



DEPARTMENT : WATER AFFAIRS AND FORESTRY
REPUBLIC OF SOUTH AFRICA
KwaZulu Natal Regional Office

Proposal to Establish the Usutu to Mhlathuze Catchment Management Agency



Reg. No. 2000/014747/23

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LIST OF ABBREVIATIONS

CEO	-	Chief Executive Officer
CMA	-	Catchment Management Agency
CMC	-	Catchment Management Committee
CMF	-	Catchment Management Fora
CMP	-	Catchment Management Plan
CMS	-	Catchment Management Strategy
CSIR	-	Council for Scientific and Industrial Research
DM	-	District Municipality
DWAF	-	Department of Water Affairs and Forestry
IDP	-	Integrated Development Plan
INR	-	Institute for Natural Resources
KZN	-	KwaZulu-Natal
NGO	-	Non-government organisation
NWA	-	National Water Act
ORI	-	Oceanographic Research Institute
PDI	-	Previously Disadvantaged Individual
PDWG	-	Proposal Development Working Group
SA	-	Situational Assessment
SEA	-	Strategic Environmental Assessment
TLC	-	Transitional Local Council
UND	-	University of Natal Durban
WMA	-	Water Management Area
WRM	-	Water Resource Management
WSAM	-	Water Systems Assessment Model
WSDP	-	Water Service Development Plan
WUA	-	Water User Association

GLOSSARY OF TERMS

Alien plants	-	plants not indigenous to (not found naturally in) South Africa
Aqueduct	-	artificial pipe or channel for conveying water
Aquifer	-	any rock formation containing water in recoverable quantities
Bacteriology	-	the study of bacteria; a class of micro-organisms, which are often parasitic, agents in putrefaction and the cause of many diseases
Catchment	-	the area from which a river is fed i.e. the area draining into a river
Conurbation	-	dense cluster of neighbouring towns considered as a single unit in some respects
Demography	-	the study of population
Ecological Status Classification	-	a system developed to define the ecological health of a river
Ecology	-	the study of plants, animals, peoples and institutions in relation to their environment
Effluent	-	liquid industrial waste or outflow from a sewer
Environmental Reserve	-	the volume and pattern of water releases required to maintain the health of ecological systems associated with a river
Faecal	-	emanating from human or animal excrement
Hydrogeology	-	the branch of geology dealing with groundwater
Hydrology	-	the study of water resources in land areas
Impoundment	-	in this context, a reservoir of water
Institution	-	an organization established for some object
Jurisdiction	-	extent of power or area over which authority extends
Nutrients	-	in this context, chemical compounds in water which sustain and feed plants; normally nitrates and phosphates emanating from fertilizers and detergents
Riparian	-	in the floodplain of a river or stream
Runoff	-	that part of rainfall, which finds its way into watercourses
Social Reserve	-	the basic water requirement set aside for human consumption based on 25 litres per capita per day
Socio-economics	-	study of the relationship between economics and social factors
Statutory	-	enacted or recognized by statute
Stochastic	-	statistically random
Topography	-	the detailed study, description or features of a specific area
Water demand management	-	a programme of measures undertaken to reduce the consumption of water

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As always, it is difficult to acknowledge all those who have contributed in some way towards this document. The author would nevertheless like to recognise the efforts of the following individuals, groups and organisations.

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- Mr Jonty Ndlanzi and Mr Japhet Ngubane of MIDI, who were responsible for the stakeholder participation process.
- Mr Graham Muller of Muller Associates who undertook the Financial Viability assessment.

1.0 INTRODUCTION

This document represents the culmination of a process that commenced in July 2000. The process has incorporated three distinct components, which have been essential prerequisites to the compilation of this proposal. These were the situational assessment, the stakeholder participation process and the feasibility study. The overall process is illustrated in the diagram below:¹

