



Department : Water Affairs
and Forestry

Integrated Water Resources Management



Institutional Roles and Linkages: Mvoti - Umzimkulu WMA
Full Guideline



DEPARTMENT OF WATER AFFAIRS AND FORESTRY

INTEGRATED WATER RESOURCES MANAGEMENT

**INSTITUTIONAL ROLES AND LINKAGES
SITUATIONAL ASSESSMENT: WMA11:
MVOTI AND MZIMKULU**

INTEGRATED WATER RESOURCE MANAGEMENT
STRATEGIES, GUIDELINES AND PILOT IMPLEMENTATION
IN THREE WATER MANAGEMENT AREAS, SOUTH AFRICA

DANIDA
FUNDING AGENCY

Edition 1

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SITUATIONAL ASSESSMENT: WMA 11:
MVOTI AND MZIMKULU

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CATEGORY: Situation Assessment

PURPOSE: To identify progress in the process towards the establishment of IWRM and to describe the current duties and functions of DWAF and other institutions in the Water Management Area with regards to the management of water resources.

TARGET GROUP: DWAF, IWRM Project Consultants and implementers in three water management areas.

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LIST OF ABBREVIATIONS

CBO	Community Based Organisation
CLC	Coordination and Liaison Committee (for CMA Establishment)
CMA	Catchment Management Agency
CMC	Catchment Management Committee
CMF	Catchment Management Forum
CMS	Catchment Management Strategy
DANIDA	Royal Danish Ministry of Foreign Affairs
DEAT	Department of Environmental Affairs and Tourism
DLA	Department of Land Affairs
DME	Department of Minerals and Energy
DOA	Department of Agriculture
DOH	Department of Health
DPLG	Department of Provincial and Local Government
DTI	Department of Trade and Industry
DWAF	Department of Water Affairs and Forestry
EMP	Environmental Management Plan
IDP	Integrated Development Plan
IGF	Intergovernmental Forum
IWRM	Integrated Water Resources Management
NEMA	National Environmental Management Act
NGO	Non-Governmental Organisation
NWA	National Water Act
NWRS	National Water Resources Strategy
SALGA	South African Local Government Association
WC/WDM	Water Conservation and Water Demand Management
WMA	Water Management Area
WMI	Water Management Institution
WSA	Water Services Authority
WSDP	Water Services Development Plan
WUA	Water User Association

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EXECUTIVE SUMMARY

The promulgation of the National Water Act (NWA, Act No. 36 of 1998) set in motion a process of change for the management of water resources in South Africa. A significant aspect of this process is the establishment of water management institutions that will allow water users and interest groups, at regional or catchment levels, to jointly participate in water management decisions toward their sustainable growth and development.

Implementation of the legislation has been ongoing and, at this stage assessment of the processes that have been followed, the successes achieved to date, as well as areas identified for improvement need to be made. Funding from the Royal Danish Ministry of Foreign Affairs (DANIDA) provided an opportunity to assess the situation in three pilot Water Management Areas in South Africa, while building capacity on integrated water resources management. The three areas were the Crocodile West & Marico, the Mvoti to Mzimkhulu, and the Oliphants-Doorn Water Management Areas. This report specifically focuses on the Mvoti-uMzimkhulu WMA, which is situated on the east coast of South Africa, overlapping parts of the KwaZulu-Natal and Eastern Cape provinces.

The specific purpose of this document is to:

- ✧ Identify progress in the process toward the establishment of IWRM in the Mvoti-Mzimkhulu Water Management Area, and
- ✧ Describe the current duties and functions of DWAF and other water management institutions in the Mvoti-Mzimkhulu WMA with regards to the management of water resources.

This report reflects, at the current time, specific characteristics of the Mvoti-Mzimkhulu Water Management Area in terms of available institutions, their geographic locations, policies governing them, their functions and relationships with other institutions.

By South African standards, the Mvoti-Mzimkhulu Water Management Area is well endowed with water resources and has generally good water quality and water infrastructure, therefore great economic potential. Rivers in this system may be classified into three categories, namely, large rivers rising from the Drakensberg (e.g. *Mkhomazi*, *Mzimkhulu*); medium sized rivers rising from the midlands (e.g. *Mngeni*, *Mvoti*) and several coastal rivers (e.g. *Mdloti*, *Mzimayi*). There is a strong seasonal rainfall pattern in this Water Management Area, with an excess of 80 % rain falling as thunderstorms in summer. Although the Water Management Area is well endowed with water resources, it does experience problems related to water demand during drought seasons. Wilson *et al*, (2000), reports that there is strong empirical evidence to suggest that the Mngeni and Mvoti rivers are experiencing significant water demand related stress. This emphasises the need for proper management of the water resources in this Water Management Area.

Efforts in the Water Management Area to embrace the National Water Act principles for catchment-based water resources management have been through community participative measures, supported by sixteen Catchment Management Fora. Several of these have not developed significantly over this period, and will need future attention. However, in the last four years, the Catchment Management Agency proposal development process, and the institutional development process through the DANIDA-DWAF Integrated Water Resources Management project, have been instrumental in bringing together a wide range of stakeholders on resource management issues.

Other institutional capacity has also been boosted through several interventions associated with the Integrated Water Resources Management project. The Water Management Area is enriched with sixteen irrigation boards, of which at least two are in the process of transformation to Water User Associations but recent communication with the irrigation boards has indicated that there are constraints/delays at national level for reasons unknown to the boards.

A Catchment Management Agency Proposal Development Working Group was established and had a reasonably balanced representation from DWAF, Water Board, District and Local Municipalities, organised business, farmers, Irrigation Boards and water users. The Proposal Development Working Group had systematically facilitated the development of the proposal towards the establishment of the Mvoti to Mzimkhulu Catchment Management Agency over a four-year period. The Catchment Management Agency Proposal Evaluation Committee has since reviewed this proposal and identified that the proposal had met a lot of expectations in line with DWAF policies, but some areas required improvement, including the following:

- ✧ *Stakeholder participation process: Further involvement of local government – including eastern Cape -, rural groups, and previously disadvantage individuals, was deemed necessary. More information was therefore needed with regards to the stakeholder participation process that the Catchment Management Agency needed to take forward, the details of which should be included in the proposal.*
- ✧ *Proposed delegation of functions: The timeframes for delegation were considered to be short. To ensure coordination, a summary is to be compiled regarding the delegation of functions, the timeframes, and the transfer/appointment of staff.*
- ✧ *Financial viability: Aspects of the financial proposal were required to be changed and aligned with the National Pricing Strategy.*
- ✧ *Requirements for a viable Catchment Management Agency: More information was needed to ensure the viability and sustainability of the Catchment Management Agency, the risks and secondment of staff and how these issues were to be addressed. A description of the need for and importance of adequate representation within the CMA structure needed to be set out more clearly.*

The current status is that the Catchment Management Agency establishment proposal has not yet been approved. However, nominations to the Catchment Management Agency Board are anticipated to take place this year, suggesting that approval is anticipated this year.

A number of organisations and institutions - including all three spheres of government - are already actively engaged in aspects of water management in the Mvoti-Mzimkhulu Water Management Area. The roles and functions of these organisations are discussed. It is acknowledged that Integrated Water Resources Management is an evolutionary process and, as such, institutions will evolve over time to adapt their practises to fit into an IWRM framework. The Catchment Management Agency institutional framework is outlined in the Proposal for the establishment of the Mvoti-Mzimkhulu Catchment Management Agency as follows:

- ✧ *The institutional structure will comprise the Water Resource Management Committees, the Catchment Management Agency Governing Board, and Operational and Technical Support (O & TS). Further support for the Catchment Management Agency will come from Water User Associations, Water Boards and other appointed committees.*
- ✧ *The Catchment Management Agency will develop its Operational and Technical Support in a phased manner and examine a range of staffing and outsourcing arrangements in the process. The Catchment Management Agency seeks to adopt all possible delegated and assigned functions as soon as is possible.*
- ✧ *Due to potential lack of capacity, some functions may be outsourced to other water management institutions, within the Water Management Area, that have the necessary capacity.*
- ✧ *The Proposal further discusses the financial and social viability of the proposed Catchment Management Agency.*

1 INTRODUCTION

The promulgation of the National Water Act (Act No. 36 of 1998) set in motion a process of change for the management of water resources in South Africa. A significant aspect of this process is the establishment of new water management institutions that will allow water users and interest groups to participate in water management decisions and development. The aim is a more integrated approach between sectors involved in water resources management, water use and those making decisions on land-use activities that may impact on the resource sustainability.

The rationale behind this approach is that water is recognised to be a finite, scarce and unevenly distributed resource that needs to be managed in an integrated and participative way, as it affects all lives and the rate of development and progress, or lack thereof. Thus to enable everyone to participate, the National Water Act has delegated water management to a regional or catchment/water management area level. To this effect South Africa was divided into nineteen Water Management Areas. Progress towards the establishment of new water management institutions and building relationships between existing institutions is currently underway. This involves large-scale change to the way in which water user and interest groups relate to each another and is therefore a dynamic and evolutionary process.

This study looks at Integrated Water Resources Management institutional development and roles and responsibilities in one of these water management areas, the Mvoti-Mzimkhulu Water Management Area which lies on the East Coast of South Africa, overlapping components of KwaZulu-Natal and Eastern Cape Provinces.

The report is targeted at DWAF, IWRM project consultants, IWRM implementers, and their stakeholders.

2 BACKGROUND TO REPORT

The lead consultant (LC), Carl Bro, an international multi-disciplinary consultancy company with headquarters in Denmark, is currently implementing an Integrated Water Resources Management project in South Africa in association with the Department of Water Affairs and Forestry (DWAF). The Royal Danish Ministry of Foreign Affairs (DANIDA) has financed the project.

The project is being piloted in three Water Management Areas, namely, the Crocodile-West and Marico Rivers (Gauteng and NW Provinces), Mvoti to Mzimkhulu (KwaZulu- Natal Province) and Oliphants-Doorn Rivers (Western Cape/Northern Cape Provinces).

The purpose of this document is to: -

- ✧ Identify progress in the process toward the establishment of IWRM in the Mvoti-Mzimkhulu catchment, and
- ✧ Describe the current duties and functions of DWAF and other water management institutions in the Mvoti-Mzimkhulu with regards to the management of water resources.

It must be acknowledged that there are several existing initiatives in the Mvoti-Mzimkhulu that contribute toward the development of IWRM in various sectors. The DWAF- DANIDA project has provided valuable resources to further this goal.

3 DESCRIPTION OF WMA

The Mvoti-Mzimkulu Water Management Area is situated in the eastern part of South Africa and overlaps two provinces, namely, KwaZulu-Natal and Eastern Cape, extending to Greytown in the north, Port Edward in the south, the Drakensberg mountains in the west and the Indian Ocean in the East.

