [NHRA]	To nurture and conserve their heritage resources so that they may be hand down to future generation. To introduce an integrated system for the identification, assessment and management of the heritage resources of South Africa. All heritage sites and cultural artefact must be protected and should be demarcated in the RMP zoning map.
National Water Act, 1998 (Act No. 36 of 1998) [NWA]	The purpose of the Act is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in a sustainable and appropriate manner, for the benefit of all. Furthermore Section 113 of the Act states that the water of a government waterworks and surrounding

Legislation: Acts, ordinances, bylaws	Relevance: Description
	state owned land may be made available for recreational purposes, subject to controls determined by the Minister and regulations made by the Minister. Using water for recreational purposes is a water use under Section 21K and can be exercised as permissible use of water under Schedule 1 of the Act. However, this provision does not cater for commercial use hence the RMP should be implemented in line with General Strategic Plan for commercialisation of Tourism Public Private Partnerships at Government Waterworks, 2009 and PFMA Treasury Regulation 16. Once the RMP has been approved, the RMP will regulate access and use of the Dam. It is important to note that users will need to comply with other relevant legislation.
Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003)	It aims to address inequities resulting from the systematic exclusion of black people from meaningful participation in the economy.
Communal Land Rights Act, 2004 (Act No. 11 of 2004)	To provide legal security by transferring communal land to communities or by granting comparable compensation. Based on South Africa's complex history most communities who used to reside in the vicinity of the Dams have been forcefully removed. During the implementation of the RMP it is essential to comply with the act where necessary.
Government Immovable Asset Management Act, 2007 (Act No. 19 of 2007) (GIAMA)	To provide for a uniform framework for the management of an immovable asset that is held or used by a national or provincial department; to ensure the coordination of the use of an immovable asset with the service delivery objectives of a national or provincial department; to provide for issuing of guidelines and minimum standards in respect of immovable asset management by a national or provincial department; and to provide for matters incidental thereto.
Local Government: Municipal Systems Act, 2000 (Act No. 32 of 2000)	To provide for the manner in which municipal powers and functions are exercised and performed; to provide for community participation; to establish a simple and enabling framework for the core processes of planning, performance management, resource mobilisation and organisational change which underpin the notion of developmental local government.
Merchant Shipping (National Small Vessel Safety) Regulations (2007)	These Regulations provide *inter alia* for requirements for vessel safety; crewing requirements and responsibilities; controlled events such as competitions and regattas; and responsibilities of authorised agencies (governing boards/clubs/organisations and regulating authorities). These Regulations apply to the Department of Water and Sanitation as they are applicable to all inland and sheltered waters and as the Department and its agencies are allowing access to government waterworks for recreational boating vessels.
Occupational Health and Safety Amendment ActAct181 of 1993G.15369GoN 2471	It requires the employer to bring about and maintain, as far as reasonably practicable, a work environment that is safe and without risk to the health of the workers. The workers and the employer must share the responsibility for health and safety in the workplace.
Public Finance Management Act, 1999 (Act No. 29 of 1999) [PFMA]	Section 76 of the Act secures transparency, accountability and sound management of the revenue, expenditure, assets and liabilities of government departments. The Act promotes the objective of good financial management in order to maximise service delivery. The Act allows DWS to enter into PPP agreements with the private sector for the commercial use of state assets.

Legislation: Acts, ordinances, bylaws	Relevance: Description
Safety at Sport and Recreational Events Act, 2010 (Act No. 2 of 2010)	Events management is addressed by Safety at Sport and Recreational Events Act (Act No. 2 of 2010). This act deals with ensuring responsibility for safety and security at events. The act deals with *inter alia* responsibility for safety and security at the events, risk categorization of events and safety certificates.
South African Maritime Safety Authority Act, 1998 (Act No. 5 of 1998) [SAMSA]	One of SAMSA's three legislative mandates is "to ensure safety of life and property at sea". The Act enables SAMSA to administer and execute the relevant maritime legislation.
Water Services Act, 1997 (Act No. 108 of 1997	The Act outlines the roles and responsibilities for the supply of water and sanitation to citizens. It also recognises the rights of all humans to basic water supply and sanitation services.
Municipal Policy, By-Laws, Reports & Guidelines	**Significance to the RMP:**
Intsika Yethu Local Municipality Draft IDP (2015 -2017)	A municipal planning approach that involves the entire municipality and its citizens in finding the best solutions to achieve good long-term development and promote tourism. IYLM has identified Lubisi Dam for the development opportunities of water sports and fishing in their draft IDP (2015-2017)
Aquaculture Site Suitability Assessment Report, (DAFF, 2017)	The South African government through the Department of Agriculture, Forestry and Fisheries (DAFF) leads the development and regulation of the aquaculture sector in the country. The Directorate: Aquaculture Technical Services (D: ATS), under the leadership of the Chief Directorate: Aquaculture and Economic Development is mandated to offer technical support and advisory services to aquaculture initiatives, such as the assessment of sites suitable for aquaculture practice. Officials from the D: ATS conducted an aquaculture site suitability assessment in IYLM, at Cofimvaba on the 8th May 2017. The IYM, through the poverty alleviation programme unit has embarked on an initiative of identifying sites including amongst others the Lubisi Dam which appear to be suitable for aquaculture practice. The report presents the outcomes of the assessment and recommendations addressed to the IYLM.
Eastern Cape Inland Waters Strategy Final Draft (2017)	In developing an integrated strategy for inland waters, the Eastern Cape Department of Transport (EC DOT) seeks to facilitate greater use of its inland water infrastructure in order to contribute to socio-economic growth, thus reducing poverty and remedying the socio-economic ills that prevented communities from playing an active role in the economy in the past. Lubisi Dam has been identified in the latter mentioned strategy.
Emalahleni Local Municipality Approved IDP (2017 – 2022)	A municipal planning approach that involves the entire municipality and its citizens in finding the best solutions to achieve good long-term development and promote tourism. ELM has identified Lubisi Dam for development opportunities of water sports and fishing in their final draft IDP (2017-2022)

CHAPTER 2: ENVIRONMENTAL ANALYSIS

2.1 BIOPHYSICAL ENVIRONMENT

2.1.1 Climate

According to (DAFF, 2017), temperatures in the IYLM significantly vary seasonally throughout the year. The average summer temperature is usually above 25°C, and the average winter temperature is mostly below 20°C.

The Dam is situated in an area characterized with late summer rainfall. The mean annual precipitation (MAP) ranges between 430 mm to 790 mm, increasing from west to east (Mucina and Rutherford, 2006).

2.1.2 Topography

The topography of the area within which the Dam is situated is characterized by flat or gently undulating lowland plains intersected by mountains (Mucina and Rutherford, 2006). **Figure 2** depicts the topographical characteristics of the area within which the Dam is located.

Figure 2: Topography around Lubisi Dam

2.1.3 Geology and Soil

The area surrounding the Dam consists of mudstones of the Tarkastad Subgroup in the Karoo Supergroup, overlain mostly by soils of moderate depth (Mucina and Rutherford, 2006).

2.1.4 Hydrology

Water Surface

The Dam lies within the S20C quaternary drainage region which forms part of the Mzimvubu-Tsitsikamma Water Management Area (WMA). The Dam impounds the Indwe River that is categorized as a National Freshwater Ecosystems Priority Area (NFEPA) in terms of the Eastern Cape Biodiversity Conservation Plan (2013). The Present Ecological State (PES, 1999) of Indwe River is catergorised as Class D: Largely Modified.

Water Quality

The trophic status and cyanobacteria occurrence analysis trends between 2005 and 2011 showed that Lubisi Dam is one of the water bodies identified to be most vulnerable to increasing eutrophication. The ten-year average values for Lubisi Dam showed a chl-*a* value *of* 82.8 *mg/m^3,* which suggest a hypertrophic state when the chl-*a* value is more *than 30 mg/m^3* (Matthews MW, Bernard S. Eutrophication and Cyanobacteria in South Africa's Standing Water Bodies, 2015).

During the above time period cyanobacterial blooms identified in the water body had little area coverage (A_{cy}) of 4% and a surface scum area coverage (A_{sc}) of 0%. Lubisi Dam received a final classification score of four (4) in which zero is least impacted and nine is most impacted by eutrophication.

Eutrophication and cyanobacterial blooms remain issues of critical concern for water security in South Africa and require urgent and sustained management attention.

Precautionary measures should therefore be exercised for contact sports within or around the Dam.

According to the DWS Capacity determination Report (2004), the siltation percentage in the

Dam accounts to 17%. The siltation rate per annum is 0.44%.

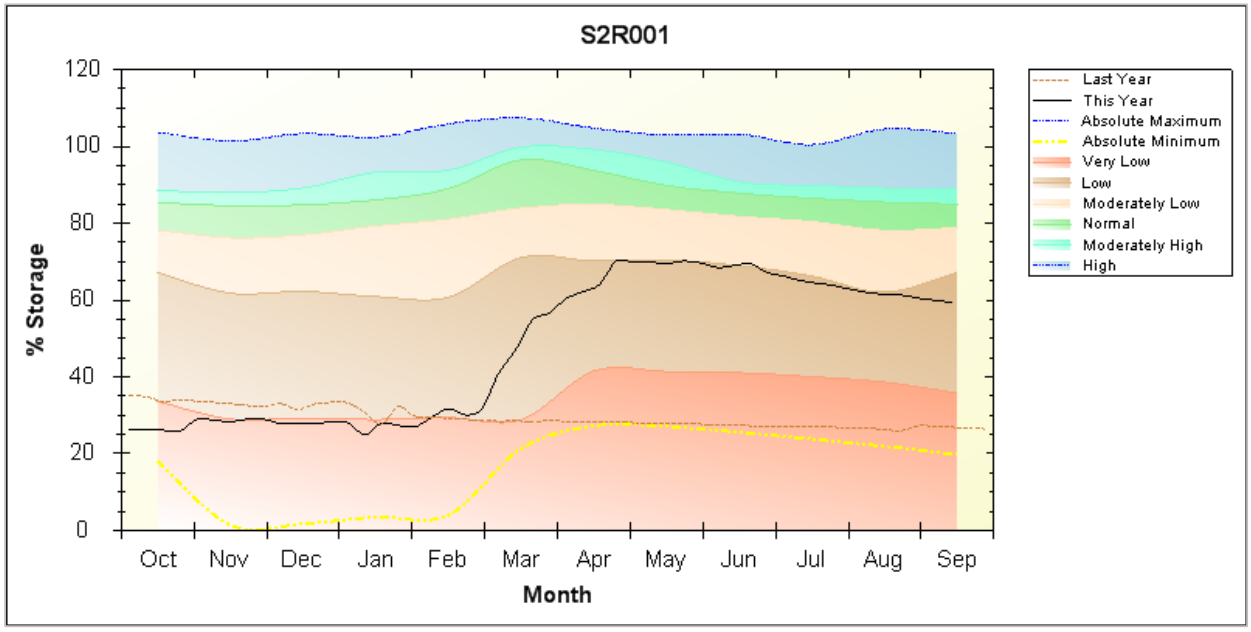

Figure 3: Fluctuations of Lubisi Dam water level over a year.
Source: DWS, 2018

2.1.5 Protected Areas

There is no formal land based protected areas within the Dam basin. Focus areas for the National Protected Area Expansion Strategy (NPAES 2010) within the region of the Dam includes:

- Amathole Tarkastad (approximately 1km east-of the Dam); and
- Amathole Tarkastad (approximately 1km south of the Dam).

2.1.6 Sensitive Biodiversity

Based on the Eastern Cape Biodiversity Conservation Plan (2007), the entire land adjoining the Dam is classified as Critical Biodiversity Areas 3 (Other Natural Areas), refer to **Figure 4**. CBAs require to meet the region's biodiversity targets and need to be maintained in the appropriate condition for their category.

2.1.7 Threatened Ecosystem

The Dam falls within thicket biome. The threat status of the terrestrial ecosystem is Vulnerable (VU) in terms of the Eastern Cape Biodiversity Conservation Plan (2007).

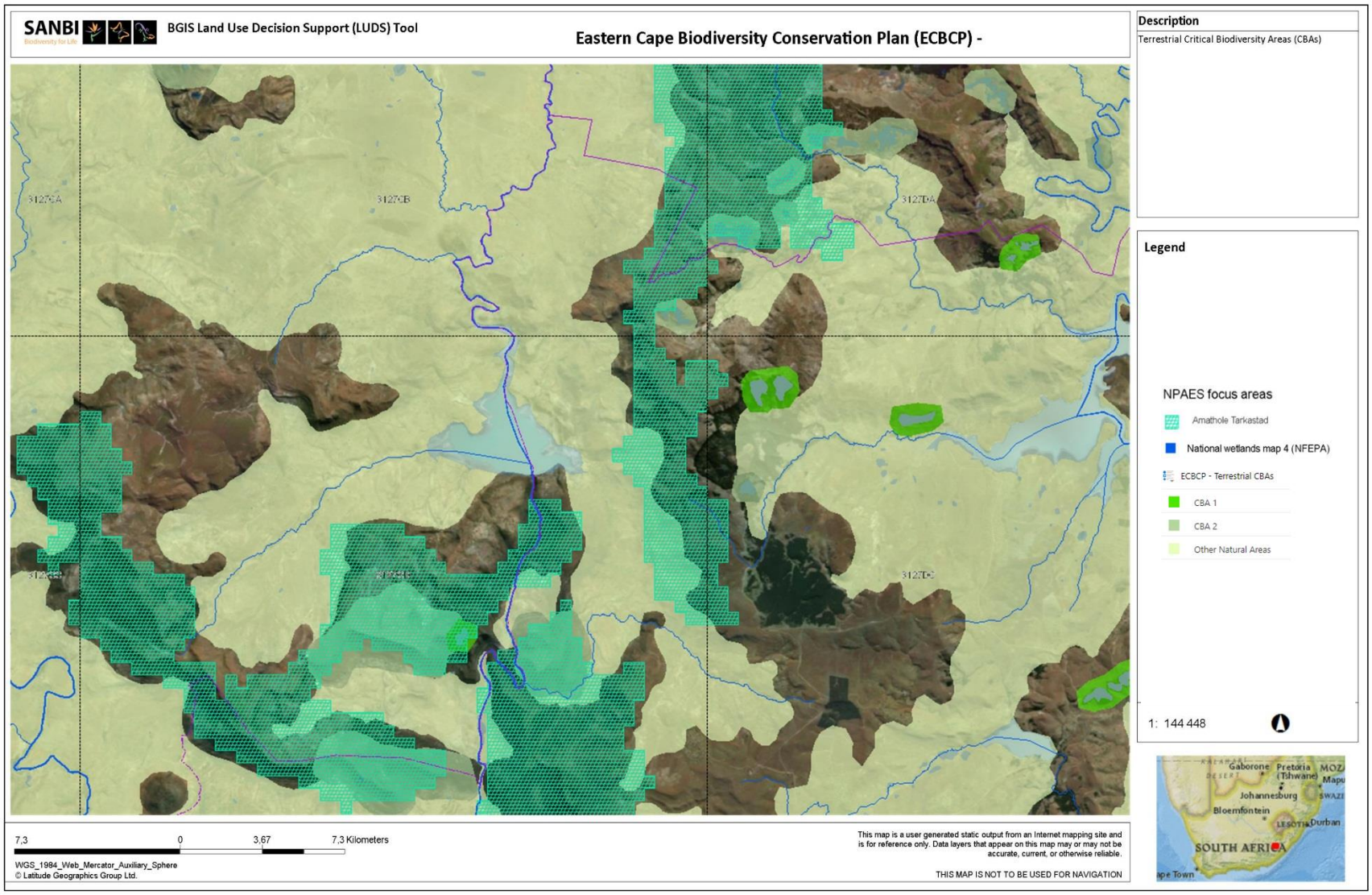

Figure 4: 2007 Eastern Cape Biodiversity Plan
Source: Adopted from SANBI BGIS Map Viewer

2.1.8 Flora

The Dam falls within the Tsomo Grassland where the vegetation is generally grassland or open thornveld, often grazed short or replaced by dwarf shrub land dominated by species of Europys (Mucina and Rutherford, 2006). The shoreline vegetation around the Dam is threatened by overgrazing from the domestic livestock which may cause soil erosion. Soil erosion may lead to siltation problems in the Dam. Refer to **Figure 5** for the vegetation type around the Dam.