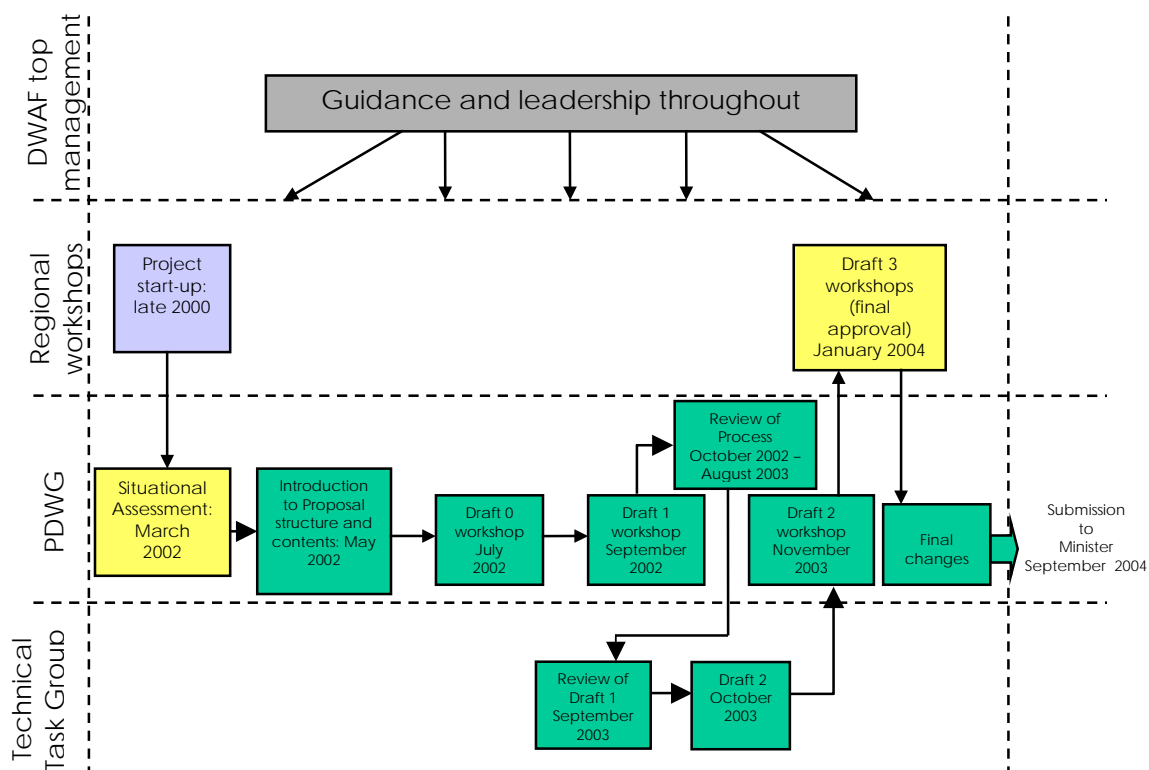


Figure 1: CMA Development Process

Figure 1 illustrates that the more technocratic aspects of the process, namely the situational assessment and the feasibility study, have been run in conjunction with a substantial stakeholder participation process. This has been an essential part of the process design in order to optimize on opportunities for capacity building, public participation and information dissemination. As can be seen, the Proposal development process underwent a major realignment and rethink between October 2002 and August 2003. This involved several PDWG and other stakeholder meetings and culminated in a major reconstitution of the PDWG and the establishment of a Technical Task Group to take the process forward (this is discussed further in Section 2). This also resulted in major changes in the proposal content.

The style of this document is very much that of an executive summary. In terms of the length of the document, a genuine attempt has been made to adhere to the guidelines in the document entitled "CMA Proposal Development: Proposal Framework and Evaluation Criteria", although the brevity of these are extremely challenging. In a similar vein, the structure outline in the guideline has generally been adhered to. Where this was not the case, it was because, in the view of the authors, the flow of the document benefited from an amendment to the structure. More detail is incorporated in the attached Appendices covering the

¹ Note that this diagram is a simplified representation of a more complex process.

Situational Assessment, the Stakeholder Participation Process and the Financial Feasibility study. The key outputs of the latter are also summarized in sections 2 and 3.4 respectively.

A key challenge in the process has been the need to enquire about, and speculate on, a range of important characteristics of the new organization. This has been necessary in order to address many of the key issues that are regarded as essential components of this proposal. This is challenging in any circumstances but is substantially more complex in this instance because there is no real template to evaluate against; as there are no existing CMAs in the country at the time of writing. On the other hand, if this is not done, the proposal simply becomes too generic with no sense gained of what the key issues and challenges will be and how this CMA will differ from any other. A process of making intelligent surmises has thus been necessary. This has been greatly informed by extensive participation of key external stakeholders, as well as the Regional Office. Both of these groups have very valuable insights on how the new organization will develop.

1.1 The Situational Assessment

The Situational Assessment (SA) is not covered in any other area of the report so it is briefly summarized at this point (the full report is attached as Appendix A). This is appropriate as it gives context to much of the discussion that follows. At the outset, it should be noted that the brief of the SA was not to gather any new data but to make the best use of what existed at that point in time. Due to time and resource constraints, the SA was also necessarily superficial and high level.