The altitude of the WMA falls from 3,000 m in the Drakensberg Mountains in the west to sea level at the Indian Ocean in the east, over a comparatively short distance of 250 km.

The geology of the area is diverse with a variety of basalts, granites, sandstones, shale and tillites that influence the topography and scenery. Sandstones are typically strong and resistant but shales tend to be weak and easily erodible once exposed.

Rivers in the area have been described by Wilson, *et al* (2000) as comprising three-tiers: a few large rivers rising from the Drakensberg (e.g. *Mkhomazi, Mzimkhulu*); medium sized rivers rising from the midlands (e.g. *Mngeni, Mvoti*) and several coastal rivers (e.g. *Mdloti, Mzimayi*).

3.1 DEMOGRAPHIC PROFILE

The area comprises an unevenly distributed population of approximately 5.1 million people, with most inhabiting the industrial areas of Durban and Pietermaritzburg.

Table 3.1 shows the total population of specific tertiary catchments in this Water Management Area. The Mngeni River catchment has the greatest total population with 1.6 million people.

3.2 SOCIO-ECONOMICS

The WMA is home to the eThekweni Municipality, industrial complexes of Greater Durban and Pietermaritzburg areas, as well as the development nodes associated with the following areas:

- ✧ *The Himeville-Underberg Drakensberg area (dairy, mixed farming, forestry)*
- ✧ *Tongaat-Stanger North Coast Region (sugar cane, tourism, citrus)*
- ✧ *Port Shepstone and the Hibiscus Coast*
- ✧ *Greytown and the Midlands interior (forestry, sugar cane, mixed farming)*
- ✧ *Howick and the Southern Natal Midlands (dairy, forestry, mixed farming)*

The average per capita income for the Water Management Area is R 11,200 per annum, which is above the national average of R 9,520 per annum, although there is a high level of inequality among earners. The poverty index of the WMA is 0.37, which is similar to the national average of 0.41.

3.3 CATCHMENTS OF THE WMA

- ✧ The Mvoti-Mzimkulu WMA comprises ten (10) major river catchments, namely, the *Lovu, Mdloti, Mngeni, Mkhomazi, Mlazi, Mtamvuna, Mtwalume, Mvoti, Mzimkhulu and Nonoti* catchments (These are illustrated in Figure 3.1)

TABLE 3.1: DISTRIBUTION OF POPULATION IN THE MVOTI-UMZIMKULU WMA

	Total Population ¹	Population Density People/km ²	% Urban Population	% Rural Population
Mvoti to Mzimkhulu WMA	5.12 million	188	57	43
⇒ Mngeni	1 627 000	366	74	26
⇒ Mkomazi	167 000	38	4	96
⇒ Mvoti	304 000	111	19	81
⇒ Mzimkhulu	327 000	49	5	95

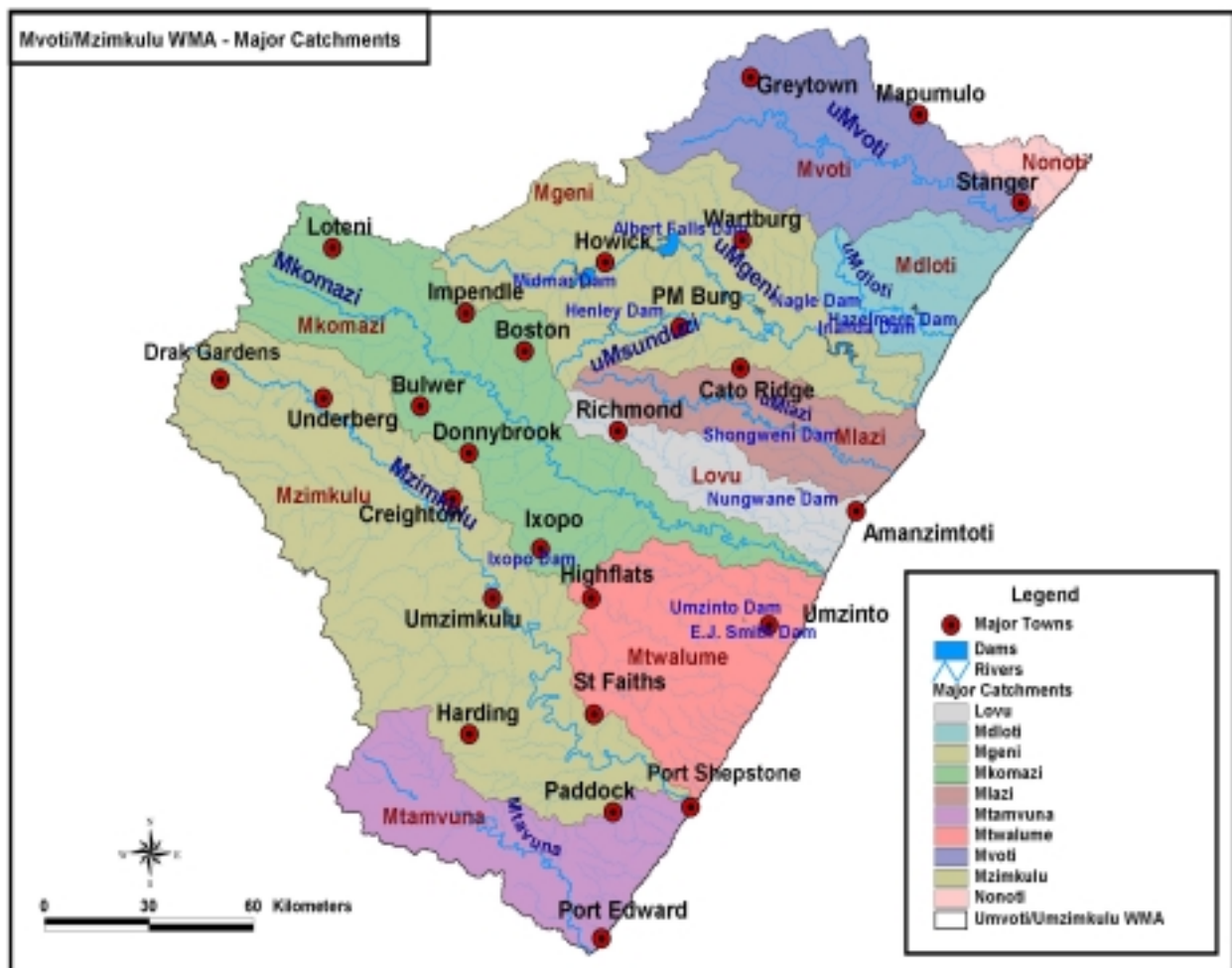


FIGURE 3.1: MAJOR CATCHMENTS IN THE MVOTI / MZIMKULU WMA

¹ Based on 1996 Census Enumerator Areas intersected by tertiary catchments

3.4 LANDUSE

There are two major cities in the WMA, namely Durban and Pietermaritzburg, and a number of minor urban settlements spread along the coastline, including holiday towns such as Margate, Port Shepstone and Ballito, as well as inland towns: Ixopo, Himeville and Greytown. Most of the land is used for forestry, agriculture and grassland with some areas devoted to game and nature parks. There is substantial development in the urban areas of Durban and Pietermaritzburg, as well as a few bulk users in the south coast and in Greytown. There are no mining concerns or power stations in this Water Management Area.

The agriculture found in this WMA includes large amounts of sugar cane (both dry land and irrigated), bananas (found on the south coast), citrus (farmed near Stanger and Darnall on the north coast), and vegetables, beef and dairy pastures. Most irrigators utilise sprinkler irrigation systems, but there is some micro irrigation along the coastline and a few centre pivots can be found in the Nottingham Road area in the Mngeni catchment.

There are a large number of game reserves and nature parks. The largest of these is the Drakensberg Reserve area and others of note are situated at Weenen and Karkloof. Recently a number of substantial new reserves have been mooted, particularly in the vicinity of Pietermaritzburg. Landuse activities are shown in Figure 3.2.

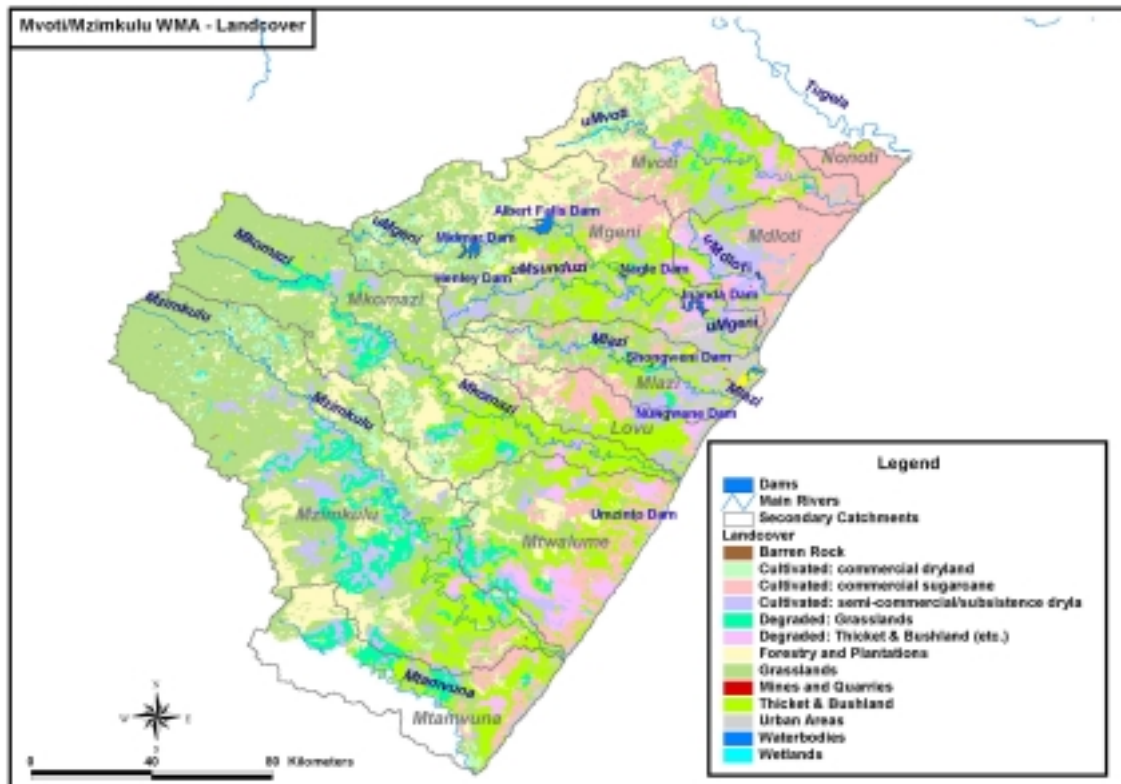


FIGURE 3.2: LANDUSE ACTIVITIES IN THE MVOTI-MZIMKHULU WMA

3.5 SOIL TYPES

Soils range from very high agricultural potential soils, occurring adjacent to the Drakensberg escarpment, to moderate agricultural potential soils along the coastal regions. Pressures in this resource include soil erosion from grazing, intensive cultivation, informal farming and settlement, timber plantations and sand mining operations.