Figure 5: Vegetation Types around the Dam

Note: At the time of the study, there were no records identifying terrestrial alien and invasive vegetation around the Dam.

2.1.9 Fauna

The Dam is situated close to Lubisi, kwaZothe and Jombela communities where domestic livestock such as cattle, goats and sheep graze and drink water from the Dam.

Lubisi Dam is a habitat for both indigenous and alien invasive fish species. Some of the indigenous fish species in the Dam are catfish (*Clarias gariepinus),* and carp (*Cyprinus carpio*), while the only known alien invasive fish species is the smallmouth yellowfish (*Barbus aeneus*). The presence of smallmouth yellow fish in the Dam leads to the habitat and population reduction of indigenous and endemic fish species.

2.2 BUILT ENVIRONMENT

The aspects that have been investigated consists of (and are presented under the following sub-headings):

- Roads and land-based transportation;
- Airport transportation;
- On-site facilities;
- Fencing;
- Management and operation;
- Safety; and
- Legal.

2.2.1 Roads and Land-Based Transportation

Internal Road and Circulation: There are several internal gravel roads that leads to the Lubisi Lodge, Lubisi Community Hall, DWS offices, Dam wall and picnic area.

Parking: There is no demarcated area for parking, and it is inconclusive if there is sufficient undeveloped space to provide parking as the extent of the DWS purchased boundary is unknown.

2.2.2 Air Transportation

There is no airports located within the proximity of the Dam.

2.2.3 On-site Facilities

The existing facilities at the Dam includes:

- DWS offices;
- Evaporation pan;
- Ablution facility (vandalised and non-operational);
- Lubisi Lodge; and
- Water Purification Works (construction phase).

2.2.4 Fencing

The Dam is not entirely fenced (i.e. at the inlets of the Dam). As a result, livestock and some of the community members have direct access to the Dam in an uncontrolled manner. This leads to vandalism of the existing facilities at the Dam (i.e. ablution facilities) as shown in **Figure 6**.

Figure 6: Vandalised Ablution Facility

2.2.5 Management and Operation

The management and operation of the Dam is done by the DWS. Currently there is no institutional structure managing the Dam for recreational use. Through the development of this RMP process, CHDM is proposed as an IA for the management of recreational use for this Dam.

There are currently no fixed and floating Aids to Navigation (AtoN) and demarcation markers in place. Local Accountable AtoN Parties (LAAP) and other bodies providing access to government waterways and watercourse have a responsibility to ensure that the required fixed and/or floating AtoN are provided after obtaining the necessary support from the DWS and thereafter the permission by South African Maritime Safety Authority (SAMSA).

2.2.6 Safety

There is currently no specific incident management system in place to ensure that incidents are recorded and responded to in a co-ordinated manner. However, as part of the RMP process, the Incident Management Plan will be implemented to ensure that incidents are recorded and responded to.

As a result of uncontrolled access at the Dam, there are reports of frequent drowning incidents of livestock and people. There are also unauthorised fishing at the Dam wall where public access and recreational activities are not allowed, as such it is zoned Safety and Security Zone.

2.2.7 Legal

Land Ownership

The Dam is owned and managed by DWS. According to the Eastern Cape Office of the Regional Land Claims Commissioner, land claims were lodged in 1998 in Lubisi Village (formerly known as Southeville Location No.26). The claimed properties are un-surveyed and unregistered portions of land. The claims are currently on research and valuation.

The aforementioned enquiry has since been submitted to Land Matters section within the DWS for clarification. It is unclear if the farm portions (Mutote and Nqele) within which Lubisi Dam is located forms part of the portion of land claimed.

2.3 SOCIO-ECONOMIC ENVIRONMENT

The purpose of assessing the socio-economic conditions is to determine matters that need to be addressed through the implementation of the RMP to uplift the standard of living of the communities. The study area falls within ELM and IYLM under Ward 2 and Ward 20 respectively, refer to **Figure 7** and **Figure 8** for the municipal demarcation boundaries.

A social audit was conducted for Ward 2 of ELM and 20 of IYLM with the data from Stats SA Community Survey (2016) that focus on the socio-economic conditions of the area.

The socio-economic conditions within these Wards are summarised in the following sub-sections:

- Population size;
- Education level;
- Employment status;
- Monthly income; and
- Community beneficiation.

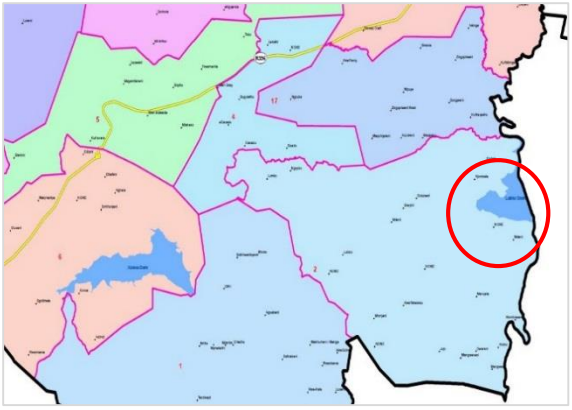

Figure 7: ELM Ward 2 Delimitation
Source: Municipal Demarcation Board (2016)

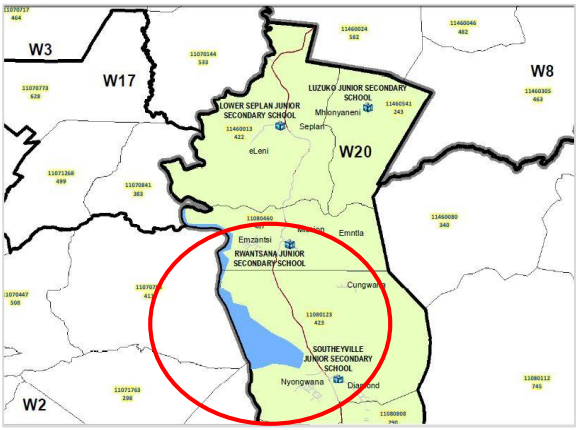

Figure 8: IYLM Ward 20 Delimitation
Source: Municipal Demarcation Board (2016)

Population Size

Ward 2 (under ELM) has a total of 5 844 individuals representing about 5% of the ELM.

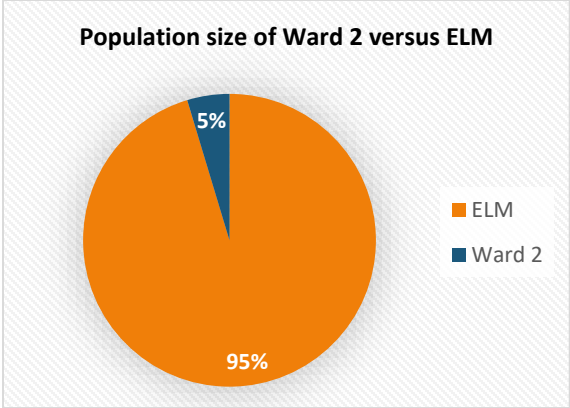

Figure 9: Population size of Ward 2 versus ELM
Source: Stats SA Community Survey (2016)

Ward 20 has 5 982 people representing about 4% of the IYLM population.

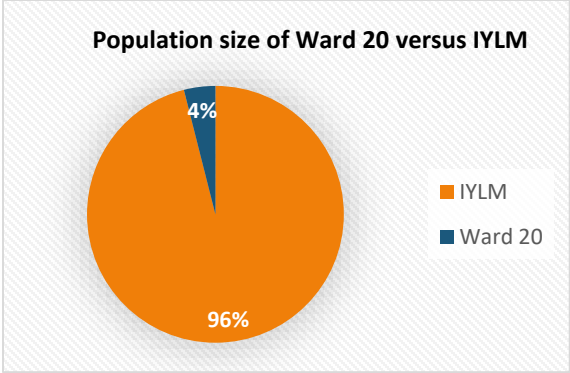

Figure 10: Population size of Ward 20 versus IYLM
Source: Stats SA Community Survey (2016)

Educational Level

Three percent (3%) of residents in Ward 2 (under ELM) have matriculated, and only 3% of the population has attained higher education.

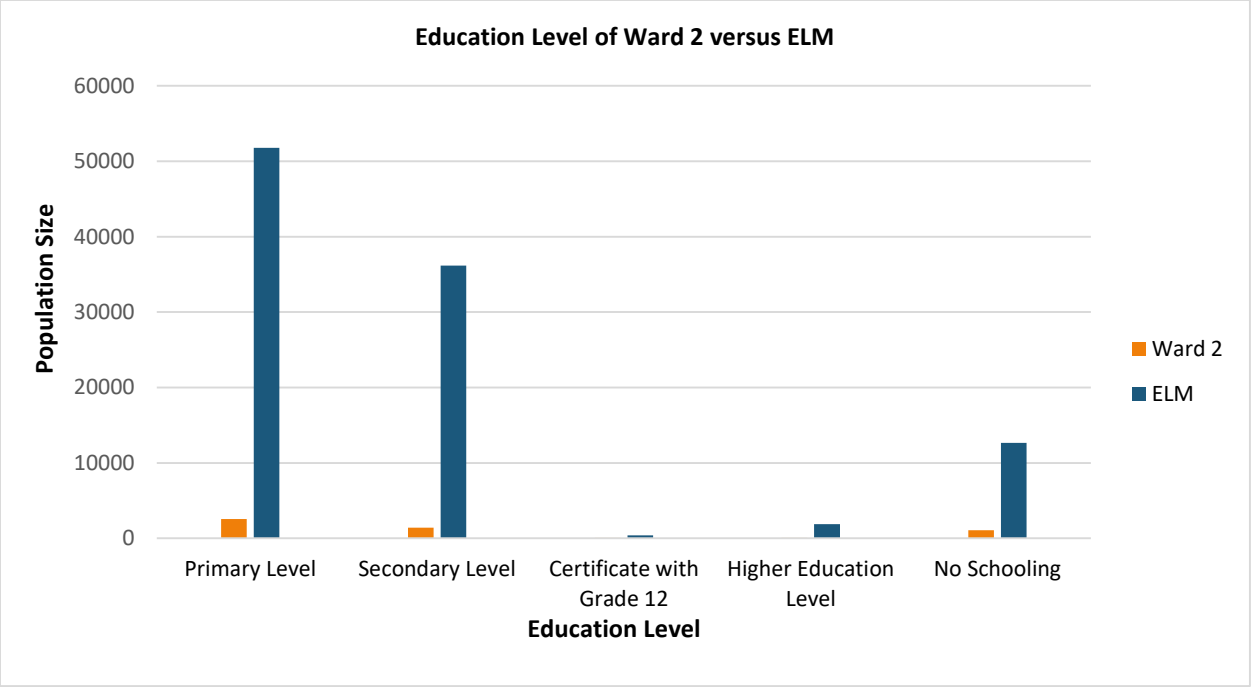

Figure 11: Education Level of Ward 2 versus ELM
Source: Stats SA Community Survey (2016)

Three percent (3%) of residents in Ward 20 (IYLM) have matriculated, and only 2% of the population has attained higher education.