A general layout of the WMA is shown in Figure 2 on page 11. Key findings to emerge from the SA were as follows:

- By South African standards, this WMA is well endowed with water resources. This implies that in normal circumstances there is little competition for water in the WMA, with the possible exception of the Mhlathuze catchment. From experience however this position can change dramatically in a severe drought situation! Water shortages inevitably result in conflict between users and these situations will become more prevalent as demand increases in the future.
- The estimated population of the WMA is 2,2 million. The socio-economic analysis reveals great disparities in terms of income, education and access to services, as is common in many parts of South Africa. The Ingwavuma district has in fact the second highest poverty index in the whole of the country. The most impoverished areas are generally situated in rural parts of the WMA. The National Water Act dictates that addressing past inequities must be a primary consideration of the CMAs. In addition, it is relevant to note that the areas in question are often the most vulnerable with respect to water quality problems, the most susceptible to flooding, the least well endowed with safe sanitation (resulting in severe faecal pollution) and the most susceptible to poor agricultural practices. All of these facts emphasize the importance of these communities being represented on appropriate structures and being the focus of significant upliftment and capacity building efforts.
- With respect to groundwater potential, this is, generally speaking, under-utilised. The coastal plain has the best potential for primary aquifers and in the hinterland there is an extensive system of structural features such as dykes, joints and faults that have good potential for groundwater.
- Water quality in the rivers in the WMA is generally good. There are however areas of concern which will need to be carefully monitored and hopefully improved over the course of time.
- In view of its tremendous environmental (and tourism) assets, which include the World Heritage Site of the Greater St Lucia Wetland Park, environmental concerns are of critical importance. In this regard, it is encouraging that, in terms of the Ecological Status Classification, some 81 of the quaternary catchments are classified as "A" or "B". As was noted above however there are areas of concern. In some cases, the ecological classification of sections of a river have deteriorated to "E/F" (the lowest possible).
- Although there are a number of well-established and resourced institutions within the WMA, these tend to be concentrated in the Richards Bay/Empangeni area. There are also relatively few Water User Associations and Catchment Management Fora and they are geographically widely dispersed. The presence of effective institutions is extremely important as it relates directly to the capacity within the area to address catchment management in a meaningful way.

- Apart from the tremendous diversity and size of the WMA, a particular challenge relates to the fact that a substantial area of the WMA in another province (Mpumalanga) and there are two international boundaries. This not only makes the institutional environment more complex but also renders the difficult task of effective catchment management substantially more challenging. The international boundaries also result in very specific requirements in terms of downstream obligations to neighbouring countries.
- There is a broad spectrum of water users in the WMA but not a particularly large number. The process for registering these is not complete but is well advanced. This is important as it creates the potential for the income base for catchment management work. The history of cost recovery in the area is patchy. The urban areas have generally performed well but the record in rural areas is very poor. The record of Irrigation Boards is also mixed.
- The biggest user of water in the WMA, by some margin, is commercial agriculture in the form of irrigation, forestry and sugar cane. Transfers out of the WMA and industrial/mining are the next biggest users. The water requirements of the Environmental Reserve are very significant and will necessitate a higher profile and priority in future.
- There are currently no proposals for major water resources infrastructure augmentation projects in the WMA. Major projects completed in recent years include the Middledrift scheme to transfer water from the Thukela to the Mhlathuze system and Paris Dam on the Bivane River designed to supply irrigation and domestic needs. There is significant growth in water demand in the Richards Bay area due to expansion of the mining and industrial sectors. This is likely to result in further augmentation from the Thukela, probably via a new scheme located close to the coast. Few water conservation initiatives are under way in the WMA although a major study of the Mhlathuze catchment is currently nearing completion.
- This WMA is a net exporter of water via the two transfer schemes from the upper Usutu into the Vaal system. In terms of the new DWAF raw water pricing policy, this will ultimately provide the facility for the CMA to gain additional income for its catchment management efforts. Similarly, however the WMA will become responsible to pay for the water transfer (in) from the Thukela WMA.