3.6 WATER SERVICES INFRASTRUCTURE

The Mvoti to Mzimkhulu WMA has great development potential, as it is well endowed with water resources, has generally good water quality and excellent water services infrastructure, the latter which includes eight (8) dams, twelve (12) water works and eighteen (18) wastewater works. The distribution of these is shown in Figure 3.3 and tabulated in Table 3.2.

There is a strong seasonal pattern of rainfall, with an excess of 80 % rain falling as thunderstorms in summer. The Mean Annual Precipitation (MAP) ranges from greater than 1500 mm in the west, to between 800 mm and 1000 mm in the central area, to over 1000 mm at the coast. The overall MAP is about 960 mm.

The corresponding Mean Annual Runoff (MAR) ranges from 200 mm to 500 mm in the west, to less than 100 mm in the central regions and around 200 mm at the coast. The overall MAR is 190 mm.

Natural groundwater discharge occurs in the form of springs, seeps and uncapped boreholes. Groundwater quality is generally good.

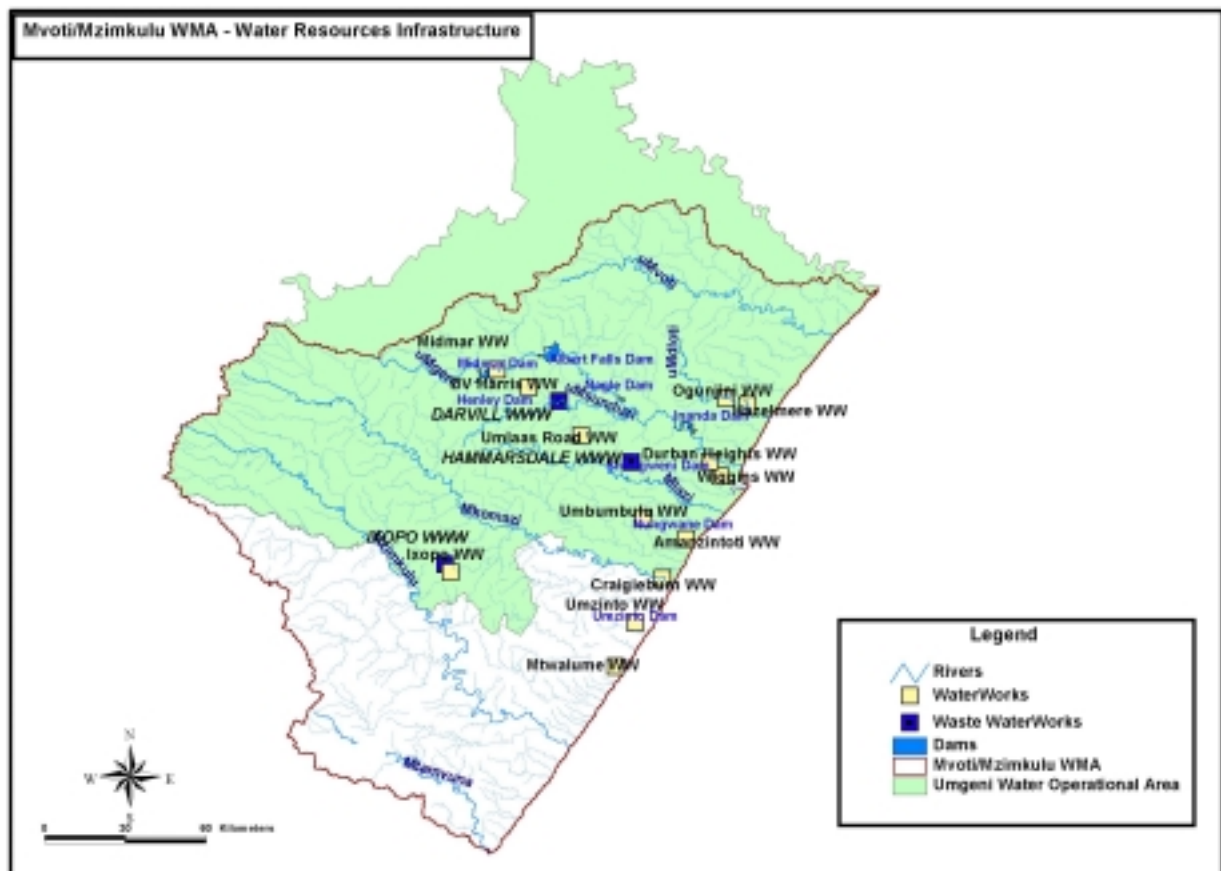
The water consumption model for the WMA shows that the major water users are urban, irrigation and forestry, while rural users consume very little. This is not surprising as most of the population - approximately 5.1 million - live in the industrialised areas of Durban and Pietermaritzburg.

TABLE 3.2: RAW WATER, MAJOR WATERWORKS AND WASTEWATER INFRASTRUCTURE IN WMA 11

Raw water infrastructure	Major potable infrastructure (exceeding 10 MI/day)	Major wastewater infrastructure (exceeding 10 MI/day)
<ul style="list-style-type: none"> ✧ Midmar dam on the Mngeni river ✧ Albert Falls dam on the Mngeni river ✧ Inanda dam on the Mngeni river ✧ Nagle dam on the Mngeni river ✧ Hazelmere dam on the Umdloti river 	<ul style="list-style-type: none"> ✧ DV Harris waterworks (WW) in Pietermaritzburg ✧ Midmar WW at Howick ✧ Durban Heights WW in Pinetown ✧ Umlaas Road WW ✧ Amanzimtoti WW ✧ Wiggins WW ✧ Mzinto WW 	<ul style="list-style-type: none"> ✧ Darvill wastewater works (WWW) in Pietermaritzburg ✧ Northern WWW in Durban ✧ Southern WWW in Durban ✧ Sappi Saiccor WWW at Umkhomazi ✧ Tongaat WWW ✧ Stanger WWW ✧ Sappi Fine Paper works at Stanger

<ul style="list-style-type: none"> ✧ Shongweni dam on the Mlazi river ✧ EJ Smith dam on the Umzimayi river ✧ Mzinto dam on the Mzinto river 	<ul style="list-style-type: none"> ✧ Bhubhoyi-Mzimkhulu waterworks ✧ Umtamvuna WW ✧ Kokstad WW ✧ Sappi Saiccor WW at Umkhomazi ✧ Craigieburn WW ✧ Mtwalume WW 	<ul style="list-style-type: none"> ✧ Mondi Southern sewage works ✧ KwaMashu WWW ✧ Phoenix sewage works ✧ Umbilo purification works ✧ Mpumalanga WWW ✧ Hammarsdale WWW ✧ Umhlatuzana WWW ✧ Central WWW in Durban ✧ Amanzimtoti sewage works ✧ AECI works at Umbogintwini ✧ Phoenix sewage works
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FIGURE 3.3: WATER RESOURCES INFRASTRUCTURE IN WMA 11



3.7 WATER REQUIREMENTS

By South African standards, the Water Management Area is well endowed with water resources. However, Wilson, *et al*, (2000) indicates that there is compelling empirical evidence to suggest that the Mngeni and Mvoti rivers are experiencing significant levels of water demand related stress.

In order to meet the expected increase in demand in the Water Management Area, a number of water resource schemes are being modelled. These include:

- ✧ *Mngeni System*
 - *Mooi/Mngeni Transfer Scheme*
 - *Mkhomazi Transfer Scheme*
- ✧ *North Coast*
 - *Raising Hazelmere Dam Wall*
 - *Impounding the Mvoti River*
- ✧ *Middle South Coast*
 - *Raising Mzinto Dam Wall*
 - *Construction of the Ngwadini Dam (off-channel storage on the uMkhomazi river)*
- ✧ *Lower South Coast*
 - *Construction of an off-channel storage site on the Mzimkhulu river*
 - *Upgrade of the Imfume borehole supply*

A careful balance between water demand management and upgrade of infrastructure would need to be struck to ensure optimal resource utilisation and user sustainability.

3.8 CATCHMENT MANAGEMENT FORA (CMF)

To address common stakeholder interests in particular subcatchments, DWAF and other role-players, initiated the establishment of Catchment Management Fora. In establishing these, a list of stakeholders was drawn up to ensure that none were overlooked. These stakeholders were voluntary organisations established around a water resource issue arising mainly from a land use practise. Sixteen Catchment Management Fora have been in existence at different stages of development and activity in the Water Management Area, namely:

- ✧ *Msunduzi; Karkloof/Albert Falls; Midmar; Mdloti; Tongaat; Mlazi river; Nagle; Isipingo; Mvoti; Mzinto-Mzimayi; Inanda/Valley of a Thousand Hills; Mkhomazi; Palmiet; Molweni; Mhlali and Mzimkhulu*

3.9 STAKEHOLDERS IN THE WATER MANAGEMENT AREA

Stakeholders in this Water Management Area were defined as organisations and/or individuals who have an interest in the water resources of this Water Management Area. These are listed below. There are a number of well-established and resourced institutions within the region, such as Umgeni Water and eThekweni Municipality, as well as the very active Irrigation Boards.

Water Management Area stakeholders:

- ✧ Government and Public Sector
 - National government departments
 - Provincial government departments
 - Local government departments
 - Traditional Authorities
- ✧ Parastatal and utility sector
 - Water Boards
 - Irrigation Boards and Water User Associations
 - Universities and Technikons with relevant research interests
- ✧ Private Sector
 - Large individual corporations
 - Chamber of Business
 - Agri-business
 - Farmers Associations
 - Foresters and Forestry organisations
- ✧ Civil Society
 - Interest groups
 - Conservancies
 - Communities
 - Non-governmental organisations
 - Community-Based Organisations
 - Faith-Based Organisations

4 ENABLING LEGISLATION & REGULATION IN IWRM

The South African Constitution is the supreme and the highest law of the country. It clearly sets out the functional areas for which each sphere of government is responsible.

The following functional areas relevant to water management are exclusive to the National Government: Water resource management, minerals, land affairs and national parks. Recent developments however, have shown a move towards taking many National Government functions to local level. Water resources management will be the responsibility of the CMAs, while water services functions will rest with the municipalities. The Department of Land Affairs in its White Paper on Institutional Arrangements, clearly points out that land affairs implementation should be at municipality level.

The functional areas of the Provincial Government relevant to water management are: agriculture, environmental health, housing, nature conservation, pollution control, regional planning and development, urban and rural development and soil conservation.