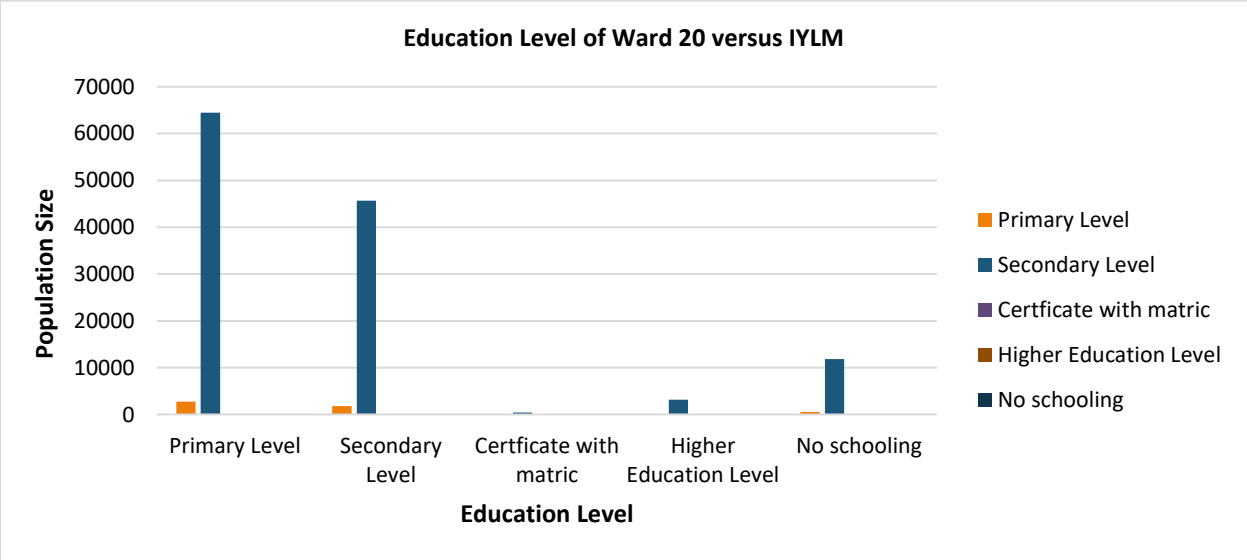

Figure 12: Education Level of Ward 20 versus IYLM
Source: Stats SA Community Survey (2016)

Monthly Income

Ward 2 has 2 280 individuals without a source of income representing about 2% of the ELM population (**Figure 13**). Ward 20 has 2 247 individuals without a source of income representing about 1.9% of IYLM population (**Figure 14**).

The Local Economic Development and Social Development unit within CHDM primary focus is to improve the business (formal and informal) and tourism sector.

The implementation of the RMP can contribute to the growth of the municipal economic sectors, and this can be in the form of fishing, finance, business services, catering and accommodation, transport and communication.

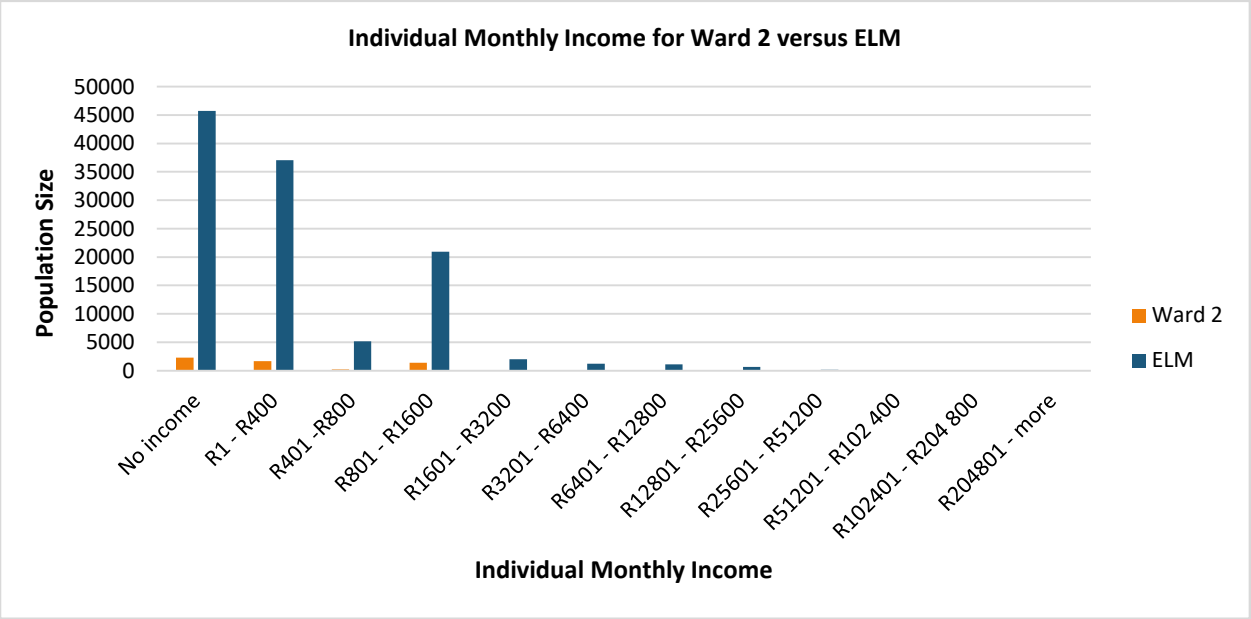

Figure 13: Individual Monthly Income for Ward 2 versus ELM
Source: Stats SA Community Survey (2016)

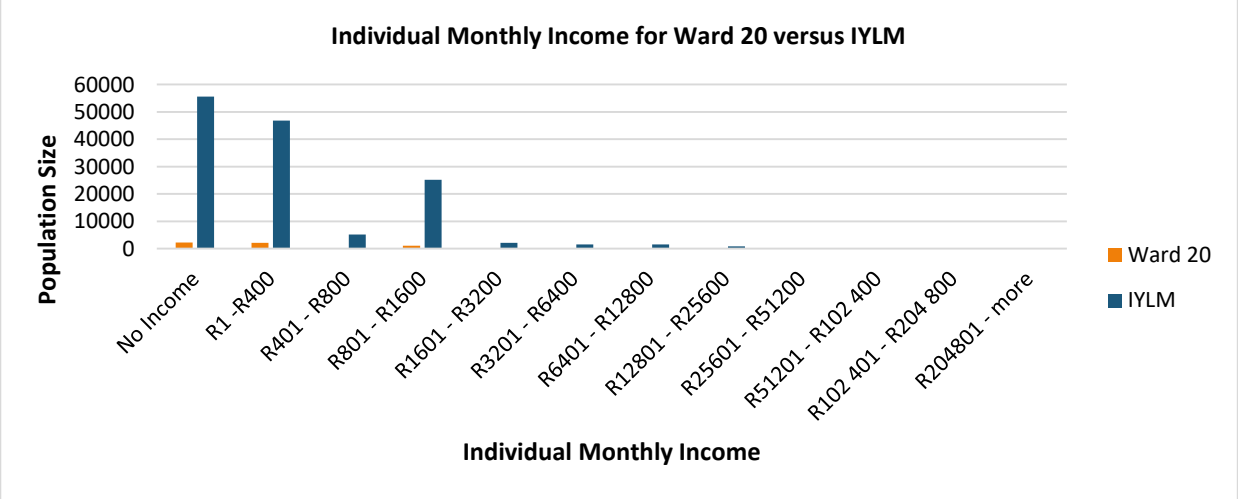

Figure 14: Individual Monthly Income in Ward 20 versus IYLM
Source: Stats SA Community Survey (2016)

2.3.1 Community Beneficiation

It is the DWS's policy that local communities should equally share the benefits emanating from the utilisation of the Dam for recreational use.

According to DWAF (2006), it is important to ensure that communities have physical access to the resource, as well as access to the water-based recreation economy. This will ensure that water resource remain protected for future generations.

In terms of recreational angling, this sector has a substantial participation rate and a significant economic impact through the tourism sector and angling supply value chains. It is therefore important that recreational anglers are recognised as important stakeholders in South African inland fisheries and that their interests are recognised in future fisheries development initiatives.

The value chain associated with the recreational fishing sector has the potential to support rural food security through decent jobs, entrepreneurship and participation in the fishing linked tourism service sector.

In addition to the above, subsistence fishing is widely practiced by rural community members to sustain their livelihoods. Hence, appropriate policies to promote greater participation by rural community members in the recreational angling value chain have the potential to create opportunities such as decent jobs and food security in rural areas. In terms of the 1ST Draft of the National Inland Fisheries Policy Framework for South Africa. Department of Agriculture, Forestry and Fisheries (2018), more can be done to ensure that this economic sector contributes to transformation and equitable socio-economic benefit from inland fish resources.

Involving the communities in the utilisation and management of the Dam will ensure that communities benefit through:

- Equitable access to the Dam;
- Safety while accessing and using the Dam;
- Being given first preference when there are employment opportunities and skills development through the Public Private Partnership (PPP); and
- Participating in decision-making with respect to major developments planned or proposed for the Dam [through the Dam Management Committee (DMC)].

CHAPTER 3: RESOURCE MANAGEMENT PLAN PROCESS

3.1 DEFINITION OF RMP

A Resource Management Plan (RMP) is a tool which regulates access to and the recreational utilisation (secondary use) of a water resource and the surrounding state land, in ways that promote community participation and beneficiation, environmental conservation and the unlocking of socio-economic potential of the water resource.

Secondary use includes leisure, culture and religious activities. Although recreational use does not involve consumption of water, it is still a major water use and needs to be managed effectively with minimal detrimental environmental impacts.

3.2 PROCESS TRIGGERS

Process triggers are factors based on the principles underlying the integrated resource planning procedure for recreational waters.

Process triggers are used to initiate the planning and public participation process in which stakeholder and potential Interested and Affected Parties (I&AP) are given an opportunity to comment or raise issues of concern that are relevant and site specific in line with the process triggers and potential challenges presented in **Table 4.**

The resource management planning process aims to achieve a common goal, identify site specific challenges and establish a set of objectives and action projects to attain community participation and beneficiation, environmental conservation and the unlocking of socio-economic potential of the water resource.

Table 4: Summary of triggers and potential challenges for Lubisi Dam

Trigger(s)	Potential Challenge (s)
Resource Management	• Lack of access control which leads to the vandalism of the existing recreational facilities as well as the infrastructure of the Dam.
Resource Utilisation	• Reports of frequent drowning incidents of livestock and people; • Unauthorised fishing at the Dam wall within the safety and security zone, where public access and recreational activities are not allowed; and • Rituals performed at the Dam.
Community participation and beneficiation	• Local communities should be involved in managing and utilising the Dam for recreational purpose. This will assist in ensuring that the Dam is utilised in a sustainable manner; and • Existing Lubisi Dam Lodge on the banks of the Dam with tourism potential which can promote community beneficiation.
Public Policy	• ELM and IYLM have identified Lubisi Dam for the development opportunities of water sports and fishing in their Integrated Development Plans (IDPs).

3.3 RMP DEVELOPMENT PROCESS

The RMP is developed in accordance with the RMP guideline procedure (DWAF, 2006) which stipulates the stages that needs to be adhered to as shown in **Figure 15**.

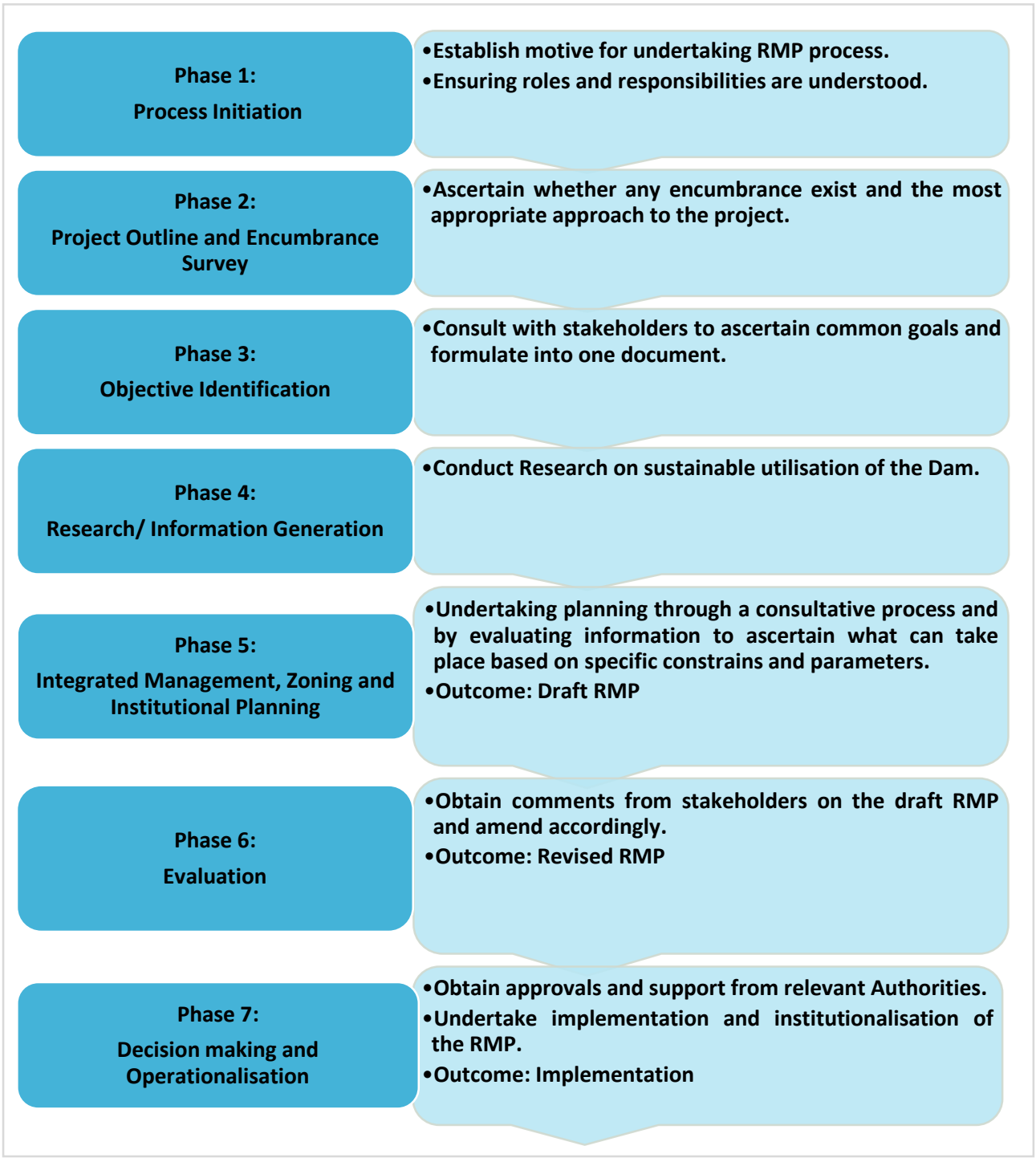

Figure 15: RMP Procedure
Source: Adapted from DWAF (2006)

3.4 RMP PLANNING STAGES

3.4.1 Desktop Study

A desktop study was conducted with the aim of acquiring background information about the Dam, such as the review of legislative and regulatory framework, decision-support tools, specialist reports, policies and guidelines, local and district municipal plans, biodiversity sector plans and integrated water information systems.