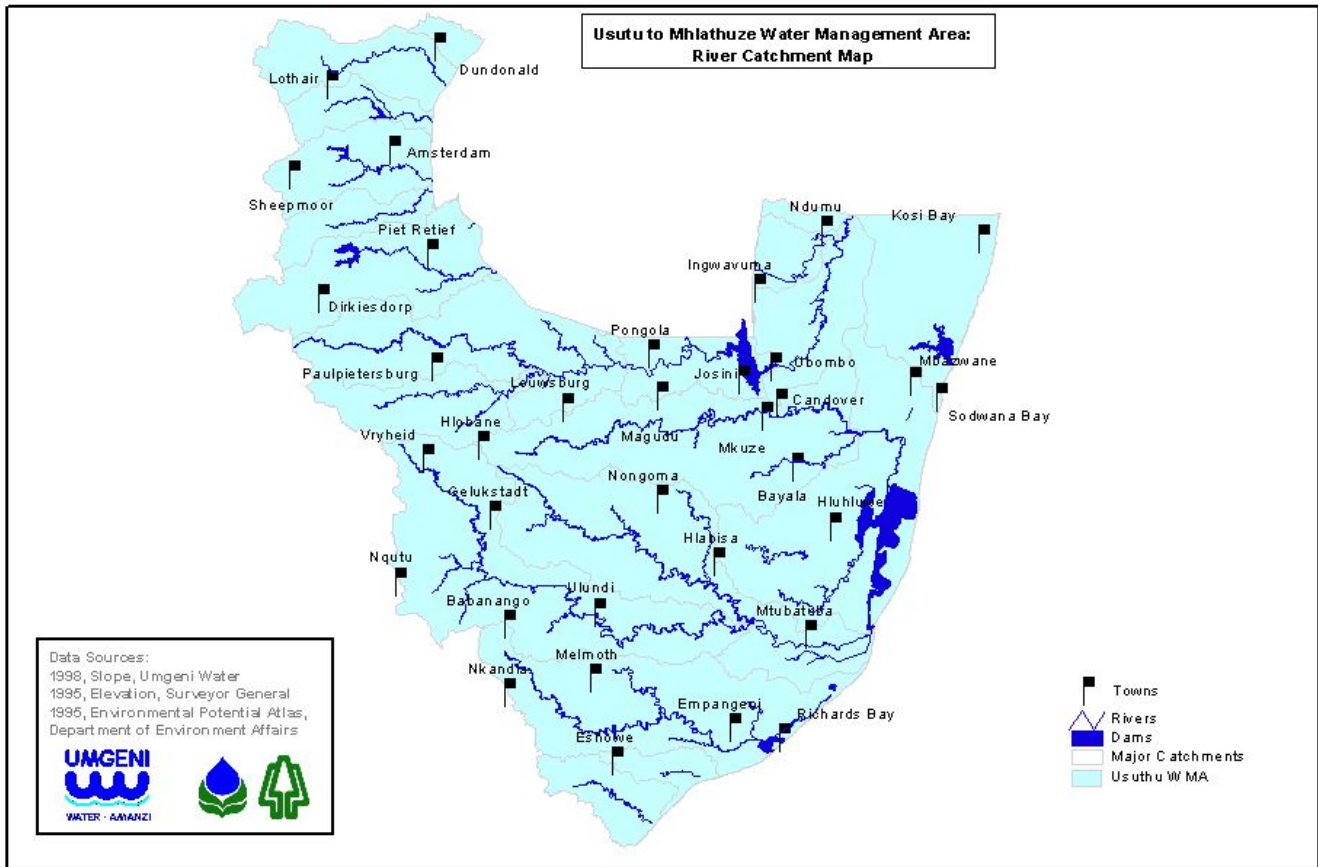


Figure 2: The Usutu to Mhlathuze Water Management Area

2.0 SUMMARY OF THE PARTICIPATION PROCESS

2.1 Approach Followed to Identify and Include Stakeholders

Consultation is one of the cornerstones of the process of establishing the Usutu to Mhlathuze CMA. This is driven by:

- the recognition that the people who reside in the WMA have a right to be informed about the establishment of the CMA project and to be given an opportunity to make their opinions and feelings about the project clearly heard;
- the evidence of experience that demonstrates that lay people can contribute sound insights;
- the fact that public opposition to the proposed establishment can cause delays, and associated costs;
- the recognition that in the current political climate, consultation, empowerment and capacity building are particularly important.

As such, the process of involving stakeholders has had four main objectives. These were:

- To be as comprehensively representative as possible and particularly to endeavour to ensure that the process of consultation includes the poor and marginalised sectors of the WMA.
- To establish an empowered and coherent stakeholder group, with each member aware of all the other members' objectives and values;
- To start to develop a common vision of the water resources issues for the particular study area and;
- To obtain firm recommendations from the stakeholder groups on aspects related to the establishment of the CMA.

The first step in the process was the stakeholder identification exercise. This was the point of departure for the consultative exercise and as such was critical to the success of the process. The aim of this step was to generate a comprehensive list of stakeholders and to work out a strategic "map" for engaging with the stakeholders. Stakeholders were defined as organisations and individuals that have an interest in the water resources in the WMA. The level of interest did differ markedly among stakeholders. Some stakeholders had a direct interest, others had only incidental interest. Nevertheless, as many stakeholders as possible, within practical limits, were given the opportunity to participate. Due to limited resources (financial and human) it is not possible for DWAF to consult intensively with each individual in the Usutu to Mhlathuze WMA. Based on the principle of "representative democracy", DWAF's approach was to work intensively with key stakeholders, through a series of workshops, while running a media campaign to keep the public informed and to allow them opportunity to comment outside of the workshops.