Local Government functional areas relevant to water management are: municipal planning, storm water management, water and sanitation services - limited to potable water supply systems, domestic wastewater and sewage disposal systems - cleansing, refuse removal, refuse dumps management, solid waste disposal, municipal roads, building regulations, municipal parks and air pollution control.

4.1 THE NATIONAL WATER ACT (ACT 36 OF 1998)

The National Water Act (NWA) outlines the framework for the utilisation, development and protection of the country's water resources. The Act provides for the establishment of institutions to ensure the implementation of integrated water resources management and to facilitate the involvement of stakeholders within water management areas.

4.2 THE WATER SERVICES ACT (ACT 108 OF 1997)

The Water Services Act (WSA) gives substance to constitutional requirements with respect to access, national norms and standards and the institutional framework for the provision of water services. This Act defines water services institutions as: a water services authority, a water services provider, a water board and a water services committee.

4.3 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT 108 OF 1998)

The National Environmental Management Act governs the overall conservation and correct utilisation of natural resources. While the National Water Act provides for the conservation and utilisation of water resources, NEMA is concerned with the management of natural resources that could impact on catchment management. Water and land usage may not be in contradiction with NEMA.

4.4 ENVIRONMENT CONSERVATION ACT (ACT 73 OF 1989)

The Environment Conservation Act ensures that environmental effects are considered before decisions of developments and activities are taken. It promotes sustainable development, prohibits activities that will affect the environment negatively and ensures public involvement in development decision-making.

4.5 MUNICIPAL STRUCTURES ACT (ACT 107 OF 1998)

This Act provides for functions and powers of municipalities and other local government structures, of which water services is one of many primary functions.

4.6 MUNICIPAL SYSTEMS ACT (ACT 32 OF 2000)

The Municipal Systems Act gives effect to the country's vision of developing local government. It defines the core principles and the mechanisms and processes that are necessary to enable the municipalities to move progressively towards the social and economic upliftment of the communities and ensure universal access to quality services affordable to all. The most important sections in support of IWRM are those relating to integrated development planning, performance management, public participation and cooperative governance aspects.

4.7 WHITE PAPER FOR INSTITUTIONAL ARRANGEMENTS, LAND AFFAIRS

The paper stresses the need for an integrated approach to land reform delivery, for a delivery system that includes a wide range of service providers, and for ongoing evaluation of the effectiveness of the measures taken. The principles are summarised as follows:

- ✧ Government where appropriate, must enter into partnership arrangements with the private sector, NGOs and community based organisations.
- ✧ Co-ordination of departments and levels of government, and sound working arrangements between national, provincial and local level administrations is fundamental to the success of the land policy.

4.8 PUBLIC FINANCE MANAGEMENT ACT (ACT 29 OF 1999)

The purpose of the Act is to regulate financial management in national and provincial government, to secure transparency and accountability, to ensure that all revenue, expenditure, assets and liabilities of those governments are managed efficiently and effectively, to provide for the responsibilities of persons entrusted with financial management in those governments and to provide for matters connected therewith.

4.9 LABOUR LAWS

It must be borne in mind that labour laws like in other designated organisations, will affect institutions involved in water management including CMAs. The Basic Conditions of employment Act aims to give effect and regulate the right to fair labour practices. Provisions such as termination of employment and contracts of employment may be applicable in evolving and transforming organisations such as CMAs, DWAF, and local governments. The Employment Equity Act on the other hand aims to promote the constitutional right of equality and achieve a diverse workforce broadly representative of the people of South Africa.

4.10 DELEGATIONS OF POWERS AND DUTIES IN TERMS OF THE NATIONAL WATER ACT, 1998

Section 63 of the National Water Act makes provision for the Minister of Water Affairs and Forestry to delegate powers and duties assigned to him/her in legislation to incumbents and future incumbents of senior water resources management posts in the civil services. These functions and posts are published and the minister reserves the right at any time to amend or withdraw any delegated power.

5 INSTITUTIONS INVOLVED IN IWRM IN WMA 11

5.1 OVERVIEW

The essence of the National Water Act is management of water resources for sustainable utilisation and benefit for all users. It further identifies a need to integrate all aspects of water resources management and delegate management functions to a catchment or Water Management Area level, to enable participation and input into water management decision-making by all affected stakeholders.

South African legislation, in general, obliges alignment and a cooperative spirit between agencies and institutions involved in various areas of development. Through Catchment Management Agencies, legislated by the National Water Act, linkages between water institutions and stakeholder groupings that seek to manage the region's water resources as a whole, are called for. The Act provides for the establishment of decentralised water management institutions thereby placing greater responsibility at a local level and relying on greater coordination and cooperation at local, regional and national levels. All other stakeholders, whether corporate, non-governmental bodies or individuals are also enabled by this law to involve themselves in the management of water resources.

To consider how Local Government could engage in catchment management, DWAF has drafted a discussion document providing the linkage areas between Local Government and Catchment Management Agencies. The possible mechanisms for cooperative engagement are put forward, as well as development of Memoranda of Understanding to formalise cooperation. The South Africa Association of Local Government in turn has put forward a position paper discussing the water management roles of Municipalities vis-à-vis Catchment Management Agencies. Both these proposals, whilst acknowledging that gaps exist, embraces a spirit of cooperation and subscribe to integrated management of the water resource for sustainable development of the region. Further engagement and evolution of these processes is necessary.

To guide management of water resources at regional and catchment levels, the National Water Act requires the establishment of a National Water Resources Strategy (NWRS) and a Catchment Management Strategy (CMS), respectively. The National Water Resources Strategy – which has been drafted - provides the framework for the protection, use, development, conservation, management and control of water resources for each region and catchment in the country, whilst Catchment Management Strategies and Plans will be influenced by local thinking and dictates.

The Mvoti to Mzimkhulu Water Management Area has a healthy blend of institutions. Close to the ground, there are sixteen Catchment Management Fora (CMF) initiated by DWAF and stakeholders with the aim of linking sustainable water management to health and development needs of people. At another level there are the technically well-capacitated and established institutions like Umgeni Water and eThekweni Municipality that have a long history of water resources management in the region, and have recently refocused local services functions to ensure a developmental approach. Other key players include other local and district municipalities, active Irrigation Boards, Universities, Chamber of Businesses, and a healthy quantum of Environmental lobby groups, amongst other NGOs and CBOs.

Institutions involved in Integrated Water Resources Management may be categorised into:

- ✧ **Water users** - Those that use water for drinking, for food, for industry and the environmental resource needs.
- ✧ **Regulators** - Those that regulate potential impacts on water resources
- ✧ **Service providers** - Those that provide water related services to the stakeholders
- ✧ **Facilitators** - Those that facilitate integrated water resources activities
- ✧ **Conflict resolvers** - Those that resolve water resources conflicts. Traditional structures are also incorporated as they are seen as a key stakeholder in this Water Management Area.

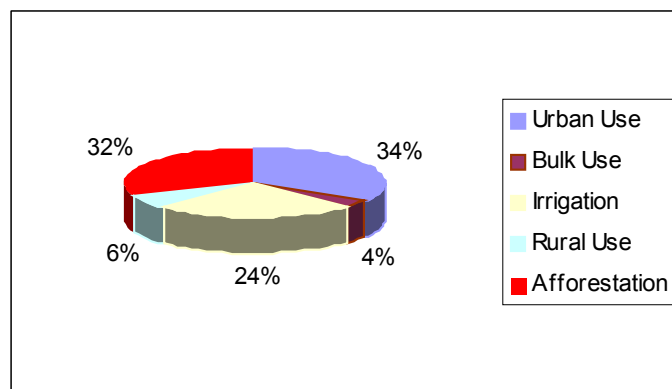
5.2 WATER USERS

A water user is an individual or organisation that needs water for development and, as a consequence, impacts on the water resource. The Department of Water Affairs and Forestry commissioned a study in 1999 (*The National Water Situation Assessment Model*) to assess the status of water use in the country. The study provided a high level overview of the status of water resources for each significant river catchment in all water management areas. Amongst other things, the information was used to estimate water use and compare this with water availability. The following users, amongst others, were considered: urban, forestry, irrigation, bulk industrial, the social reserve, the environmental reserve, alien plant use, groundwater usage and potential, and the water resources available. The situation for the Mvoti-Mzimkulu Water Management Area is shown in Figure 5.1. The current major consumption of water is urban, irrigation and forestry use, while rural use consumes very little.

The total population of the Mvoti-Mzimkulu Water Management Area – and therefore potential user base – is approximately 5.12 million, which makes it one of the most populous Water Management Areas in South Africa. The Pietermaritzburg and Durban business and urban areas account for 2.5 million people alone. Many densely populated peri-urban areas are also included within the Water Management Area, such as, the Inanda and Mzinto areas, as well as the relatively highly populated coastal strip, which extends from Tongaat to Ramsgate.

Despite being highly populated, the population distribution is by no means even. The least populated districts are found in the west and include Underberg, Mount Currie and Impendle. The population distribution increases as one moves eastward peaking around Durban in the districts of Inanda, Mlazi, Pinetown and Mzinto, all of which have populations exceeding 220 000 people.

FIGURE 5.1: WATER USERS IN THE MVOTI-MZIMKHULU WMA (% CONSUMPTION)



5.2.1 Existing permits and registration of Water Users

A comprehensive registration process, as per requirement of the National Water Act, has been undertaken and is ongoing in this Water Management Area. Under this legislation, a much broader range of water users than in the past has been required to register, including forestry. In addition, all irrigators and those defined as undertaking "stream flow reduction activities," as well as other abstractors such as industry, water boards and local government institutions, are defined as water users and therefore become liable for payment of water use charges to Catchment Management Agencies. This process is still at an early stage of implementation and the focus thus far has been on water boards, irrigators and forestry users. A summary of progress with the registration is shown in Table 5.2. (The figures are reported to be initial estimates).

TABLE 5.2: REGISTERED WATER USERS IN THE MVOTI-MZIMKHULU WMA

River	Registered (HA)	Still to register (HA)	Total Registered (HA)	Total Water Use (Mm ³ /a)	Forestry Registered (HA)	Forestry Still to Register	Total Forestry to Register (HA)
Mngeni	3 361	1 377	4 738	22 764	2 457	1 045	3 502
Mvoti	2 639	617	3 256	7 859	18 398	4 717	23 115
Illovo	758	271	1 029	3 932	4 165	2 514	6 679
Mkomazi	2 065	691	2 756	16 274	4 006	1 225	5 231
Umlaas	1 820	2 730	4 550	7 020	1 500	700	2 200
Mzimkhulu	4 947	967	5 914	29 829	5 224	1 135	6 359
Totals	11 707	3 923	17 693	80 658	34 250	10 636	44 886

5.3 REGULATORS

Regulators are organs of state with a mandate relating to or including certain elements of water management. Regulators have been grouped into those:

- ✧ Monitoring and regulating activities that might impact on water resources;
- ✧ Monitoring and regulating activities generating waste and the waste generated that might affect water resources;
- ✧ Monitoring and regulating land use that might affect the water resources;
- ✧ Developing, implementing and improving the necessary framework relating to the provision of water services.