3.4.2 Site Inspection

A site inspection was conducted with the DWS officials (DWS IEE, Southern Operations Champion and Dam Control Officer) on **24 November 2015.**

During the site inspection the following were observed: unauthorised fishing at the Dam wall within the safety and security zone, public access and recreational activities are not allowed within this zone; Lack of access control which leads to vandalism on the existing recreational facilities as well as the infrastructure of the Dam. Additional background information was collated from consultation with different stakeholders. Potential Interested and Affected Parties (I&APs) were identified during the site inspection through liaison with the Dam Control Officer.

3.4.3 Public Participation

The Public Participation (PP) process is a process in which potential I&APs are given an opportunity to comment or raise issues of concern on specific matters. The three (3) fundamental and theoretical objectives of the PP process, as stipulated in the DWAF's Guideline for Public Participation (2001) are:

- To improve decision-making;
- To bring about sustainable development; and
- To normalise the attitudes of stakeholders, authorities and I&APs.

The PP process was conducted in order to obtain information for Phase 2 (Encumbrance Survey), Phase 3 (Objective Identification) and Phase 4 (Research/ Information Generation) from stakeholders, authorities and I&Aps that was used to complete Phase 5 (Integrated Management, Zoning and Institutional Planning).

Stakeholder Database Register

Various stakeholders were identified and invited to participate in an open and consultative process. The stakeholder database was updated on a continuous basis throughout the RMP process (refer to **Appendix A**).

Advertising Process

The purpose of advertising is to notify the public about the proposed RMP project and to give the public an opportunity to register as I&APs.

The following advertising methods were used:

- **Radio Advert:** Initial public meetings were announced on Vukani FM Radio Station in isiXhosa on 24, 25 and 26 June 2017. Public meetings for the draft RMP presentation were aired on 04, 05 and 06 March 2018 (refer to **Appendix C**).
- **Flyers and Onsite Notices:** Flyers and onsite notices were compiled in Afrikaans, English and IsiXhosa and were distributed on **09 June 2017.** Flyers for the draft RMP presentation were distributed on **20 February 2018**. (Refer to **Appendix D**).

Consultation and Engagement

Consultation with stakeholders shall continue until the approval of the RMP.

The following consultation and engagement methods were used:

- **E-mails:** Initial meeting invitations were sent to stakeholders on **09 June 2017,** notifying them about the scheduled consultative meetings. The draft RMP presentation was sent on **20 February 2018** (refer to **Appendix E**).
- **Background Information Document (BID):** The BID was sent to stakeholders *via* email with background information about the proposed RMP project (refer to Appendix B).
- **Authority Meeting:** The initial authority meeting was held on **27 June 2017** at the

Chris Hani District Municipality: Boardroom. The draft RMP was presented on **07 March 2018** at **Chris Hani District Municipality: Boardroom**. The purpose of the meeting was:

- To present the RMP, its goal and the objectives of the project to the authorities; and
- To allow the authorities an opportunity to participate in the project by sharing information on their respective mandates.

- **Public Meeting:** The initial public meetings were held on **27** and **28 June 2018** at **Chief Zote, Njombela JSS School** and **Lubisi Community Hall**. The Draft RMP was presented on **07 and 08 March 2018 at Chief Zote, Njombela JSS School** and **Lubisi Community Hall**.
- **Comments and Responses Register:** A copy of the draft RMP report was circulated on **20 February 2018** for commenting. The initial commenting period lapsed on **08 March 2018.** On the day of the meeting, the commenting period was extended to **22 March 2018.** The comments received were documented in the Comments and Responses Register (refer to **Appendix F**).
-

3.4.4 Planning Partners

As an integrated planning procedure, the RMP Process addresses both the institutional structure required to effectively manage the water resource, as well as the site planning parameters (environment, community and visitor) resulting in a management plan specific to the Dam. Both the proposal regarding the institutional structure and the management plan are consolidated into a RMP, which will serve as guide for the development and management of the water resource for recreational use.

In order to successfully complete the RMP, it is essential that the information obtained in the previous phases is utilised as planning input.

The RMP provides for coordination between different government departments and agencies as shown in **Table 5.** This is to ensure that not only the objectives of DWS are achieved but also that the functions/ objectives of the planning partners (relating to the recreational use of the Dam) are taken into consideration when developing the RMP.

Table 5: Planning Partners and their Respective Mandates

Department	Functions / objections
Chris Hani District Municipality	The Dam is within the jurisdiction of the CHDM which is proposed to be the IA for the Lubisi Dam RMP on behalf of DWS. The Local Economic Development (LED) unit within Chris Hani District Municipality primary focus is to improve *inter alia* the tourism sector. The main purpose for LED is to support economic development initiatives that will empower the community, create job opportunities, minimise income leakages and growth by building partnerships within relevant stakeholders in order to create a conducive environment for job creation.
Department of Agriculture, Forestry and Fisheries (DAFF)	The purpose of the DAFF includes sustainable development and management of resources to maximise the economic potential of the fisheries sector while protecting the integrity and quality of the country's aquatic ecosystems. Operation Phakisa's expansion to inland Dams is one of the DAFF's initiatives aimed at unlocking the economic potential of the fisheries sector of inland water. The latter programme will be used as a benchmark for the implementation of conservation policies, while implementing job creation in the fishery and fish processing market.
Department of Environmental Affairs (DEA)	The DEA is mandated to give effect to the right of citizens to an environment that is not harmful to their health or wellbeing, and to have the environment protected for the benefit of present and future generations. In relation to the RMP, the DEA is responsible for biodiversity management within the GWWs, including invasive alien species. In addition, the Department should ensure that Environmental Impact Assessments (EIAs) is undertaken for all activities that triggers EIA Regulations. The DEA through the WfW programme, can assist in eradicating alien invasive plants species (blue gums and parrot furthers) and alien invasive fish species.
Department of Public Works (DPW)	DPW is tasked with the function to regulate and control the use of state land outside the GWWs.
Department of Rural Development and Land Reform (DRDLR)	The Department will assist in terms of land claims/ ownership issues (i.e. land under traditional authorities). The Department are also involved in rural development by improving both economic infrastructure (such as roads) and social infrastructure (e.g. communal sanitation and non-farming activities).
Department of Transport (DoT)	Responsible for legislation, policy and regulations for all transportation in South Africa, including shipping and other transport by water, and inland waterways. For the purpose of Inland Waterways, DoT has established an agency called the South African Maritime Safety Authority (SAMSA). SAMSA has been charged with the responsibility of executing the administration of the Merchant Shipping (National Small Vessel Safety) Regulation, 2007 (as amended). The Regulations extends SAMSA's core mandate to include inland waterways accessible to the public within the Republic, to ensure boating safety on our waters.
National Treasury (NT)	The use of state assets is governed by National Treasury Regulations, requiring the DWS to plan concessions in compliance or association with the National Treasury, guided by the Tourism Public Private Partnership (PPP) Toolkit of 2005.

Department	Functions / objections
Cooperative Inland Watercourse Safety Programme (CIWSP)	The CIWSP is the programme under DWS and is supporting a multi-departmental working group that is developing an innovative approach to inland water and safety integrity. The project, was initiated out of the need to find an innovative, practical and cost-effective way to implement SAMSA' Vessel Safety Regulations on inland watercourse and to implement responsible water use within the broader socio-economic context of the country. The CIWSP is a partnership between multiple government entities and between the Government and communities. The main aim of the project is to enhance the development of a best practice model to ensure safe and structured inland maritime environment and culture, whilst protecting the country's precious water resource.
Culture, Arts, Tourism, Hospitality, Sport Sector, Education and Training Authority (CATHSSETA)	CATHSSETA deals with the approval and financing of training relating to the culture, hospitality, tourism and sport sectors.
Department of Corporative Governance and Traditional Affairs (CoGTA):	Its function is to develop national policies and legislation with regard to provinces and local government, and to monitor their implementation. Another function of the Department is to support provinces and local government in fulfilling their constitutional and legal obligations
Department of Basic Education (DBE):	The function of the DBE is to develop, maintain and support a South African school education system. In this regard, the DBE can collaborate with nature reserves that encompasses GWWs, in order to provide an opportunity for school environmental tours, as this can also have influence on career options.
Department of Sports and Recreation (DSR)	The Department is mandated to promote and develop sport and recreation activities and also to co-ordinate the relationships between the sports commission, national and recreational federations and other agencies.
Department of Tourism (NDT)	The Department is mandated to create conditions for the sustainable growth and development of tourism in South Africa. The Tourism Act makes provision for the promotion of tourism to and in the Republic and for regulation and rationalisation of the tourism sector, including measures aimed at the enhancement and maintenance of the standards of facilities and services utilised by tourists; and the co-ordination and rationalisation of the activities of those who are active in the tourism sector.
South African Police Service (SAPS)	The South African Police Service has been entrusted with the responsibility of creating a safe and secure environment for all people in South Africa, as well as preventing anything that may threaten the safety or security of any community. Hosting of recreational events must comply with the Safety at Sports and Recreational Events Act, 2010 (Act No. 2 of 2010).
South African Sports Confederation and Olympic Committee (SASCOC)	SASCOC is mandated to promote and develop high performance in sports, as well as to act as a controlling body for sports in South Africa. It can also assist in coordinating organised events at the Dam.

3.5 RMP DATA ANALYSIS

3.5.1 Encumbrance Survey (Phase 2)

The purpose of the encumbrance survey is to investigate/ascertain whether any encumbrances exist around the Dam and other factors that may influence the development and implementation of the RMP.

The survey also identifies the information that is required for effective decision-making regarding the RMP (DWAF, 2006).

The identified encumbrances are categorized into Biophysical, Legal and Socio-cultural. **Table 6** summarises the identified biophysical and socio-cultural encumbrances/ limitations, respectively that might affect the development or implementation of the RMP for the Dam.

Table 6: Summary of Biophysical, Legal and Socio-cultural Encumbrances

Item	Description
Climate	• Climate change affects the rainfall patterns which could negatively impact on the availability of water in the Dam. If periods of drought persist it will be impossible to implement the RMP for the Dam.
Flora	• The shoreline vegetation around the Dam is threatened by overgrazing from the domestic livestock which in addition may cause soil erosion and deposition of sediments.
Fauna	• The presence of alien invasive fish species (smallmouth yellow fish) in the Dam leads to the habitat reduction of the indigenous fish. • Livestock drink water from the Dam and graze on the banks of the Dam. There is a risk that livestock may drown as they try to reach for water in deeper areas. (The local community member raised the issue of livestock drowning at the public meetings).
Hydrology	• According to (DWS, 2017), the Dam level is very low and this may prevent the implementation of potential recreational activities on the water surface by the time the RMP is approved for implementation. The demand to use water for recreational activities will depend on the Dam being on full supply level.
Land Ownership	• It is unclear if the farm portions (Mutote and Nqele) within which Lubisi Dam is located forms part of the properties on which there are alleged land claims.
Socio-cultural	• Only 60 people in ward 2 representing only 3% of the population in ELM have furthered their studies up to higher education level whereas in ward 20 only 72 people representing 2% of the population in IYLM have received higher education. The implication in the project is that the majority of residents in the aforementioned wards will not have received any kind of training to become active participants in the tourism sector. • Ward 2 has 2 280 people representing only 2% of the ELM population and ward 20 has 2 247 people representing only 1.9% of the population in IYLM receiving no sources of income which will result to a lack of community participation in the tourism developments at the Dam. • The majority of residents are living below the poverty datum line, representing a standard of living attained by a person to be deemed poor.

3.5.2 SWOT Analysis and Objective Identification

Engineerex Pty Ltd as the process facilitator conducted the Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis to determine the **Strengths** and **Opportunities** that define the potential of the Dam whereas the challenges regarding the Dam where identified through **Weaknesses** and **Threats**. Refer to **Table 7** for the SWOT analysis.

Table 7: SWOT Analysis for Lubisi Dam

Strengths	Weaknesses
• There are existing infrastructures e.g. chalets and a conference center next to the Dam. • The Dam has a unique shape which increases its esthetic and recreational value. • The Dam is easily accessible. • There is an attractive island visible.	• The Dam is not fenced, lacks access control and public safety. • Frequent drowning incidents. • Vandalism and theft of existing infrastructure e.g ablution facilities. • There is no adequate, standardised and harmonised AtoN and demarcation markers.
Opportunities	**Threats**
• The Dam has been identified by the Eastern Cape Department of Transport in the development of an integrated strategy for inland waters. • To expand the existing infrastructure. • Access road from Cofimvaba to the Dam is being upgraded from gravel to tar road. • Agriculture school close to the Dam to expand their curriculum on aquaculture. • Agriculture school to supply vegetables to the Lubisi Lodge. • Tourism development opportunity. • Economic hub of the area. • The Dam has been identified and assessed by the Department of Agriculture, Forestry and Fisheries as a suitable site for aquaculture practices.	• Safety and security of people visiting the Dam. • Ward demarcation (the Dam borders two local municipalities). • Tourism developments that could negatively impact on the youth (e.g lure youth into prostitution). • Drought. • Lack of public awareness which might prevent tourism development at the Dam and its surroundings.

Key objectives were formulated from the identified **Strengths** and **Opportunities** of the Dam.

The vision and key performance areas (KPA) for the Dam for a period of 20-years was formulated from the key objectives, discussed in the paragraphs to follow.

KPA 1: Resource Management

- To fence the Dam in order to control access to the Dam and ensure safety of the people and animals.

KPA 2: Resource Utilisation

- To introduce aquaculture at the Dam;
- To promote subsistence fishing and fisheries at the Dam;
- To revive the day visitor's area at the Dam;
- To introduce a boat as a mode of transport or construction of a walk way bridge to cross the Dam to reach other villages; and
- To establish more tourism facilities (B&Bs, resource centres, etc) and recreational activities (boating, swimming and other water sports).

KPA 3: Benefit Flow Management

- To construct water ponds near the Dam to supply water for irrigation and to promote farming and livestock watering; and
- To uplift the local economy and increase benefit flows to the surrounding communities through community development programmes.

Action projects required to achieve these objectives are provided in detail in **Section 4.3** (**The Strategic Plan**).

A 20 year vision for the Dam, formulated from the objective identified by the stakeholder, is as follow:

"To create a safe environment at the Dam by conducting public awareness in-order to uplift community participation, beneficiation, empowerment and local economy through potential tourism developments".

3.5.3 Research/ Information Generation (Phase 4)

The main aim of the research was to identify the Dam's tourism development potential and to evaluate the practicality/ feasibility of the identified objectives.