Stakeholders were largely drawn from the four sectors of society outlined below:

Government and public sector

- National government departments
- Provincial government
- Local government (District and Local Municipalities)
- Traditional Authorities

Para-statal and utility sector

- Water Boards
- Irrigation Boards and Water User Associations
- Conservation bodies
- Universities and Technikons with relevant research interests
- Statutory research organisations (e.g. CSIR, ORI)

Private sector

- Large individual corporations
- Chambers of Business
- Agri-business

- Farmers Associations
- Foresters and forestry organisations

Civil society

- Trade Unions
- Non governmental organisations active in the area
- Interest groups (e.g. organised recreational bodies with an interest in the water body)
- Communities who depend on the resource for their daily existence
- Ratepayers associations
- Other directly affected individuals

Importantly, key stakeholders had to be able to bring the perspectives of their sectors to this process, as well as be in a position to feed back to their various constituencies. It must be noted that this process was not exclusive, and any interested parties who wished to meaningfully contribute towards the establishment of a CMA in the Usutu to Mhlathuze WMA were welcome to make inputs into the process.

In accordance with the “representative democracy” approach, key stakeholders were also identified and invited, by fax or posted invitation, to attend the first round of workshops. Sources of data included consulting the following databases:

- Demarcation board stakeholder identification process,
- Irrigation Boards in KwaZulu Natal database,
- District Agricultural Council database,
- Regional Tribal Authorities (Department of Traditional Affairs)
- Regional Authorities
- The SEA [DWAF]
- Department of Health database

In addition, to inform stakeholders who may not already have been identified, adverts were placed in national and local newspapers prior to the first round of workshops.

For the purposes of making workshops as accessible to as many people as possible, it was decided to hold the first round of meetings in four locations within the WMA (Melmoth, Piet Retief, Vryheid and Mkuze). These were held in November 2000. Although each workshop had its own dynamics in terms of the number of people who attended the workshop, and issues discussed, the presentations to all workshops remained the same.

The primary objectives of this round of workshops were as follows:

- To inform stakeholders of the global and national water situation and to present aspects of South Africa's National Water Act
- To introduce the concept of Catchment Management Agencies (CMAs) to stakeholders, including:
 - Why CMAs are necessary
 - The legislative framework that makes provision for CMAs (National Water Act)
 - How CMAs are legally established (CMA Proposal development and CMA Governing Board appointment)
 - The role of stakeholders in the CMA Proposal development
- To discuss with stakeholders the public participation process to be followed in order to develop a CMA Proposal and ways to achieve representation of all stakeholder groups in the process.
- The functions that CMAs would carry out.
- The process of developing the Situational Assessment and progress made in this regard (Appendix A to this document).

These meetings were successful in that they were relatively well attended (although sometimes patchy) and that they secured the following from those present:

- Buy-in to the list of stakeholders identified as crucial to the process and suggestions as to additional stakeholders
- In-principle agreement as to the necessity for the CMA and the role that it would play
- A list of issues, claims and concerns from the stakeholders.

The conceptual participation process outlined in Figure 3 was proposed at the first round of meetings and accepted as a viable process.