5.3.1 Regulators Monitoring and Regulating Impacts on Water Resources

The Department of Water Affairs and Forestry (DWAF)

DWAF monitors and regulates activities of water users that might impact on the water resource quantity, quality, aquatic biota and riparian habitat and undertakes national and international water resources planning activities. It is intended that most water resources licensing activities undertaken by DWAF will be delegated to CMAs when they are in place. DWAF is in the process of handing over all operational activities related to water services to District Municipalities and will ultimately focus only on strategic, policy and regulatory functions, whilst providing sector leadership.

DWAF has a national office and nine regional offices throughout the country, for which the latter for the uMvoti to uMzimkulu WMA is located in Durban.

DWAF currently has responsibility for undertaking the following relating to the monitoring and regulation of impacts on water resources:

- ✧ Developing a regulatory strategy and having oversight of the contractual relationships between water services authorities and water service providers.
- ✧ Developing a regulatory strategy to implement the regulatory framework, seeking to achieve the appropriate balance mentioned above.
- ✧ Regulating national policy objectives and related national norms and standards.
- ✧ Regulating water pollution prevention and control.
- ✧ Regulating Forestry Water Use.
- ✧ Implementing the Working for Water programme.
- ✧ Managing and licensing abstractions – surface and groundwater.
- ✧ Providing water conservation framework.
- ✧ Ensuring that water is protected, used, managed, developed, conserved and controlled in a sustainable and equitable manner for the benefit of present and future generations.
- ✧ Regulating water use, flow and control.
- ✧ Providing a water resource classification system, determining the resource class and setting resource quality objectives in collaboration with stakeholders.

Local government

District Municipalities or Water Services Authorities must regulate water services provision and water services providers within their areas of jurisdiction. This needs to be undertaken within the policy and regulatory frameworks set by DWAF and implemented through the enactment of by-laws and the regulation of contracts.

5.3.2 Regulators Monitoring and Regulating Activities Generating Waste

The National Water Act 36 of 1998 describes waste as “any solid material or material that is suspended, dissolved or transported in water (including sediment) and which is spilled or deposited on land or into a water resource in such volume, composition or manner as to cause, or to be reasonably likely to cause, the water resource to be polluted”. Institutions that monitor and regulate the activities generating waste and the waste generated that might affect the quality, aquatic biota and the riparian habitat of water resources are discussed below.

Department of Agriculture

Agriculture is a concurrent national and provincial government function. The mandate of the national Department of Agriculture is, amongst other things, to guide and support capacity building, sustainable resources use, production, trade and research in agriculture to maximise the contribution of the agricultural sector for economic growth, equity and sustainable development.

This institution is engaged in the following activities related to waste that might affect water resources:

- ✧ Establishing policy and implementing norms and standards, which promote the protection, stabilisation and rehabilitation of soil and water.

- ✧ Planning, designing and constructing key soil conservation works to protect, stabilise and rehabilitate degraded land, where such measures are in the national and provincial interest. The focus of these works has shifted from large infrastructure to conservation works at rural areas.

The implementation of norms and standards and construction of key soil conservation works, leading to more responsible agricultural practices, will contribute to regulating waste that might enter water courses.

Department of Agriculture and Environmental Affairs (DAEA)

In this WMA, the offices of the DAEA are situated at Cedara and Ulundi. The functions related to regulation of waste generation include: -

- ✧ Legal investigation and enforcement of: Pollution incidents; Environmental infringements; Unlawful afforestation
- ✧ Environmental Education and Capacity building including public awareness campaigns.
- ✧ General Catchment Management, including: Afforestation permit control; Monitoring programmes for Land-use developments; Erosion control; Animal waste disposal; Poverty alleviation projects.

Department of Water Affairs and Forestry (Also see 5.3.1)

DWAF's functions related to regulation of waste generation include: -

- ✧ Legal investigation and enforcement of: Pollution incidents; Tariffs on effluents; Environmental infringements; Illegal sanitation practises; Unlawful afforestation.
- ✧ General Catchment Management, including: Alien plant control; Monitoring programmes; Biomonitoring; Working for Water programme

Department of Minerals and Energy (DME)

Minerals and Energy is a national competency and the DME has a national office and nine regional offices, for which the Dundee office services the Mvoti-uMzimkulu WMA.

In this WMA, sand mining is the most prevalent activity relating to the DME functionality and several operations are concentrated in the Mdloti River catchment, the lower reaches of the Inanda dam catchment and the Mzimkhulu river catchment. Existing operations as well as their Environmental Management Programme Reports (EMPRs), which detail steps to be taken for effective rehabilitation, have been approved by the DME. The perception of downstream users is that auditing against the EMPRs is lacking. In the Mdloti and other subcatchment, the catchment management forum has taken on a watchdog and monitoring role. The DME is, however, reasonably thorough in engaging and following up on comment from interested and an affected parties prior to approving permits.

Water Service Authorities

District Municipalities and other Water Services Authorities are required to address both point and diffuse sources of pollution in their areas of jurisdiction. They must adhere to ordinances relating to pollution, set by provincial government and set by-laws relating to pollution for the districts and in turn regulate compliance with the by-laws by their customers. Municipalities are required to implement steps for the reduction of pollution levels in water sources and co-operate with the CMA by providing information on pollution.

Furthermore, the municipality has constitutional responsibility to ensure the provision of services to communities in a sustainable manner and promotion of a safe and healthy environment.

In meeting its obligation of ensuring that the environment is protected for present and future generations, municipalities may be involved in two stages of the environmental regulatory life cycle - the authorisation stage and the enforcement stage. When the municipality authorises an activity, it needs to ensure that appropriate conditions, which are enforceable from a practical perspective - taking into account existing resources - are attached to the authorisation. The conditions should also include a monitoring and reporting component. In this regard, the municipality should require the applicant to whom an authorisation has been granted to monitor the environmental impacts of the activity and to report on compliance to the municipality.

Some municipalities lack capacity in various forms, e.g. skill, finances, etc. in undertaking its environmental protection functions. The Msundusi Municipality is a case in point, for which the Local Water Board picks up some of these functions.

As part of its planning functions and development plans, Municipalities will have information on where it would require licenses to discharge waste. Municipalities will therefore work cooperatively with CMAs regarding wastewater discharges.

5.3.3 Regulators Monitoring and Regulating Land Use

The following organisations are responsible for monitoring and regulating land use that might affect water resources.

Department of Land Affairs (DLA)

There are three DLA offices (Port Shepstone, Pietermaritzburg, uLundi) in the WMA. The Pietermaritzburg office covers both the Durban and Pietermaritzburg areas. The DLA follows three land reform programs, namely land redistribution, land restitution and land tenure, all of which may affect water resources, as water is an essential component for sustainable land development and poverty alleviation. Waste generated on the land may also affect water resources. The DLA is actively engaged in the process of the institutional arrangements to address IWRM principles in the WMA.

Department of Housing (DoH)

Provision of housing is concurrently both a national and provincial government function. The Department of Housing has a head office and nine regional offices, for which the boundaries of the latter are based on the provincial boundaries. In the Mvoti-Mzimkulu WMA the Department of Housing offices are located in Pietermaritzburg.

The Department of Housing has the constitutional duty of ensuring that everyone has access to adequate housing. Implementation thereof has a clear linkage to water and waste, as sustainable housing provision requires access to a basic level of access to water resources and production of waste that might affect water resources.

Local Government

District municipalities are required to develop Spatial Development Frameworks, and a Land Use Management Systems (LUMS) as part of their Integrated Development Plans. In doing so, they need to take cognisance of and make input to the Catchment Management Strategy for the Water Management Area. CMAs need to ensure that there will be no infringement on the protection and management of water resources by land use development plans. District Municipalities are further required to cooperate with CMAs in implementing measures to mitigate, control or reduce infringement on water resources by land activities when it is found that such infringement does exist. Planning for land development and water resources development and use therefore need to be collaboratively undertaken.

Landfills - constitutes the use of land for waste and needs to be authorised/licensed for such intended purpose. Landfill sites are of particular relevance to catchment management due to the high-risk of contamination posed to groundwater. Municipalities are required to follow specific regulatory requirements for establishing, managing or decommissioning landfills. They shoulder the responsibility for managing landfill sites in a manner that has the least impact on the environment and undertaking monitoring thereof to ensure proper compliance with the licence.

5.3.4 Regulators Creating the Framework for Water Services

Institutions active in creating the framework for water services include:

- ✧ Department of Water Affairs & Forestry
- ✧ Department of Provincial & Local Government
- ✧ Local government (WSAs)

Whilst the Water Services Act legislates the municipal function of providing water services, the National Water Act (Act 36 of 1998) legislates how the resource is to be used, protected, developed and controlled. The National Water Act provides criteria for municipalities to obtain water sources and return their effluents and other wastewater back to the resource. The management of water resources and the provision of water services are therefore integrally linked. Water services development thus needs to be addressed within a strategic framework that embraces water resources management as part-and-parcel of environmental protection and sustainable development.

Department of Water Affairs and Forestry

Through the Water Services Act and the Strategic Framework for Water Services, DWAF bears the responsibility, as the National Regulator of water services, in cooperation with the Department of Provincial and Local Government, to:-

- ✧ Set up a legislative framework;
- ✧ Gather information from water services authorities;
- ✧ Play an oversight role with regards to preparation of WSDPs;
- ✧ Monitor the performance of water services authorities.
- ✧ Take action (provide support) through necessary interventions.

The section 78 assessment committee and the committee for transfer of assets to WSAs are good examples for collaboration and these could be extended to deal with integration between water resources management and water services provision.

The Water Services Directorate through its community water and sanitation supply programme (Masibambane) has been supporting implementation of rural water supply and sanitation programmes through the regional offices. Implementation has been at District Municipality level as well as Local Municipalities with WSA status.

Department of Provincial and Local Government

The Department of Provincial and Local Government is largely responsible for:

- ✧ Facilitation of co-operative governance at local government level;
- ✧ Creation of an enabling environment for local government transformation and service delivery;
- ✧ Building the capacity of municipalities to deliver basic services.

The department funds infrastructure development through the Municipal Infrastructure Grant.

The DWAF transformation process and consolidation of funding streams from the two departments is aimed at giving effect to an integrated approach for provision of water services and strengthening of the sector.

South African Local Government Association

SALGA is a strategic partner for establishment of a framework for water services, which also brings in a dimension of local government in terms of the Organised Local Government Act. Its key focus areas in water services are:

- ✧ Water services policy and strategy development;
- ✧ Water services implementation alignment;
- ✧ Water services capacity in local government; and
- ✧ Water services information and planning.