Tourism Development Potential

According to the IYLM (2015 – 2016), one of the strategic objectives of IYLM owing to its rich heritage and tourism potential is developing tourism programmes with an intent to position IYLM as a recognised tourist destination.

The ELM (2017-2022) states that the Emalahleni area has been identified as having potential for a farm stay tourism route. Moreover, there are areas where Bushmen paintings can be seen that have the potential to be developed into tourist attractions. The Municipal area has cultural groups that are performing locally, nationally and internationally and selling authentic culture of Emalahleni. The municipality has an arts and craft center that has been established for the purposes of manufacturing and marketing of bead work and Xhosa traditional attire to local and national tourists. The center is located along Indwe Road in Lady Frere town.

There are currently no recreational activities taking place at the Lubisi Dam, however it has a potential for fishing (subsistence and fish farming), boating, swimming activities and day and overnight facilities (braai, picnicking and camping). There is also a Lubisi Dam lodge located on the banks of the Dam offering accommodation services for visitors to the Dam. The road to the Dam is currently being upgraded from a gravel to a tar road for easier access and travelling conditions to the Dam.

Practicability/ Feasibility of Potential Objectives:

According to the DWAF (2006), the feasibility of the proposed objectives needs to be determined prior to the RMP implementation. Based on the desktop study done for the Dam, all identified objectives are considered to be practical/ feasible during the implementation stage, others will be subjected to a feasibility study, refer to the Strategic Plan in **Section 4.3** of this RMP.

CHAPTER 4: INTEGRATED RESOURCE MANAGEMENT PLANNING

The purpose of Integrated Resource Management Planning (IRMP) is to evaluate the information obtained from preceding phases (Process Triggers, Encumbrance Survey, Objective Identification and Research/ Information Generation) to ascertain what could be achieved based on specific constraints and parameters of the water resource and surrounding State land.

The IRMP consists of four (4) plans namely the Institutional Plan, Zoning Plan, Strategic Plan and Financial Plan. **Figure 16** shows the plans and their components.

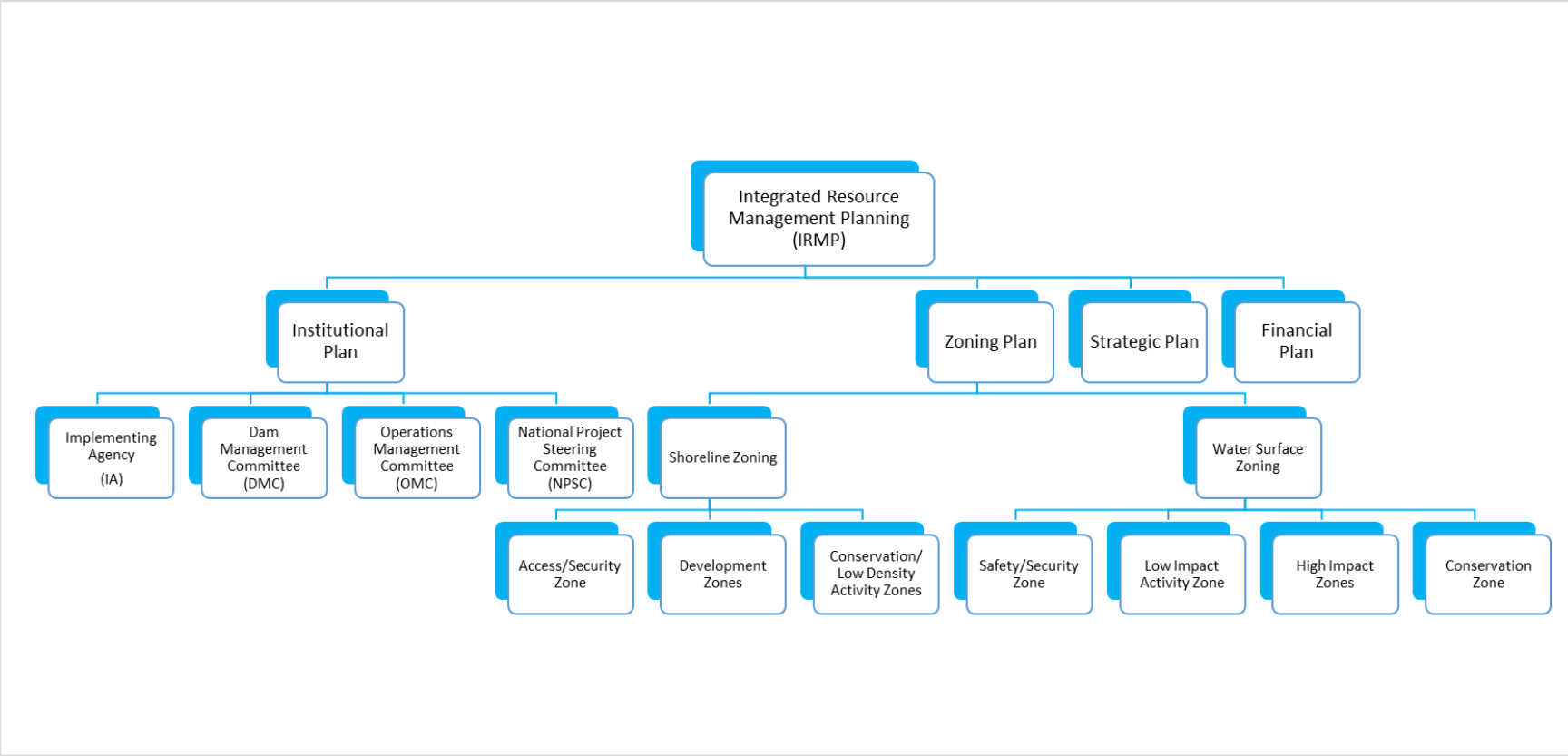

Figure 16: Integrated Resource Management Planning

4.1 INSTITUTIONAL PLAN

The Institutional Plan provides a framework for the institutional arrangements at the Dam. The proposed management systems include four (4) committees namely; the Implementing Agency (IA), Dam Management Committee (DMC), Operations Management Committee (OMC); and National Project Steering Committee (NPSC).

The management authorities appointed by the Department at the Dam, also form part of the institutional structure.

4.1.1 Implementing Agency (IA)

The IA is an institution that implements a programme or project on behalf of DWS.

According to DWS, the minimum requirements of an IA include the following:

- An IA can be a government entity or a public-sector body, identified by the DWS;
- IA must have the best interest of water resource and the community at large; and
- IA must be willing to work with the DWS and other users of the water resource.

The IA shall facilitate the implementation of programmes or action projects identified in the RMP for Lubisi Dam. The IA and DWS will sign a Memorandum of Agreement (MOA), which is a legal binding document that outlines the roles and responsibilities and conditions to be followed by both parties when entering into agreement(s) and/or when in terms of managing the Dam/ water resource for recreational use.

Some of the functions/ responsibilities of the IA include:

- Management of public access area;
- Management of recreational and tourism related activities;
- Management of agreements entered between DWS and third parties;
- Management of incident management system and wash bays;
- Management of community skills and training programmes;
- Management of commercial activities (in line with Treasury Requirements); and
- Management of AtoN and demarcation markers.

4.1.2 Dam Management Committee (DMC)

The DMC comprises of user groups representatives that are interested or affected by the Dam and will assist in raising and addressing issues relating to the Dam. Any unresolved issues relating to the Dam are escalated to OMC (described in detailed in 4.1.4). The DMC is required to meet quarterly.

The functions of the DMC include the following (amongst others):

- To give support to Implementing Agency (IA);
- To assess commercial opportunities at the Dam;
- Seeking resolution for general management issues;
- Monitoring the practical implementation of the RMP and BP;
- Reviewing the feedback received from I&APs;
- Operational management of recreational activities, such as ensuring that the floating AtoN and demarcation markers are in place and setting times for use of the Dam;
- Assist in conveying the management objectives and decisions pertaining to the Dam to the relevant stakeholders; and
- Assist in the management of the incident management system and wash bays.

Figure 17 shows the proposed parties to form part of the DMC for Lubisi Dam.

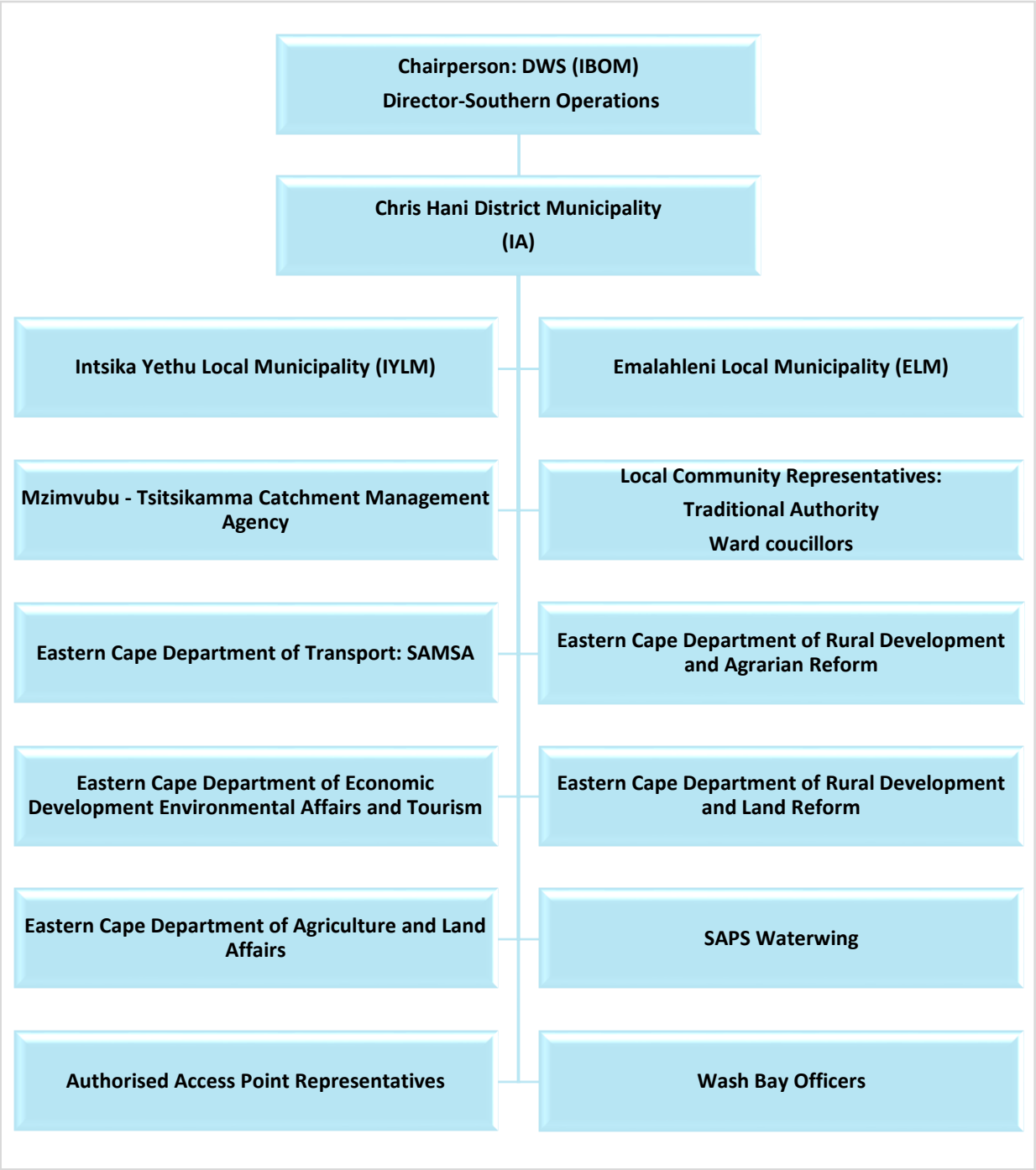

Figure 17: Proposed DMC

Management Tools:

The DMC will have a number of management tools which will enable proper management of the Dam in line with legislative requirements. Some of the management tools includes the Terms of Reference.

Terms of Reference (ToR) defines the purpose and structure of the DMC and its management aspect for the implementation of the RMP. The management aspects that will be guided by the ToR includes:

- Roles and responsibility of chairperson;
- Roles and responsibilities of an IA;
- Roles and responsibilities of members;
- Minutes and attendance requirements;
- Reporting requirements;
- Management of agreements;
- Management of access objectives;
- Management of development targets;
- Management of water quality monitoring;
- Management of the control of aquatic invasive species;
- Management of development pressure;
- Management of incident management system and wash bays; and
- Management of AtoN and demarcation markers.

4.1.3 Agreements and Permits

The purpose of agreements is to ensure proper use of the Dam in line with the RMP requirements and the relevant acts and regulations.

The applicable agreements for the implementation of RMP are as follows:

Memorandum of Agreement (MOA)[2]:

MOA is a legally binding document that outlines the roles, responsibilities and conditions to be followed for the management of the water resource for recreational use. An MOA will be signed in an event where the DWS is tasking another organization with its function of managing the Dam for recreational purposes.

Safety of Navigation Agreements:

The purpose of this agreement is to allow access of boating vessel to government waterworks. This agreement to be concluded between SAMSA, the DWS and other relevant parties or bodies to allow them to:

- Exhibit the relevant AtoN; and
- Establish or deploy the relevant fixed and/or floating AtoN.

Access Agreements:

All access points to the Dam and surrounding State Land must be authorised. Accessing the Dam through unauthorised access points is an illegal activity unless a formal agreement with the DWS is concluded. Therefore, a formal agreement with DWS will be required for all adjacent landowners and recreational clubs that have direct access to the Dam and surrounding State Land.

A formal agreement on building, management and maintenance of the wash bay is necessary between the DWS and DEA. A wash bay must be built on State Property as part of the Cooperative for Inland Watercourse Safety Programme (CIWSP).

Event Applications:

All events at the Dam and surrounding state land must be managed through an event application process. The events application will be submitted to DWS for approval through the IA. These applications must follow a specific template and will include amongst others the following:

- Number of participants;
- Emergency Response Plan;

[2] The Department of the Water and Sanitation reserves the right to appoint the Implementing Agency at their own discretion.

- Advertising and branding (will need to be in line with DWS communication requirements); and
- Access points to be used.