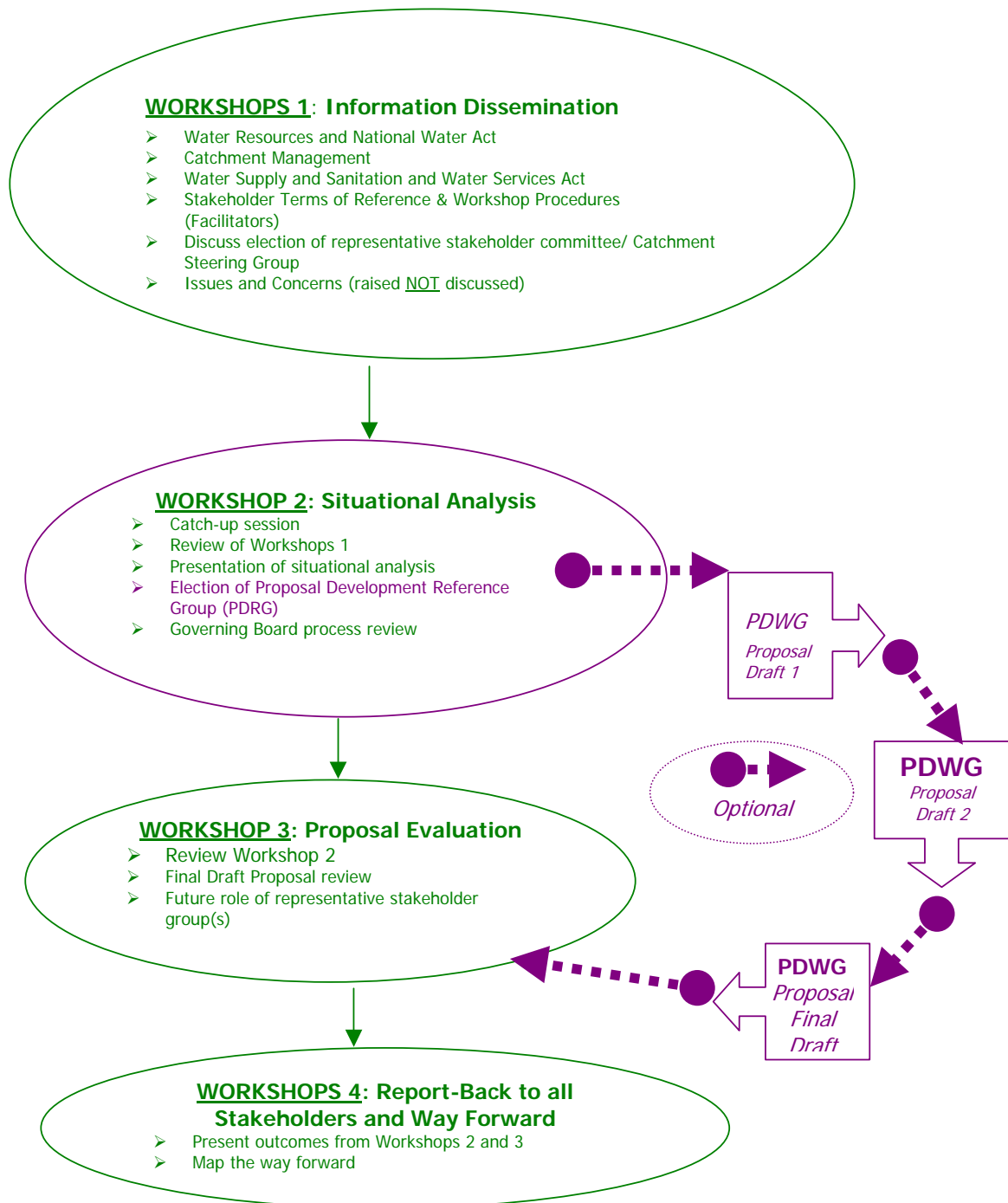


Figure 3: Public Participation Format Proposed at the First Round of Workshops

Evaluating the process, it was noted that:

- During the first series of workshops, some critical role-players involved in the management of water resources were not part of the process as originally envisaged. These included both Tribal Authorities and the local sphere of government. The first workshops coincided with the dawn of the wall-to-wall municipality elections in 2000.
- The turn out was very poor for both political reasons and workshop logistics.

A management decision was made to re-schedule the same workshops at the same venues and new attempts were made to attract a greater number of participants. The aim of the second round of workshops, held in June 2001, was to share information with stakeholders and seek their collective wisdom in the establishment of the CMA in their area. Whereas the first workshops needed to identify the stakeholders, the second round required the identification of stakeholders that would be willing to work with the technical team in the CMA proposal development process that would be ratified at a series of workshops and thereafter submitted to the Minister for approval. The workshops therefore were an additional attempt to get the co-operation, agreement and full participation of all stakeholders in the process.

The invitation process included accessing existing databases as applied in the previous workshops and updating this database with new stakeholders who came on board because of a public awareness campaign that had been ongoing during the full CMA stakeholder participation process. In addition, three public addresses were made to the various Regional Tribal Authority Meetings (Nseleni, Ngoya and Ingwavuma). A number of government departments (Department of Health, Public Works and Welfare) were consulted and asked to attend the workshops. As part of a public campaign, notices were prepared and posted at all proposed venues two weeks prior to the meeting. Letters of invitation accompanied by the first workshop proceedings report were mailed to all stakeholders on the databases. Telephone and faxes were used to contact known stakeholders to attend the meetings.

Four workshops were held at four different venues (Melmoth, Vryheid, Piet Retief, and Jozini). Once again, although the material presented was similar, each workshop had its own dynamics in terms of the make-up and number of people who attended and the issues discussed.