5.4 WATER SERVICES INSTITUTIONS

Water Board

A Water Board is an institution established by the Minister of Water Affairs & Forestry, primarily to provide water services to other water services institutions within its service area. A Water Board may engage in other activities, such as, provision of catchment management services.

Umgeni Water is the only water board in the Mvoti-Mzimkhulu WMA, and has an operational area of 24 000 km². It has its Head Office in Pietermaritzburg and Regional offices at Mkondeni (Izintaba) and Pineside (Ulwandle), as well as a presence at all its operational sites. The water board operates fourteen Water Works and two Wastewater Works.

In addition to its water services function, Umgeni Water has undertaken IWRM related functions either voluntarily or as a result of its need to secure adequate quantity and quality of water for regional bulk supply. These are limited to its supply interests and include:

- ✧ Water Resources and flood management planning and infrastructure upgrades,
- ✧ Water conservation/ demand management.
- ✧ Water Quality monitoring and Environmental Management,

- ✧ Catchment Management - notably aquatic weed threat assessment; sludge management; mitigation of pollution;
- ✧ Awareness building through rural and urban water, health & hygiene education.

Umgeni Water provides its catchment management services in partnership with or in agreement with water services or management authorities, as a statutory but non-primary Water Services function.

Water Services Authorities (District Municipalities, Figure 5.2)

Water Services Authorities are required to develop and implement Integrated Development Plans (IDPs), which include Water Services Development Plans (WSDPs), in their areas of jurisdiction. There are six District Municipalities falling within the WMA 11 including the eThekweni Municipality, Ugu, uMzinyathi, iLembe, Umgungundlovu and Sisonke.

The roles and functions of these institutions include:

- ✧ *Planning to ensure access to and regulation of provision of water services*
- ✧ *Securing licences to abstract and discharge water from DWAF*
- ✧ *Developing by-laws for use in regulating water service provision*
- ✧ *Developing rural community water supply schemes*
- ✧ *Funding infrastructure for water services provision.*
- ✧ *Ensuring that the Local municipalities are capacitated to provide the services*

eThekweni Municipality

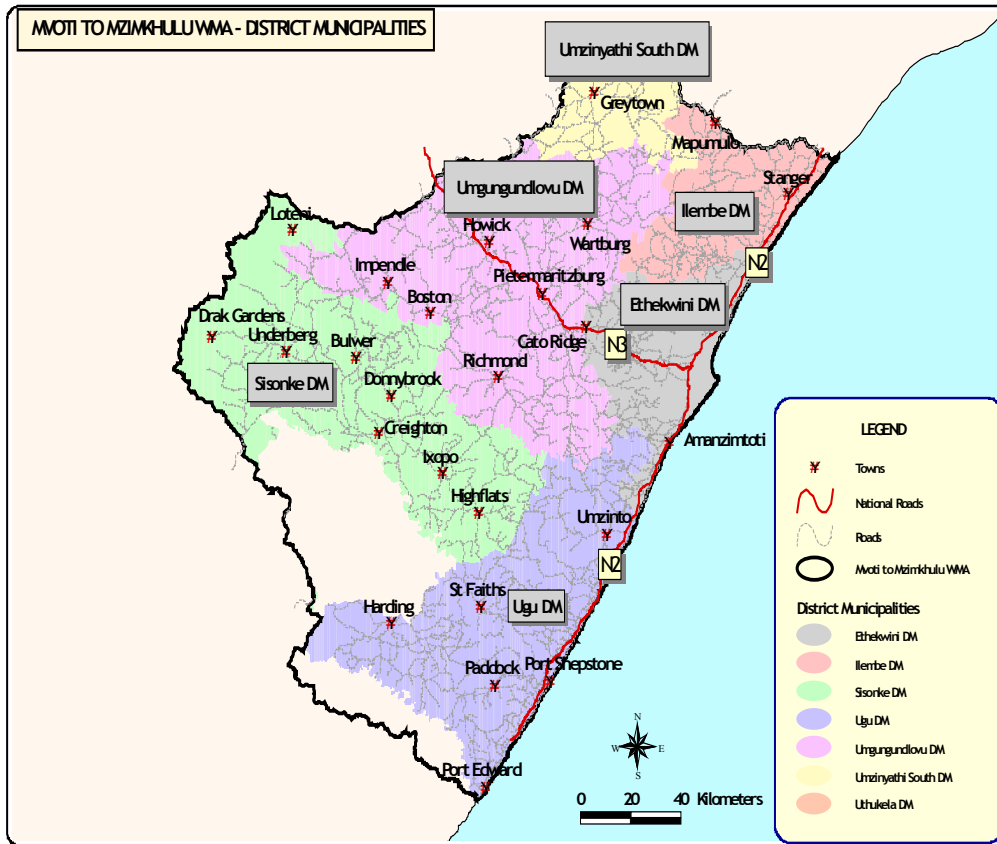
The eThekweni Municipality - offices in Durban - is currently the only Metropolitan Council in this WMA. It undertakes the following functions related to IWRM:

- ✧ *Legal investigation and Pollution enforcement; Tariff for effluent disposal; Polluter pays principle; Illegal sanitation; Public Awareness campaigns.*
- ✧ *Monitoring Programmes: Health risks; Land-use developments; Biomonitoring.*
- ✧ *Water/Sanitation/Environmental education and Capacity building: Assessment of training needs; Development of training material; Public awareness campaigns.*
- ✧ *Water Supply Operations and Management: Water Services Development Plans (WSDPs); Setting of tariffs; Collection of payments for services to consumers; Water Works management; Waste Water Works management: Sanitation assessment; Leachate management*

In its Service Delivery Plan (IDP), the eThekweni Municipality also seeks to provide basic services within its financial means, in line with the developmental focus of the region and ensure sustainability through:

- ✧ Improved river water quality
- ✧ Improved quality of natural assets and services
- ✧ Reduction in waterborne diseases
- ✧ Reduction in unpaid accounts
- ✧ Providing potable water within 200 m of households
- ✧ Provide sanitation services to all new housing units and 15 % of backlog
- ✧ Provide 100 % solid waste backlogs in all new housing units and to 20 % backlog
- ✧ Establish a programme for securing 100 % of all ecologically threatened areas

FIGURE 5.2: DISTRICT MUNICIPALITIES IN WMA 11



Umgungundlovu District Municipality

The Umgungundlovu District Municipality’s IDP, amongst other things, describes the status of water services provision in its service area, and makes links to environmental and catchment management. The service levels for water and sanitation are identified to be inadequate. The targets are to provide potable water access to within 200 m by the end of the 2004/5 financial year and to monitor and encourage compliance with the free basic water policy.

The strategies for meeting the targets include provision of basic levels of services in unserved areas, using appropriate technology and sources including reservoirs, groundwater and rainwater. The municipality intends to formalise service level agreements with service providers, agents and partners.

With respect to sanitation services the target is Ventilated Improved Pit Latrines by 2004/5 and health and hygiene awareness programmes in place by 2003.

The municipality has identified the following objectives for environmental and catchment management:

- ✧ Protecting and conserving the natural environment. A limited amount of environmentally sensitive land has been formally conserved in the area. The need to rely on the co-operation of private landowners has been identified, particularly as valuable natural areas are often found on privately owned land.
- ✧ Ensuring sustainability - adopting an environmental management plan for the region.
- ✧ Incorporating environmental aspects into strategic planning, and protecting environmental interface areas.
- ✧ Assessing the effect of development on the environment and considering the opportunities and constraints, which the environment places on development.
- ✧ Identification of the region as including the critical upper catchment areas, including those of some of KwaZulu-Natal's most important rivers. It is crucial that proper catchment management plans are drawn up and implemented in order to ensure the sustainable use and management of these areas

Sisonke District Municipality

In its WSDP, this municipality has established a development strategy including formulation of sector plans for, amongst other things:

- ✧ All aspects of water and sanitation services
- ✧ Monitoring and ensuring projects sustainability
- ✧ Developing policies with regard to service delivery.
- ✧ Mobilisation and prioritisation of funds
- ✧ Overall development management.

On catchment issues, strategies include:

- ✧ *Taking measures to ensure sustainable management of the environment*
- ✧ *Proper land use management with elements of sustainable agriculture and tourism activities, whilst maintaining an ecological natural environment*
- ✧ *Developing a District Level Disaster Management Plan*
- ✧ *Developing a Sector Plan for solid waste management with a major consideration being the environmental management.*

Umzinyathi District Municipality

The Umzinyathi Municipality acknowledges that provision of free basic water and sanitation services will be difficult to achieve, due to lack of basic water infrastructure. However, a draft policy for these services was drafted in its WSDP. With regards to sanitation services, there is a joint initiative between the KwaZulu-Natal Health Department and the KwaZulu-Natal Sanitation Task Group, and includes activities for coordination and networking; awareness creation; advocacy; training and technical support. For catchment and environmental concerns, projects were identified, based on the following strategies:

- ✧ *Initiating programmes to prevent soil erosion and to rehabilitate eroded areas*
- ✧ *Establishing an Integrated Environmental Management (IEM) system*
- ✧ *Establishing an alien invasive species control programme*
- ✧ *Promoting environmental education programmes in the District*
- ✧ *Identifying and addressing conservation-worthy areas, wetlands, and disaster-prone areas.*

The municipality also acknowledges the need for support systems to develop the agriculture/ farming and tourism sectors.

Ilembe District Municipality

The Ilembe municipality IDP draws on lessons from IDP implementation, Local Agenda 21 and IEM. The State of Rivers (SoE) reporting was identified as a tool to be utilised in addressing problems related to sustainable development.

The municipality undertakes to ensure that it's communities have access to basic municipal services by: -

- ✧ *Reducing the current backlog of households without water by 30 % p.a. with the provision of potable water within 200 m walking distance from homes.*
- ✧ *Providing 20 % p.a. of the households without sanitation with access to basic sanitation in the form of Ventilated Improved Pit Latrines*
- ✧ *Developing a Solid Waste Management Plan for the District*
- ✧ *Establishing a District Management Plan and Disaster management centre*
- ✧ *Promoting environmental education.*

Local Municipalities (See Figure 5.3)

There are twenty-one Local Municipalities in the Mvoti-Mzimkulu WMA as shown in Figure 5.3. Local Municipalities take responsible and necessary steps within the framework of the national and provincial housing legislation and policy to ensure that, amongst others, services in respect of water and sanitation are provided economically and efficiently. The local municipalities align their strategies and plans with those of the respective district municipalities.