Furthermore, all events must meet the requirements of the Safety at Sports and Recreation Act, 2010 (Act No. 2 of 2010).

National Affiliations:
All recreational clubs (i.e canoeing and fishing) must be affiliated to a South African Sports Confederation and Olympic Committee (SASCOC) affiliated organisation.

4.1.4 Operations Management Committee (OMC)

There is an existing Chief Directorate: Infrastructure Operations Management Committee (CD: IO MANCO) within the DWS IBOM which comprises of directors of the IBOM's four (4) operations (Northern, Southern, Eastern and Central) and is chaired by the Chief Director: Infrastructure Operations within the IBOM as illustrated in **Figure 18**.

The committee shall meet quarterly to discuss matters relating to operations and maintenance of all GWWs. An RMP must be a standard agenda item. Any matters relating to the RMP that are outside the scope of the DWS will be escalated to the NPSC (described in detail in **4.1.4**).

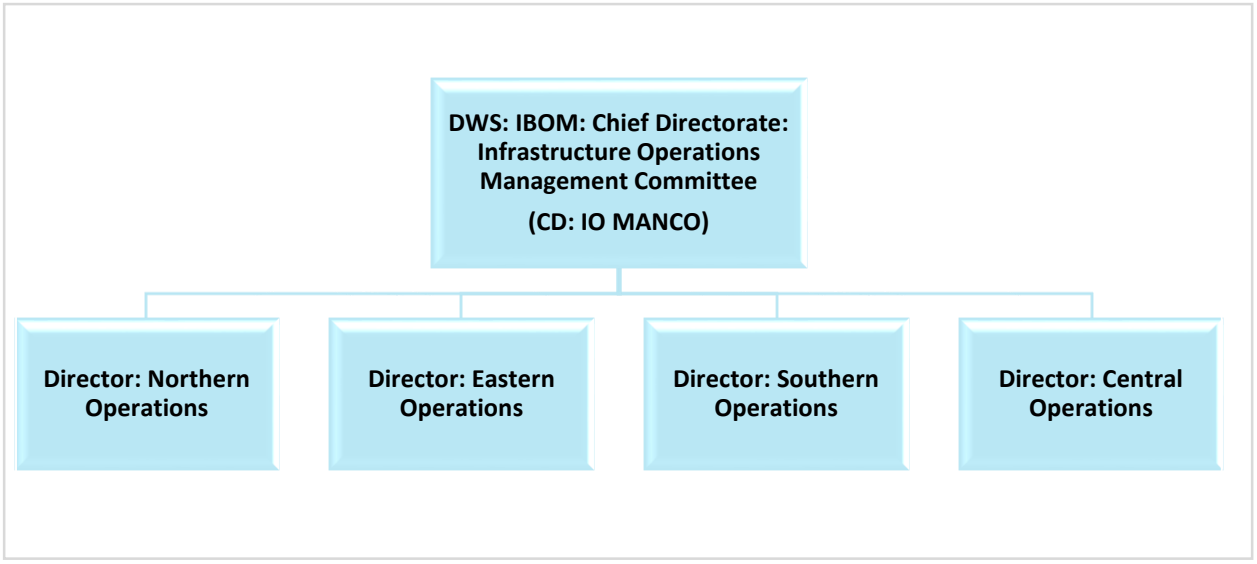

Figure 18: Existing CD: IO MANCO

4.1.5 National Project Steering Committee (NPSC)

The NPSC is formed by the DWS and is made up of representatives from national government departments and their agencies (also referred to as planning partners) that have direct and/or indirect mandate in managing the water resource. The function of the NPSC is to provide guidance and support to DWS on recreational water use in terms of their respective mandates with the aim of achieving sustainable utilisation of the Dam. The NPSC shall meet twice a year. **Figure 19** shows government departments (also referred to as planning partners and/ or authorities) and agencies that will form part of the NPSC:

Figure 19: Proposed NPSC

4.2 ZONING PLAN[3]

The purpose of the zoning plan is to demarcate permissible and non-permissible activities on the water surface and the shoreline to avoid conflict amongst users, uncontrolled development and to protect the water resource. In order to determine the extent of possible recreational use on the water surface, the carrying capacity of the water surface was calculated.

The proposed zoning plan integrates conservation, recreation and development, whilst not retarding the primary functions of the Dam. This RMP and /or zonation plan does not legitimise nor does it authorise any exiting built structures, infrastructure or services within the government waterworks (in both the water surface and shoreline).

4.2.1 Water Surface Zoning

The water surface zoning provides guidance on permissible and non-permissible recreational activities on the water surface taking into account the biophysical factors of the Dam. This zonation map is a desktop exercise and must not be used for navigational purposes. DWS and SAMSA will update the zonation map to be used for navigational purposes. The water surface is zoned as follows:

Safety and Security Zone:

This zone covers a minimum area of 100m from the wall and outlet works indicated by demarcation markers and AtoN. This area is reserved for the DWS management purposes.

Management of this zone is aimed at protecting the Dam wall and outlet works, as well as to ensure the safety of the public. This is a no-go zone to the public unless authorised.

Conservation Zone:

The aim of this zone is to conserve and protect sensitive aquatic habitation at the inlet(s) of the Dam. Access to this area is generally not allowed due to the following:

- The areas intercept sediments and nutrients/pollutants which pose safety risks to the public due to muddy clay; and
- They are used by aquatic birds and fish species as habitat, refuge and breeding areas.

Low Impact Activity Zone:

This zone acts as a buffer between high impact activity zones and conservation zones. The low impact activity zone allows for low intensity activities, i.e. activities associated with little or no wake, such as wind surfing, kayaking, swimming, rowing, sailing, paddle boating, float tubes, canoeing, angling, yachting, aquaculture4 and small-scale fisheries.

High Impact Activity Zone:

This zone is demarcated where the Dam is at its deepest level. It caters for high impact activities associated with high speed, wake and noise activities such as motorised boating, house-boating, water-skiing, and para-sailing.

Table 8 and **Figure 20** shows the proposed water surface zoning for Lubisi Dam.

[3] Lubisi Dam is only zoned for water surface as there is no DWS purchased boundary map available.

[4] The final location of the aquaculture will be dependent on the outcome of a feasibility study.

Table 8: Proposed Water Surface Zoning Description

Zone Description	Permissible Activities	Non Permissible Activities	Recommendation
• Safety and Security Zone.	• Alien invasive species clearing. • Management of Dam infrastructure. • Management and maintenance activities by DWS and authorised personnel.	• Public access.	• Area should be demarcated by demarcation makers and AtoN.
• Conservation Zone.	• None.	• Public activities (to prevent disturbance of aquatic habitats disturbance).	• Area should be demarcated by demarcation makers and AtoN. • Strict management and control of these areas.

• Low Impact Activity Zone.	• Activities associated with no or little water wakes such as:
	  ○ Angling
	  ○ Rowing
	  ○ Canoeing
	  ○ Kayaking
	  ○ Paddling boat
	  ○ Float tubes
	  ○ Swimming
	• Slipway
	• Floating Jetty
	• Aquaculture facilities
		• Motorised boating
		• Water skiing
		• House boats
		• Para-sailing
		• Kite-surfing
		• Jet Skis
		• Wind surfing
		• Kite surfing
			• Area should be demarcated by demarcation markers and AtoN.
			• No private slipways/ floating jetties to be built without approval from DWS.
			• Launching and mooring of vessels should take place at this zone.
			• Motorised boating are allowed to launch at this zone but no water wake should be formed until the designated area for motorised recreational boating is reached.

• High Impact Activity Zone.	• Activities associated with water wakes such as:
	  ○ Motorised boating
	  ○ Water skiing
	  ○ House boats
	  ○ Jet skis
	• Aquaculture facilities
		• Angling
		• Sailing
		• Rowing
		• Canoeing
		• Wind surfing
		• Paddling boat
		• Float tubes
		• Kite surfing
		• Wind surfing
		• Para sailing
			• Area should be demarcated by demarcation makers and AtoN.
			• All activities within the high impact zone shall take place beyond 70m from the shoreline.
			• Activities within this zone must be evaluated to determine their impact on the water resources and other Dam users before they are allowed into the Dam.

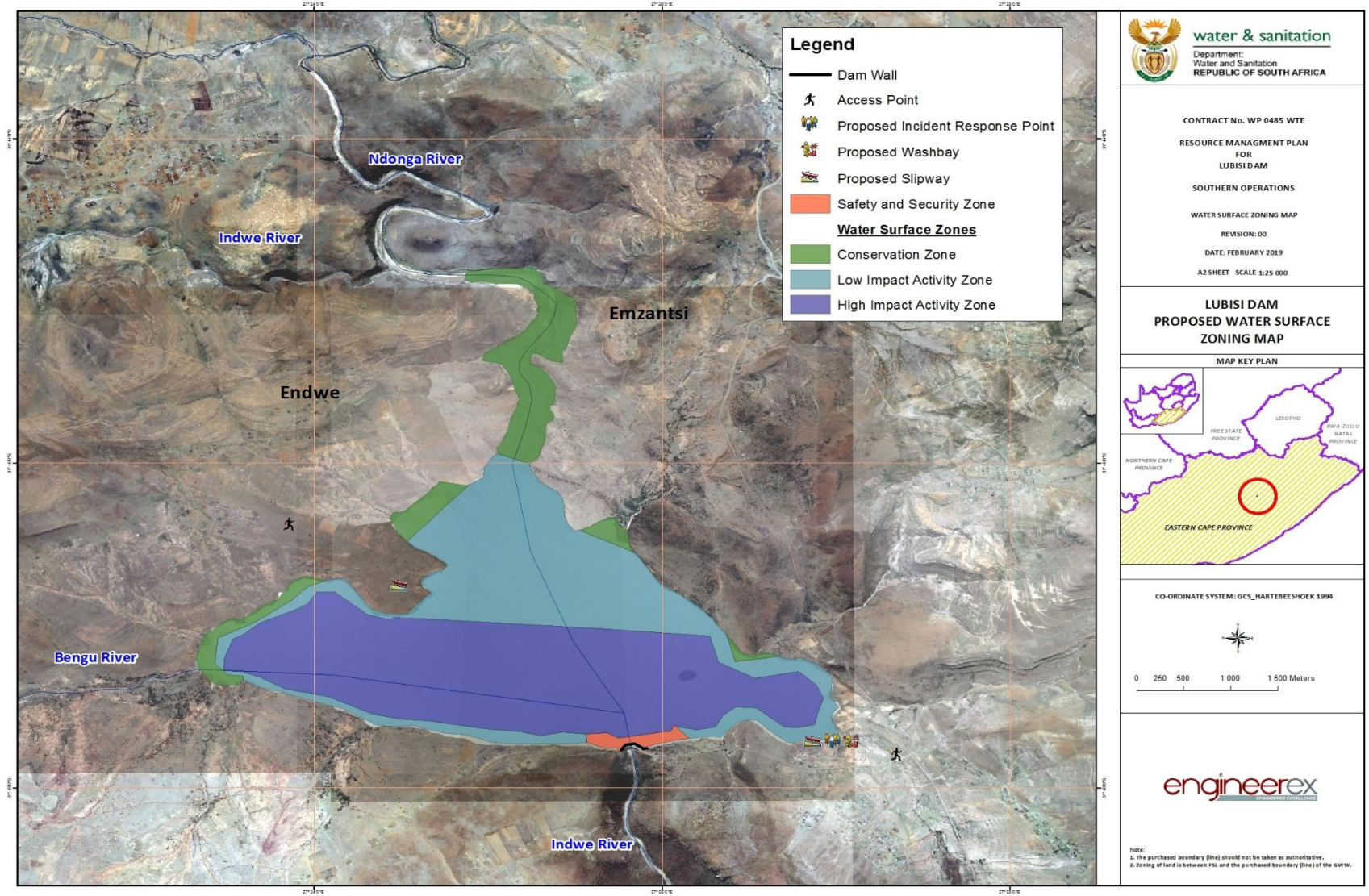

Figure 20: Proposed Water Surface Zoning

4.2.2 Shoreline Zoning[5]

In addition to the water surface zoning, an integral part of the RMP is also shoreline zoning, which provides guidance on what recreational activities (if any) are permissible or not permissible on the land adjacent to the Dam (DWS purchased boundary). The shoreline zones include:

Safety and Security Zone (Dam wall and associated DWS infrastructure):

This zone is applicable to the area surrounding the Dam wall and the outlet works. The extent of this zone is determined by the DWS and shall not be less than 100m from the Dam wall and downstream. This area is reserved for DWS management purposes.

Management of this zone is aimed at protecting the Dam wall and outlet works, as well as ensuring the safety of the public and surrounding areas. This is a no-go zone to the public unless authorised.

Conservation / Low Density Activity Zone:

This zone consists of ecologically sensitive areas and areas with high biodiversity. It also includes the area around the inlets of the Dam. Access to this area is limited to low impact activities such as hiking, and bird watching. This area is demarcated to prevent ecological Damage due to high density development activities.

Medium Density Activity Zone:

This zone is demarcated for small-scale activities such as day visiting, picnic areas, shoreline fishing, camping (tent and caravan), braai facilities, swimming pools, ablution facilities and infrastructure for services.

High Density Activity Zone:

This zone is demarcated for large-scale activities including chalets, recreational club houses, infrastructure for services, and land based aquaculture.

Community Resource Zone:

This zone is for the sole beneficiation of the local communities in ensuring that their livelihoods are maintained and improved. Activities include subsistence fishing, livestock watering points, and small-scale community gardens.

Table 9 and **Figure 21** and **22** shows the proposed shoreline and overall zoning for Lubisi Dam.

[5] Permanent structures within the purchased boundary are not allowed. All developments should be outside 1:100 year floodline.

Table 9: Proposed Shoreline Zoning Description

Zone Description	Permissible Activities	Non-permissible Activities	Recommendation
• Safety and Security Zone.	• Fire management; • Alien invasive species clearing • Management of Dam infrastructure • Management and maintenance activities by DWS and authorised personnel	• Public access	• A minimum area of 100m wide downstream the Dam wall should be demarcated preventing public access and use.