The primary objectives of this set of workshops were as follows:

- Re-visit and confirm the in-principle agreement to continue with the process to develop a proposal for the establishment of the Usutu to Mhlathuze Catchment Management Agency.
- Engage stakeholders in the feasibility study to establish the Usutu to Mhlathuze Catchment Management Agency.

The workshops decided that a Proposal Development Working Group (PDWG) should be established to make recommendations and to assist in the formulation of the proposal. Members were nominated by the plenary stakeholder meetings.

The following stakeholders attended the first PDWG workshop held in March 2002.

Table 1: Attendance at the First PDWG Workshop

NAME	ORGANISATION
B.J. Ashburner	Felixton Planter
W. Brook	Nkwalini Irrigation Board
M. Bowler	SAPPI
A. Campbell	Mtunzini Estate
G. Chamblar	Self
A. Church	SA Cane Growers Association
B.P. Dunge	Mdlelanga Water
M.W. Gama	Mondi Khulanathi
P.Gardiner	Mondi Forests
B.M. Gurray	Tortein Timbers
S.C. Horace	DWAF – SEA
J. Joubert	C.T.C.

NAME	ORGANISATION
Boy Khuzwayo	Mfanefile
L. Khuzwayo	Mfanefile
D.N.E. Leitch	Melmoth Farmer
R. G. Labusulangwe	R.G. Labusulangwe Trust
W.P. Lotter	Forest Industries Association
R. Mcherray	Melmoth Farmers Association
W. Mnyandu	Khulanathi Mondi
B.M. Mthembu	DWAF – SEA
H. Percival	Self
C. Qwabe	Mfanefile P.O. Box 153, Melmoth, 3835
R.S. Schetter	Melmoth Farmer Association
Sifiso Shandu	Mondi Greef
N.E. Shezi	Mdlelanga Water Community
M.E. Shandu	Imbizo Water Supply
S. Sibiya	Mfanefile
N. L. Sterfontein	Mhlathuze Water
J. Thompson	VGR for Uthungulu Regional Council
S. Thomas	Mondi Forest
D.M. van Eden	UmSekeli
F.D.R. Wiseman	Eshowe/Entumeni
Arthur S.F. Nyaka	Community member
B. Oehme	N.T.E
B.V.A Xhakaza	Councillor
Charles Hughes	Councillor
D. N. Nxumalo	Community member
E.T. Myeni	NGO
Inkosi M.A Khanyile	Nkandla
K. J. Fourie	Springfield FMG
Kelello Ntoampe	Mhlathuze Water
M. Biyela	Nkandla
M. L. Sibiya	Councillor, Phongola
M.C.J. Mtshali	TLC
Muzi Ngcobo	Teacher
N. J. Mavuso	ANC
N. T. Shabangu	Community leader
Nelisiwe Dlamini	ANC WL member
Njabuliso Dlamini	ANC YL member
O. Steeneveldt	ESKOM
O.A.Ntshangase	TLC
Phumzile Sukazi	WL Chairperson
S. G. Venter	Town Engineer - Vryheid
S. R. Mhlongo	Councillor
S.E. Qwabe	Councillor
Sebenzile Mthimkhulu	WL member
Sipho Shabangu	Councillor
Steven Cindi	Treasurer
Thembi Ngcobo	Teacher
Thembi Shabangu	ANC WL Secretary
Vusi Mdluli	Vryheid Municipality
William Mhlanga	Youth League
Z. O. Zulu	Nkandla
Zenzele Buthelezi	CLLR-Abaqulusi

The stakeholder process followed throughout the various meetings is summarised in Table 2 on Page 17.