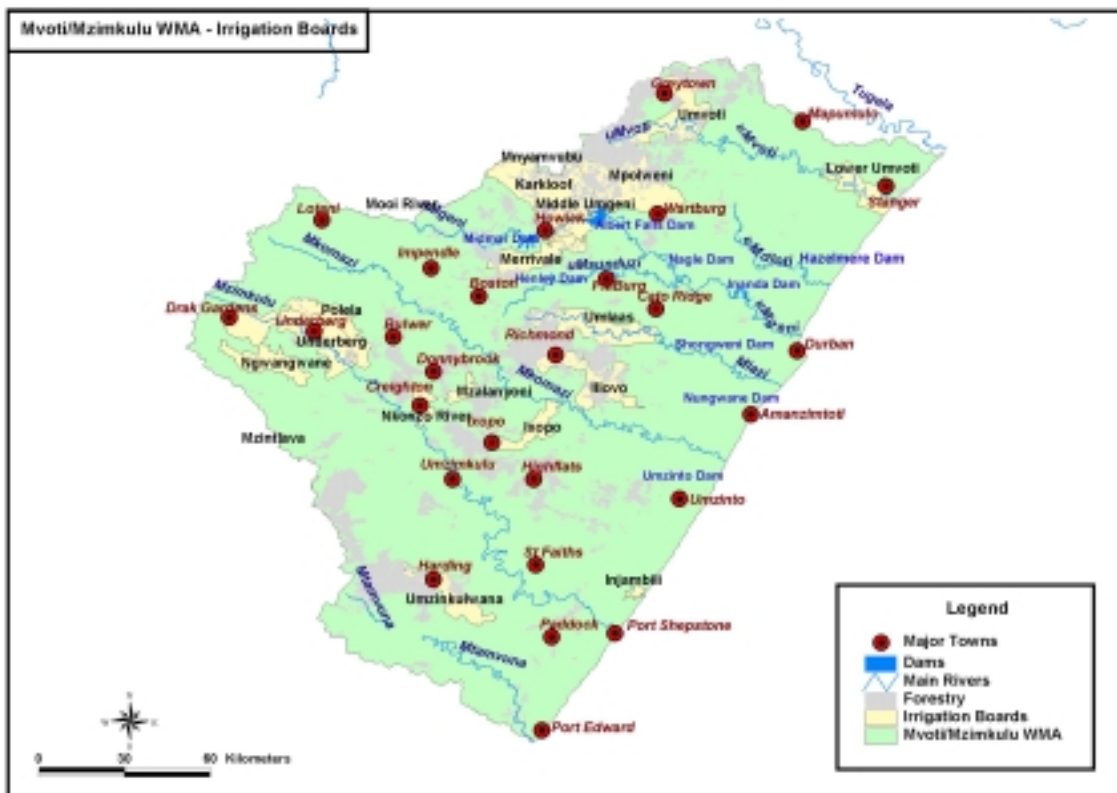
5.4.1 Irrigation boards & Water User Associations (Figure 5.4)

There are sixteen irrigation boards in this WMA, namely *Underberg, uMzimkhulwana, Ixopo, Nkonzo River, Mzalanyoni, Illovo, uMlaas, Mpolweni, Mvoti, Middle Mgeni, Karkloof, Merrivale, Polela, Ngwangwane, Injambili and Lower Mvoti*. These boards cover the length and breadth of the WMA

FIGURE 5.3: LOCAL MUNICIPALITIES IN WMA 11



FIGURE 5.4: IRRIGATION BOARDS IN WMA 11



These Irrigation Boards deal with issues relating to conservation of natural resources, sustainability, and water resources protection. Some have applied to DWAF for transformation into Water User Associations (WUAs), as per the NWA. The boards' concerns are that there has not been sufficient progress with this transformation in the past three years. The boards' experience difficulty in getting women to participate and this affects representivity on the boards.

The central feature of WUAs is common utilisation of water, associated with a collective water supply infrastructure, the management and operation of which serves the needs of each member of the association. Of the thirty-one Irrigation Boards registered with DWAF, from KZN, twenty-five will eventually apply to convert to the status of a WUA.

The Water User Associations could deal with the following aspects of IWRM:

- ✧ *Water Engineering: Dams*
- ✧ *Water Supply Operations and Management: Water Works management*
- ✧ *General Catchment Management: Alien Plant Control; Aquatic Weed Control;*
- ✧ *Monitoring Programmes for: Biomonitoring; Health risks; Landuse developments; Erosion control;*
- ✧ *Legal investigation and enforcement on: Pollution incidents; Water allocation infringements; Tariff/payment violations; Environmental infringements.*
- ✧ *Institutional Development: WUA; Catchment Management Fora.*
- ✧ *Water/Sanitation/Environmental Education and Capacity Building: Public awareness campaigns.*
- ✧ *Water Resource Planning and Management; Water registration and allocation; Water conservation and demand management.*

5.5 FACILITATORS

5.5.1 Amakhosi/Traditional Leaders

DWAF has identified forty-five Traditional Authorities in the WMA.

5.5.2 NGOs and CBOs

Most CBOs are situated in Pietermaritzburg and Durban areas and surrounds. These institutions are valuable for use for public consultation because they tend to interface with communities directly.

Areas of involvement of these institutions in catchment management are:

- ✧ *Awareness creation and information dissemination about issues related to catchment management, as well as the role and purpose of CMAs*
- ✧ *Consultation with stakeholders, and particularly with previously disadvantaged organisations and individuals, such as subsistence farmers*
- ✧ *Advocacy and advisory functions to or on behalf of stakeholders with DWAF, the CMA and other organisations*
- ✧ *Building capacity as stakeholders in groups around catchment management and institutional development, particularly in relation to previously disadvantaged groups;*
- ✧ *Facilitating the participation of stakeholders and the development of a catchment management strategy and other catchment management activities and coordination between stakeholders*

- ✧ *Involvement in monitoring of activities related to catchment management and/or assisting communities or stakeholder groups in the implementation of appropriate monitoring activities.*

Msinsi Holdings

Msinsi Holdings manages reserves at Alberts Falls Dam, Shongweni Dam, Nagle Dam and Inanda Dam. Its functions that relate to landuse management include:

- ✧ *Land Management: Land parcel's integrity; Soil, plant and animal management.*
- ✧ *Ecotourism: Recreational activities; Safety, health and environmental management.*
- ✧ *Wildlife Management: Protected areas planning and management; Habitat assessment; Species manipulation.*
- ✧ *In some reserves, Msinsi has helped establish a sustainable balance between community livelihood and the natural resources in the reserve.*

5.5.3 Catchment Management Fora

Catchment management fora (CMFs) form a link between stakeholders and the CMA. They are voluntary, non-statutory, participatory stakeholder associations representing various viewpoints to guarantee stakeholder involvement in the management of water resources at a local level. They may also evolve and/or provide input into more formal representative bodies, such as catchment management committees or catchment steering committees.

There are currently sixteen CMFs that have been established and are at different levels of development and functionality in the WMA; they also have different visions based on environmental problems in their respective catchments, including faecal contamination, bacterial contamination, soil erosion, etc. These CMFs are: *Msundusi, Karkloof/Albert Falls, Midmar, Mdloti, Tongaat, Mlazi River, Nagle, Isipingo, Mvoti, Mzinto-Mzimayi, Inanda, Mkomazi, Palmiet, Molweni, uMhlali and Mzimkhulu CMFs.*

The CMFs deal with the following:

- ✧ *Act as watchdogs/pressure groups for Pollution incidents.*
- ✧ *Water/Sanitation/Environmental education and Capacity Building; Training needs assessment; Public awareness campaign; Seek sustainable poverty alleviation projects.*
- ✧ *Information and data dissemination.*
- ✧ *General Catchment Management interventions; Alien plant control; Programmes for Biomonitoring; Health risks; Erosion control.*

5.5.4 Youth and environmental organisations

There are many youth and environmental groups in the WMA. In Pietermaritzburg, the most active and influential environmental group is Greater Edendale Environmental Network (GREEN), which has many affiliates across the Greater Pietermaritzburg area. Thandulwazi Youth Group is the most active group that concentrates its actions in the Ndwedwe area (Mdloti Catchment). In most other areas the groups are arranged around political affiliation.

5.6 CONFLICT RESOLVERS

The Water Tribunal, as a formal body, and the Amakhosi are both involved in resolving conflict in this WMA. The DWAF has identified 45 Traditional Authorities spread across the WMA.

5.7 OTHER INSTITUTIONS

5.7.1 Interested & Affected Regional Groups:

- ✧ *Kwanalu (the KwaZulu-Natal Agricultural Association)*
- ✧ *KwaZulu-Natal Chamber of Business*
- ✧ *WESSA (the Wildlife and Environmental Society of Southern Africa)*
- ✧ *Kwanaloga (the local government association)*
- ✧ *KwaZulu-Natal Irrigation Association*
- ✧ *Regional Consultative Forum (an NGO network)*
- ✧ *KwaZulu-Natal Rural Forum (an NGO network)*
- ✧ *South African Sugar Association*
- ✧ *South African Timber Growers Association*
- ✧ *Forestry Industries Association*

5.7.2 Financiers

These institutions include international government departments and numerous national and international funding institutions.

5.7.3 Researchers (Universities, Technikons)

Located in the WMA are University of KwaZulu-Natal, The Durban Institute of Technology; Unisa and Cedara Agricultural College.

6 CMA ESTABLISHMENT PROCESS

This CMA establishment process in the Mvoti-Mzimkulu WMA included three essential components, namely, a situational assessment, stakeholder participation process and a financial viability study.

The Situational Assessment is described in Chapter 3 (*Description of WMA*). This study established the following about the WMA:

- ✧ *The region is well endowed with water resources, however, there is evidence for future expectations of high water demand, especially during drought periods.*
- ✧ *There are great disparities in socio-economic status, education, income and access to services*
- ✧ *Groundwater is under-utilised, thereby creating an opportunity for more effective use of the resource in future*
- ✧ *Water quality is a cause for concern in some rivers, resulting in water-related health issues*
- ✧ *Pollution sources are diverse in nature, and arise from urban waste discharges to poor sanitation practises and agricultural runoff.*
- ✧ *The high nutrient inputs in some systems has given rise to aquatic weed infestation*
- ✧ *The CMA in this area will have access to capacity from well-established institutions*
- ✧ *The number of established water users provides a sound income basis for financially viable catchment management interventions.*
- ✧ *Information gaps for this system, include, reserve determinations, and hydrological and water quality information for rivers south of the Mkhomazi.*

The National Water Act requires the progressive development of a national water resources strategy, which provides a framework within which water will be managed at regional or catchment level. The establishment of the sixteen fora in this WMA will provide some of the building blocks for local water management and inputs into catchment management strategies. The fora are voluntary participative structures that have coalesced around a common interest in water resources and/or related issues for particular sub-catchments. The establishment of these structures dates back to 1997, when they were identified as critical in building capacity and developing the stakeholder participation process for setting up the CMA.