• Medium Density Activity Zone.	• Camping (tent and/or caravan)
	• Day visitors
	• Picnic
	• Shoreline fishing
	• Braai facilities
	• Swimming pools
	• Ablution facilities
	• Aquaculture facilities
		• Accommodation facilities such as:
		  ○ Chalets
		  ○ Recreational club houses
		• Permanent Structures
			• The management of this area should follow the PPP process in terms of National Treasury.
			• All developments must be approved by IA and DWS.
			• Requirements of NWA and NEMA must be taken into account in all developments.
			• Noise levels to be kept at a minimum.
			• Camping, picnicking, bank angling and access to the water must be done in accordance to access agreements.
			• Camping and picnicking is allowed only in designated areas.
			• Noise levels to be kept at a minimum.
			• No littering at Camping and Picnic spots.

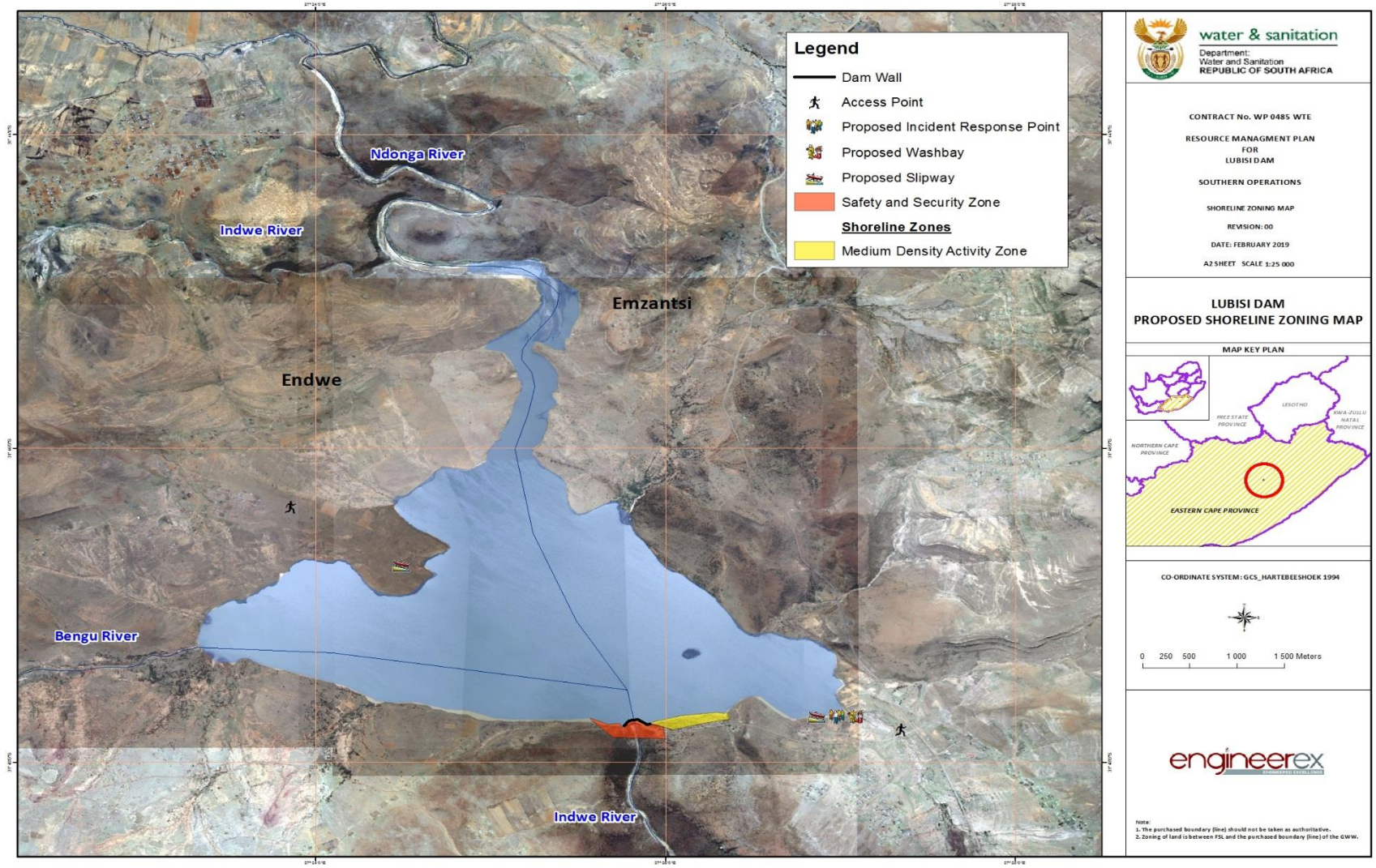

Figure 21: Proposed Shoreline Zoning Map

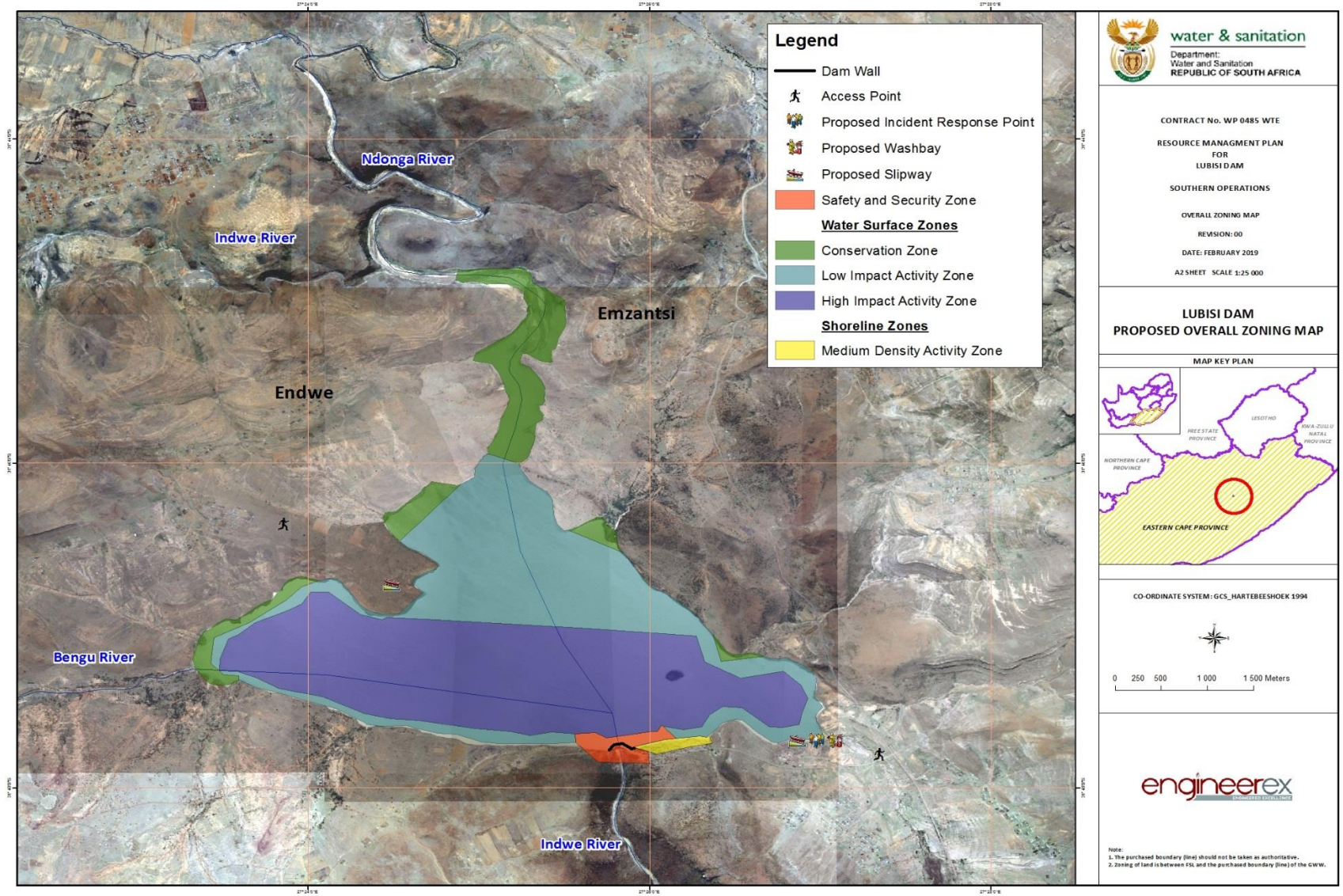

Figure 22: Proposed Overall Zoning Map

4.2.3 Carrying Capacity

The carrying capacity provides a guideline for recreation to ensure that the Dam is safe, that users do not feel crowded and that they enjoy the use of the Dam.

The Methodology for Carrying Capacity Assessment for the use of water for Recreational purposes was used as a guideline to determine the maximum level of visitor/recreational use and related infrastructure that the water resource and surrounding area can accommodate (DWAF, 2003).

There are three levels of carrying capacity:

- **Physical Carrying Capacity** (PCC) – this is the maximum number of users that can physically fit onto the water resource over a particular time;
- **Real Carrying Capacity** (RCC) – this is the maximum permissible number of users that can use the resource once corrective factors that are unique to the Dam are taken into account on the PCC; and
- **Effective** (or permissible) **Carrying Capacity** (ECC) – this is the number of visitors that can use the resource, given the management capacity available.

Each level constitutes a corrected capacity level of the preceding level. The PCC is always greater than the RCC, and the RCC is greater than the ECC, i.e.: **PCC > RCC and RCC ≥ ECC.**

The process of establishing the carrying capacity is normally determined through the following tasks:

- Analysis of recreation and water resource management policies;
- Analysis of objectives of the water resource;
- Analysis of current recreational water use;
- Definition, strengthening or modification of policies regarding recreational water use management;
- Identification of factors influencing recreational water use; and
- Determination of the recreational water use carrying capacity.

Physical Carrying Capacity (PCC)

Formula: PCC = A x U/a x Rf

Where:

A = available Surface area for public use
U/a = area required per user
Rf = rotation factor (number of visits/day)

Table 10 shows the type of craft and the required area for use.

Table 10: Area required per user

Craft	U/A (ha/craft)
Rowing	0.5
Canoe	1.0
Dinghies	1.0
Water-Skiing	2.0
Fishing	3.0
Powerboats	4.0
Sailing	5.0
Average	**2.4**

Based on the table above the average hectare per user is 2.4 ha (24 000 m^2), the value of 5.0 ha (50 000 m^2) can be acceptable area per user. This has been chosen in order to ensure that the Dam is not overcrowded, as such impacting on the sense of the area.

The available surface area for Lubisi Dam is **1 115 ha** whereas ***U/a*** is assumed to be the average which was calculated as 1 craft/5 ha. And again the rotation factor (*Rf*) is assumed as 1 visit per day.

Therefore: **PCC =** A ÷ U/a x Rf
=1 115 x 1/5 x 1
= 223 crafts on the Dam

Real Carrying Capacity (RCC)

RCC = PCC x (100 – Cf1) % x (100 – Cf2) % x … (100 – Cfn) %

Where:

Cf = a corrective factor expressed as a percentage.

The RCC takes into account factors that limit recreation use (craft based) of the Dam. For Lubisi Dam, these factors includes sensitive areas, such as conservation areas (48.6 ha) as well as aspects regarding the safe operation and management of the Dam (8.5 ha).

These factors accounts for 57.1 ha, that is 5% of the area that is not available for recreational use.

Therefore: RCC = PCC x (100 – cf1) % x (100 – cf1) % x (100 – cf1) %

= 223 x (100 – 5) %

=212 crafts

Effective Carrying Capacity (ECC)

ECC = [Infrastructure Capacity x Management Capacity] x 100/ RCC

Given that the Dam currently offers no recreational activities and the recreational facilities are in a bad condition. Also, there is no management structure in place. Hence the ECC is currently 0. Once there is an Institutional structure for the management of infrastructure capacity, then the ECC can be calculated to verify if the RCC can be possible.

4.3 STRATEGIC PLAN

The strategic plan is informed by the objectives identified by stakeholders and through research on potential opportunities at the Dam. The objectives are broken down into management fields which are listed below in a format offering ease of reference:

- Objective (What is envisaged for the Dam?);
- Motivation (Why is it important to achieve this?);
- Management support (Who will be involved?); and
- Action Projects (How to achieve this?).

In **Tables 11** to **13**, the strategic plan on how to achieve the objectives identified for the Dam is outlined.