The National Water Act lists at least two pathways that can be followed for establishing a CMA. The first one is a bottom-up approach where the stakeholders (including DWAF) within the WMA self-organise and develop a proposal to the Minister. The second method is where the Minister appoints the CMA to lead the process. Elements of the former method were followed in the establishment of the CMA proposal for the Mvoti-Mzimkhulu WMA.

CMA Establishment Public-Participation Process

The public-participation process for the CMA was driven by DWAF and acknowledged stakeholder consultation as a cornerstone for success of IWRM. The stakeholder process had four objectives:

- ❖ *To be as comprehensively representative as possible and particularly endeavour to ensure that the process of consultation included the poor and marginalized sectors of the WMA*
- ❖ *To establish an empowered and coherent stakeholder group, with each member aware of the other's objectives and value systems.*
- ❖ *To start to develop a common vision for the water resources of the particular study area*
- ❖ *To obtain firm recommendations from the stakeholder group on aspects for the establishment of the CMA.*

This process started with identification of stakeholders - drawn from four sectors of society, namely, government and public sector, parastatal and utility sector, private sector, and civil society - to generate a comprehensive stakeholder list and prepare a strategic 'map' for engagement. The stakeholders were defined as organisations and individuals who have an interest in the water resources in the WMA - some direct and others incidental interest. The process undertook to engage as many stakeholders as possible in the process.

Participation of stakeholders was encouraged through announcement at CMF meetings, relevant local and regional newspapers (Zulu and English languages), public media campaigns and public meetings. The first set of three public meetings was held in September 2000 in Pietermaritzburg, Port Shepstone, and Underberg. Attendance at these meetings is shown in Table 6.1.

TABLE 6.1: ATTENDANCE AT FIRST CMF MEETINGS

Participation	Meeting venue: First meeting		
	Pmb	Underberg	P/Sheps
Total attendance	58	18	30
National and Provincial Government	8	3	3
Local Government	7	1	2
NGOs/Environmental and Conservation lobby	5	0	10
Irrigation boards/Forestry	15	12	4
Universities/Research	4	0	0
Consultants	11	0	0
Business	3	0	5
Utilities and Parastatals	3	0	6
Other	2	1	0
PDIs	19	3	15

One of the meeting concerns – which required attention in subsequent meetings - was the poor attendance of the rural subsistence constituency.

The meeting content included discussion of:

- ❖ *The National Water Act and role of CMAs.*
- ❖ *Functions of the CMAs*
- ❖ *Process for the establishment of the CMA and the role of public participation.*
- ❖ *Process of developing the Situational Assessment and progress thereof.*

The success of these meetings was shown by:

- ✧ *Buy-in of the attendees and suggestions for additional stakeholder attendees*
- ✧ *In-principle agreement as to the necessity for the CMA and the role it would play*
- ✧ *Listing of issues, requirements and concerns from the stakeholders.*

Follow-up one-on-one meetings were also subsequently held with selected key stakeholders.

A second 'plenary' meeting was held in February 2001 to review the Situational Assessment and elect a Proposal Development Working Group (PDWG) to oversee and facilitate the development of the CMA establishment proposal. This group was reasonably balanced and had representatives from the Regional DWAF, Umgeni Water, Irrigation Boards, the District and Local Municipalities, Organised Business, Farmers, and other Water Users (Annexure 1).

The PDWG met eleven times between May 2001 and September 2002, to discuss issues related to guidance of the development of the proposal through four Drafts. The third Draft was put to stakeholders in meetings at Port Shepstone and Pietermaritzburg in July 2002. Poor attendance was identified as a shortcoming for this round of interventions. However, these meetings did not have major objections to the report.

The Financial viability study addressed issues such as, sources of funding - identified to be irrigation, urban use, non-urban use, industrial use, and forestry - DWAF seed funding, DWAF Trading Account Revenue and DWAF subsidies.

On analysis of the financial viability assessment it was observed that most of the expenditure in the financial model would be used for ongoing operating costs, primarily staffing and related administration; while more strategic items included reserve determinations, continuing the current water quality monitoring programmes, continuing the Working for Water programme, hydrological model analysis, dam operating costs and institutional support.

Figure 6.1 shows the time line of the process towards the establishment of the Mvoti to Mzimkhulu CMA.

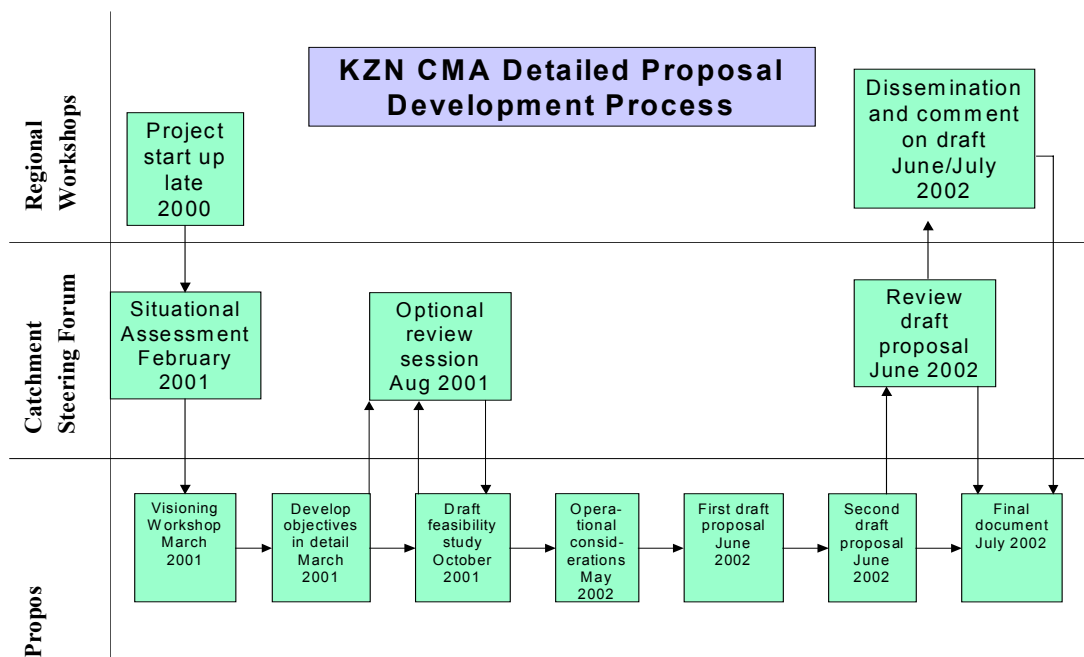
The Proposal Development Working Group (PDWG) commented on the feasibility study, the situational assessment and developed the proposal, after which the documents were made available to the public for comment. After inclusion of public concerns and comments, the document was submitted to the Minister of Water Affairs and Forestry for review and evaluation. This took place before November 2002.

Feedback from a meeting of the CMA Proposal Evaluation Committee indicated that the proposal met a lot of expectations in line with DWAF policies. Some areas, however, required improvement, including:

- ✧ *Stakeholder participation process: Further involvement of local government – including eastern Cape -, rural groups, and previously disadvantage individuals, was deemed necessary. More information was therefore needed with regards to the stakeholder participation process that the Catchment Management Agency needed to take going forward, the details of which should be included in the proposal.*
- ✧ *Proposed delegation of functions: The timeframes for delegation were considered to be short. To ensure coordination, a summary is to be compiled regarding the delegation of functions, the timeframes, and the transfer/appointment of staff.*
- ✧ *Financial viability: Aspects of the financial proposal were required to be changed and aligned with the National Pricing Strategy.*
- ✧ *Requirements for a viable Catchment Management Agency: More information was needed to ensure the viability and sustainability of the Catchment Management Agency, the risks and secondment of staff and how these issues were to be addressed. A description of the need for and importance of adequate representation within the CMA structure needed to be set out more clearly.*

The current status of the proposal is that it had not yet been approved.

FIGURE 6.1: CMA DEVELOPMENT PROGRAMME IN MVOTI-UMZIMKULU WMA (EXTRACT FROM PROPOSAL)



7 CONCLUDING REMARKS

The Mvoti to Mzimkulu WMA, is situated on the east coast of South Africa, and overlaps the provinces of KwaZulu-Natal and Eastern Cape. The WMA is characterised by a high potential for water related development since it is well endowed with water resources, has generally good water quality and excellent water services infrastructure, including, dams, water works and wastewater works.

The successful implementation of IWRM in this WMA requires an improved understanding of legislation and policy and IWRM principles embraced by all stakeholders - government, private, interested and affected sectors - who can then actively contribute to the sustainable development of the region. Such initiatives would be in line with the National Water Act and global sustainable development thinking.

Although this WMA takes prides in having established sixteen catchment management fora, most of these have not been adequately sustained - due to lack of capacity or support. The main problem facing many stakeholders is poverty and lack of jobs, which makes it difficult to secure participation in IWRM activities in the short term. The CMA establishment process has had representation from many stakeholders, but the poorer Eastern Cape communities were amongst those that were not represented in the process.

The CMA Proposal Evaluation Committee commended the CMA establishment process as meeting most of expectations as per DWAF's guidelines and policies, but expressed some concerns over stakeholder representation, and over some financial aspects of the proposal. These would need to be addressed by the CMA going forward.

A DANIDA-DWAF intervention has also assisted with programmes for training of Catchment Mentors on IWRM issues, who, in turn, have been tasked with building capacity amongst the communities. The outcome is that communities are increasingly beginning to appreciate the value behind the IWRM initiatives and are making the links between protection of water resources and their sustainable development.

Many institutions continue to be involved in elements of IWRM in the region and greater awareness of water and environmental issues is now present in local government institutions, a key player for success of IWRM. Going forward, these programmes, successful interventions and interests shown, need to be grown and enhanced, and additional IWRM linkages made where gaps exist, to holistically encompass the regions stakeholders.

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ANNEXURE 1: MEMBERS OF THE PDWG

NAME	ORGANISATION
G Chrystal	DWAF
V Mkhize	DWAF
V Reddy	Engineer
S Strydom	Farmers Association
P Gardiner	Forestry
P Roberts	Forestry
J Jaganyi	Institute of Natural Resources
C Breen	Institute of Natural Resources
J Lindsay	KZN Conservancies Association
A Mather	eThekweni Municipality City Engineers
G Bosch	eThekweni Municipality Planning
L Howard	Planner: Indlovu DM
R Statham	Tongaat Hulett
P Tanner	Ugu DM
E Karar	Umgeni Water
B Boyers	Umgeni Water
L Forsyth	Mlazi Irrigation Board
S Ntinga	UDN/FSG
J Maher	Wartburg Canegrowers
Ole Houmoller	DANIDA/DWAF
Sifiso Ntinga	F.S.G. River Catchment Program
Ashwin Seetal	DWAF
Bongani Dumisa	Sisonke DM
Eric Schmidt	S.A. Sugar Association