4.3.1 KPA 1: Resource Management

Table 11: Strategic Plan for KPA 1: Resource Management

Objective (What do we want)	Motivation (Why do we want to achieve this)	Action Projects (How do we achieve this)	Management Support (Who will be involved)
Access Control: • To fence the Dam in-order to control access to the Dam and ensure safety of the people and animals.	• There is no controlled access to the Dam as the entire Dam is not fenced. As a result, neighboring community members have direct access to the Dam wall and water surface. • Lack of access control leads to vandalism on the existing recreational facilities as well as the infrastructure of the Dam. • There are also reports of recurring drowning incidents of livestock and people. • Unauthorised fishing at the Dam wall which is considered as a safety and security zone, where public access and recreational activities are not allowed. • When security guards are appointed at other DWS Dams to monitor safety they get murdered.	• Erect a fence at hotspots where the community deems dangerous for drowning incidents to the children as well as livestock. • Appoint and train safety officers from within the communities to monitor access to the Dam and to ensure that the Dam safety rules are adhered to at all times. • Raise awareness amongst the local communities about the importance of having a water resources and associated infrastructure to prevent vandalism at the Dam. • DWS to revive partnership with Swim SA to train local community members to become life guards to curb drownings at the Dam. • The objective will be incorporated in a Business Plan to determine projected costs for the implementation of the action projects.	• DWS • Swim SA • IA (CHDM) with the support of the DMC • SAPS

4.3.2 KPA 2: Resource Utilisation

Table 12: Strategic Plan for KPA 2: Resource Utilisation

Objective (What do we want)	Motivation (Why do we want to achieve this)	Action Projects (How do we achieve this)	Management Support (Who will be involved)
Fishing: • To introduce aquaculture at the Dam. • To promote subsistence fishing and fisheries at the Dam.	• The Department of Agriculture, Forestry and Fisheries (DAFF) has identified the Dam as a suitable site for aquaculture. The assessment was conducted in Cofimvaba in May 2017. • Currently, the communities do practice subsistence fishing at the Dam, however there are no permitting systems in place. Moreover, there is an interest to explore the potential of commercial fish harvesting.	• To conduct a feasibility study to get comprehensive information on the viability of the project e.g the soil type for its stability in case ponds are to be constructed; water quality parameters; size to be demarcated for aquaculture, targeted production etc. Terms of reference for such a study would be defined clearly closer to the time. • Provide training to workers. • Permits (fishing licence) must be acquired and the use of gill nets must be prevented, as it has significant negative impact on fish population within the Dam. • Educate and train people on fishing methods that are safe and sustainable. • Preserve the core habitats for nesting, resting, feeding and breeding of fish within the inlets, by demarcating areas for subsistence fishing. • Management authority or DWS must develop a communication signage in order to effectively inform different angling groups about the Dam fishing rules.	• DRDAR • DAFF • Department of Agriculture and Land Affairs (DALA) • IYLM • ELM • IA (CHDM) with the support of DMC • DWS

Objective (What do we want)	Motivation (Why do we want to achieve this)	Action Projects (How do we achieve this)	Management Support (Who will be involved)
		• Appoint and train safety officers within the communities to monitor compliance of the Dam fishing rules. • Generate the necessary infrastructure, such as banks to fish from in order to support sustainable fishing. • Incorporate the objective in a Business Plan for a feasibility study to evaluate the fish population in the Dam and a possiblity of a fishery project.	
Refurbishment: • To revive the day visitor's area at the Dam.	• The visitor's area and the existing facilities are vandalised and need to be refurbished.	• Construction of recreational facilities: o Outdoor and covered Braai Stands; o Construction of Lapas; o Angling banks; and o Ablution Facilities. • Should the design, development and operation of the public facility be outsourced, then local contractors should be considered. • Implement a signage system that communicates relevant information, especially where this pertains to zoning restrictions and other rules and regulations.	• IA (CHDM) with the support of the DMC
Introduction of a Ferry System or Construction of a Walkway Bridge: • To introduce a ferry system (boat) or construction of a walk	• There are a number of communities around the Dam which are isolated from each other due to the location of the Dam. Communities use the Dam wall as means of crossing and connecting to other neighbouring villages. A ferry system (boat) and	• To conduct a feasibility study for a ferry system (boat) and a bridge to link neighbouring communities on either sides of the Dam.	• DWS • IA (CHDM) with the support of the DMC.

Objective (What do we want)	Motivation (Why do we want to achieve this)	Action Projects (How do we achieve this)	Management Support (Who will be involved)
way bridge to cross the Dam to reach other villages.	the bridge would enable easy access to the Dam and will connect the neighbouring communities.		
Recreational Facilities: • To establish more tourism facilities (B&Bs, resource centres, etc) and recreational activities (boating, swimming and other water sports).	• Currently there is only one lodge near the Dam which is not meeting demand. • If more tourism facilities are put in place, they will open economic opportunities to the area within which the Dam is located. • To encourage people with arts and craft talent to display and market their work to visitors at the Dam. • There is a Bengu Waterfront initiative that provides a platform for the active participation of the Bengu locals in their own development. Participation involves the identification of potential and viable business ventures that might change or improve the livelihoods of Bengu local people.	• DWS to erect survey beacons at the Dam showing the extent of the DWS purchased boundary (PB). • The outcome of the DWS purchased will determine if huge tourism developments such as B&B, resources centre, etc., will be accommodated within the PB or outside the PB.	• IA (CHDM) with the support of the DMC

4.3.3 KPA 3: Benefit Flow Management

Table 13: Strategic Plan for KPA 3: Benefit Flow Management

Objective (What do we want)	Motivation (Why do we want to achieve this)	Action Projects (How do we achieve this)	Management Support (Who will be involved)
Agricultural Use: • To construct water ponds near the Dam to supply water for irrigation and to promote farming and livestock watering.	• Livestock drink water from the Dam and risk easily drowning in deeper areas (currently the local community members raised the issue of livestock drowning at the public meetings).	• Schedule 1: Permissible Water Use states that a person may use water in or from a water resource for purposes such as reasonable domestic use, domestic gardening, animal watering, fire fighting and recreational use. DWS to engage DRDAR on the way forward regarding this matter.	• DRDAR • DALA • DAFF • DWS • IYLM • ELM • IA (CHDM) with the support of the DMC
Skills Development Programmes: • Uplift the local economy and increase benefit flows to the surrounding communities through community empowerment.	• Tourism sector has been identified as a vehicle for skills development, job creation, Broad-based Black Economic Empowerment (BBBEE), etc. it is imperative that the local communities derive benefits from recreational activities conducted at the Dam. • The level of unemployment in the area is high.	• Implement skills development programmes where opportunities exist. • Implementation of environmental awareness to the local communities and ensure that they are always updated with environmental information. • Educate and train the community on how to utilise the Dam for other recreational activities besides fishing. This will assist in terms of uplifting the surrounding local community. • Extend awareness to the communities on project management skills. • Prioritise the local community if any job opportunities arises.	• IYLM • ELM

4.4 FINANCIAL PLAN

A Financial Plan provides guidance on how revenue can be generated through recreational use of the Dam and how it should be used to ensure community participation and beneficiation, as well as to ensure the sustained and improved management of the Dam.

The proposed IA (CHDM) for this Dam can explore the various streams of generating revenue as presented below:

4.4.1 Potential Sources of Revenue

Access Fees: Potential revenue can be generated from access fees paid by visitors. A standard access fee can be charged per head, differentiated on age. The determination of access fees should take cognisance of the socio-economic profile of the area so as to cater for the local communities. The access fees cannot be used for rent seeking or to make profit. Over and above access fees, additional fees can also be charged which includes:

- **Parking Fees:** Motorists can be charged extra fees for parking.
- **Event and Service Based Fees:** These are extra fees that can be charged for the following:
    - Fishing (sports);
    - Private boating;
    - Functions (festivals, weddings, conferences and cultural activities); and
    - Caravan/ outdoor camping.

It is important that the identified events above be established at the Dam for the realisation of the identified fees.

Rental Charges: Potential source of revenue can also be explored on rental fees, *inter alia,* boat clubs operating from the Dam should pay the leasing fees. The terms of payment will be stipulated in the lease agreement between DWS through the IA (leaser) and the lessee.

4.4.2 Target Market

To realise the above-mentioned revenue the following will be the target:

- Lady Frere Town;
- Lubisi Lodge;
- Farmers;
- Churches;
- Schools;
- Institutions;
- Group tourists; and
- Government Departments.

In light of the above mentioned, there should be sources of capital for initial investment for the upgrading of existing infrastructure as well as setting up of new facilities. The proposed IA can consider the following sub-sections as a source of capital.

4.4.3 Co-Funding

The project can leverage its existence in the local Integrated Development Plan (IDP) to harness funding. Co-funding is also viable where an IA is appointed to manage recreational use of the Dam. Examples of projects of similar nature which were successfully co-funded are Roodeplaat Dam Nature Reserve and Nonoti Beach Resort Development (Coastal Marine Tourism Project), details are attached as **Appendix G.**

DWS and/or other relevant Government Departments can fund the IA to supplement operational costs and other scenarios by co-funding identified objectives that are related to their mandate. It is recommended that CHDM be appointed as an IA to manage recreational use of the Dam on behalf of DWS. Examples of potential co-funders are:

- The Department of Tourism;
- Industrial Development Corporation (IDC); and
- InvestSA (One Stop Shop).

More information on the co-funders is attached in **Appendix H.**

A more detailed Financial Plan (FP) is contained in the Business Plan (refer to **Appendix I**), which will facilitate the implementation of the RMP by providing an implementation program and cost estimates for all possible economic recreational activities.

The information acquired from the RMP will be used to produce the Business Plan (BP) based on the action projects for each objective as stipulated under the Strategic Plan. However, many of the identified objectives are not of commercial nature and as such these non-economic objectives will not feature in the BP.

The BP provides a good description of possible economic recreational activities and the methods that can be used or enhanced to achieve the ultimate vision and the key objectives of the Lubisi Dam RMP. It also describes the financial management and operational requirements to implement the objectives of the RMP.

CONCLUSION AND WAY FORWARD

This RMP comprehensively covered inter alia the environmental analysis (biophysical, built and socio-economic environment) of the Dam, RMP data analysis (encumbrance survey, objective identification and research/ information generation) and the integrated resource management planning which consists of the institutional plan, zoning plan, strategic plan and the financial plan.

The key challenges identified comprise:

- Inconclusive if the water is fit for recreational use owing to the absence of test samples for all water quality constituents, DWAF (1996);
- Presence of invasive alien fish species (smallmouth yellow fish) in the Dam;
- Lack of access control which leads to vandalism of the existing recreational facilities as well as the infrastructure of the Dam,
- Drowning incidences;
- Fishing within the Safety and Security Zone of the Dam wall;
- The extent of the DWS purchased boundary is unknown;
- Lack of fencing around the Dam results to vandalism of the existing recreational facilities at the Dam;
- Unclear if the farm portions (Mutote and Nqele) within Lubisi Dam, forms part of the properties where land claims are proposed by the Lubisi Village (previously known as Southeville);
- Community members make use of the Dam wall to get to the villages located on the other side of the Dam;
- The Dam is situated close to Lubisi, kwaZothe and Jombela communities where domestic livestock such as cattle, goats and sheep graze and drink water from the Dam;
- During seasons of draught there is a risk of livestock getting stuck into the mud while trying to reach for water in deeper parts of the Dam; and
- Lack of community beneficiation.

Recommendations:

This RMP recommends the following immediate actions:

- Appoint CHDM as an IA to manage recreational use of the Dam on behalf of DWS;
- Establishment of a Dam Management Committee (DMC) to serve as an advisory committee to the proposed IA;
- DWS to survey the Lubisi Dam to determine the extent of the DWS purchased boundary;
- To avoid conflict amongst users, uncontrolled development and to protect the water resource, the permissible and non-permissible activities on the water- and shoreline surface are delineated in the Zoning Plan and covered under Section 4.2;
- To ensure public safety with regards to the use of inland vessels, the maximum level of recreational use the water resource can accommodate is covered under Carrying Capacity in section 4.2.3; and
- The key performance areas for Resource Management, Resource Utilisation and Benefit Flow Management is covered under the Strategic Plan in section 4.3.

Review:

According to DWAF (2006), the RMP may be reviewed and updated every five (5) years to ensure that the management objectives remains relevant and management actions are continually improved. The BP is updated annually. **Figure 23** illustrates the RMP & BP review framework.

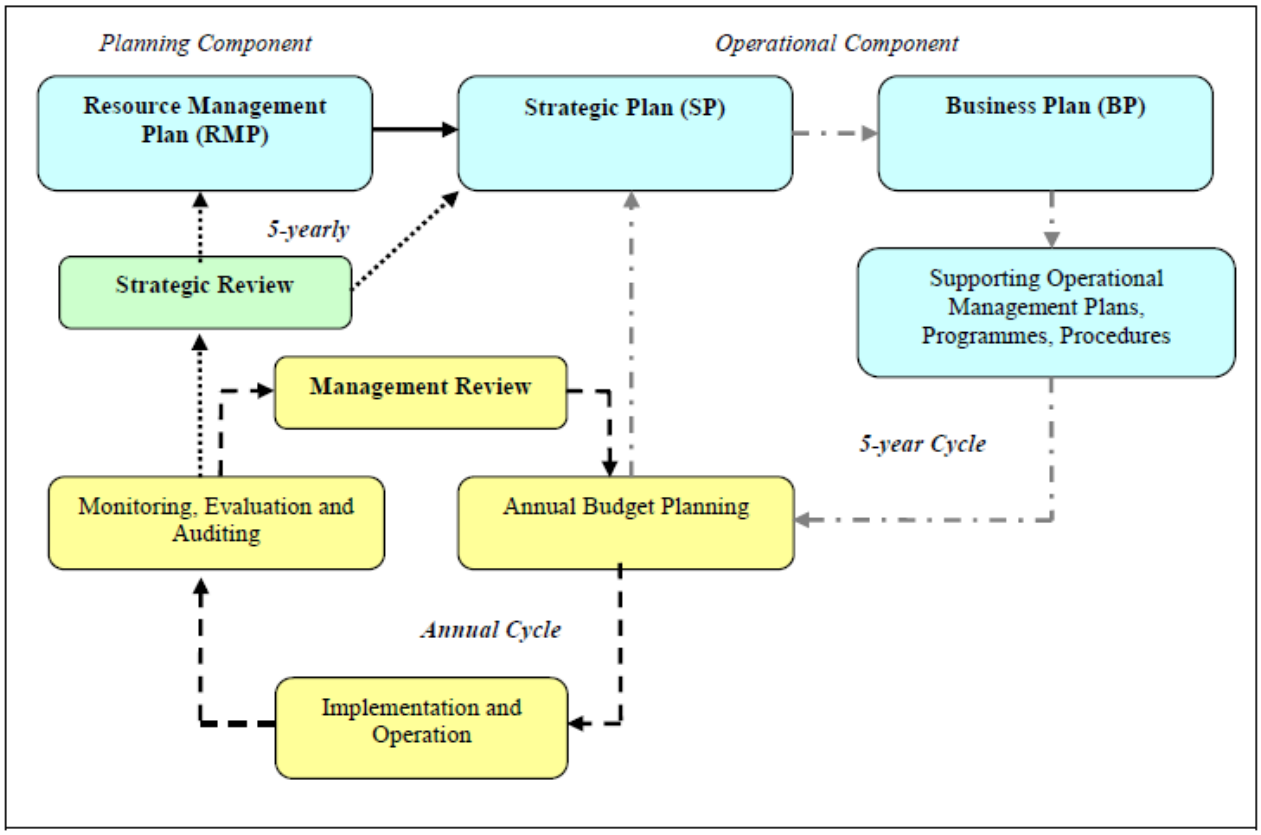

Figure 23: RMP and BP Review Framework

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APPENDICES

APPENDIX A : STAKEHOLDER DATABASE REGISTER

APPENDIX B : BACKGROUND INFORMATION DOCUMENT (BID)

APPENDIX C : RADIO ADVERT

APPENDIX D : FLYERS

APPENDIX E : EMAILS

APPENDIX F : COMMENT AND RESPONSES REGISTER

APPENDIX G : EXAMPLES OF SUCCESSFULLY CO-FUNDED PROJECTS

APPENDIX H : POTENTIAL CO-FUNDERS

APPENDIX I : BUSINESS PLAN