Table 2: PDWG Process

<i>Meeting/Event</i>		<i>Emphasis-Outputs</i>	<i>Draft</i>
PDWG	27 March 2002	Situational Assessment	-
PDWG	29 May 2002	Distribution of the CMA proposal	0
PDWG	26 June 2002	Institutional Design, Governing Board, Co-operative Governance	
PDWG	31 July 2002	Organisational Development and Delegation of functions. Location of functions	1
PDWG	21 August 2002	Distribution of CMA Proposal Draft 2: CMA Options	1
<p>At the 21 August meeting, concern was raised regarding the representivity of all stakeholders' groupings. It was felt that the formal sector had been under-represented and it was decided to revert to a process whereby the PDWG was split into geographical groupings.</p>			
PDWG	17 October 2002 - Piet Retief; 18 October - Richards Bay	Comments and concerns from the various stakeholders per geographical area. These meetings were not very well attended and it was decided to return to the single PDWG format. However the meetings decided that the process of decision making to date had not been sufficiently robust and required a complete review of documentation and recommendations made. The process was revisited and had to be re-established. This led to a hiatus in the holding of PDWG meetings.	1
PDWG	05 January 2003 Richards Bay	This meeting began with a re-visit of issues and confirmed the in-principle agreement to continue with the process of developing the Usuthu to Mhlathuze CMA Proposal.	1
PDWG	06 February 2003 Richards Bay	The representivity of the PDWG as re-established was agreed upon. Strategic issues were discussed and it was agreed that those that were taken up in the document represented the feelings of the PDWG group.	1
PDWG	13 March 2003 Vryheid	At this meeting, the CMA proposal development process was re-explored and agreed upon.	1
PDWG	21 August 2003 Vryheid	Institutional Design, Governing Board, Co-operative Governance was discussed. With the amount of discussion being generated, it was decided to elect a Technical Task Group to work through the remaining elements of the proposal.	1
Technical Task Group	10 September 2003	Institutional Design, Governing Board, Co-operative Governance was re-visited and discussed. Delegation and location of functions was also worked through and recommendations for the proposal agreed upon.	1
Technical Task Group	15 October 2003	Viability, sustainability, risk management and the inception phase was worked through and recommendations for the proposal agreed upon.	2
PDWG	17 November 2003	Report back to the main PDWG group. The recommendations made by the Task Group were workshopped and the PDWG agreed	2

<i>Meeting/Event</i>	<i>Emphasis-Outputs</i>	<i>Draft</i>
Plenary 28 January 2004	that it was happy with what was proposed. It was agreed that the document was ready to go to the stakeholder plenary. Report back to meeting of stakeholders held in Paulpietersburg. The draft proposal was presented to the stakeholders who were given the opportunity to comment. Particular comment around the recommendations made with regard to the Governing Board	
Plenary 29 January 2004	Report back to meeting of stakeholders held in Hluhluwe. The draft proposal was presented to the stakeholders who were given the opportunity to comment.	
Written Comment February/March 2004	Written comment on the draft document was received from Forestry South Africa, City of uMhlathuze and the Umfolosi Cane Growers Association.	
Written response to stakeholders March 2004	A written response was sent to stakeholders, responding to the queries raised and indicating how their concerns had been dealt with in the updated proposal document (see also discussion on the make up of the Governing Board in section 3.3.3).	

2.3 Involvement of Previously Disadvantaged and Currently Marginalised Groups

One of the keys to the involvement of previously disadvantaged and currently marginalised groups has been the manner in which they have been incorporated through the principle of representative democracy. It should be noted that the representation at the first set of workshops was such that 41 out of 70 people who attended, or 56%, were from the previously disadvantaged sectors.

Evaluation of the first set of workshops indicated that representation from the previously marginalised sectors was not sufficient. As such, the second set of workshops was effective in remedying this problem. Later workshops were dominated, dependant of geographical location, by stakeholders from previously disadvantaged groups. For example, all workshops held in Piet Retief and to a lesser extent Vryheid, tended to be predominantly made up of people from these groups. Meetings held in Richards Bay tended to be more convenient for formal farmers and the local municipal representatives. In order to ensure that the message was spread around the catchment and that people were given an opportunity to comment, the meetings were held in a variety of locations. Furthermore, the CMA Proposal document made available to stakeholders for the January 2004 plenary sessions, was translated into isiZulu.

2.4 Issues Raised by Stakeholders

The following issues, comments and questions were raised at the various workshops:

- The need for water supply and delivery in the rural areas was stressed. Stakeholders queried the sense of forming the CMA if some communities do not even have water. The focus of the CMA should be pro poor and on addressing poverty related needs associated with water issues.
- Concern was raised about the character of the Governing Board that would oversee the CMA. The representivity of stakeholders on the CMA and achieving a power balance was deemed critical.
- Stakeholders were concerned about capacity building and empowerment as part of the CMA process and felt that all communities had to be included.
- It was stressed that District Municipalities must be involved and that political parties must be represented in the CMA development process. Equally it was essential that tribal authorities and traditional structures be seen to be involved in the CMA process.

- The creation of Catchment Management Fora and Catchment Management Committees in order to ensure that there was good communication with the grass roots, was deemed to be of paramount importance.
- Concern was expressed around the period required for this CMA process. The need for properly including all sectors was stressed even if this meant that the process had to proceed more slowly.
- Stakeholders asked how they would be involved in the process on an ongoing basis. It was stated that this would be achieved via a process of information sharing and, where necessary, capacity building, as outlined in the relevant legislation. In addition, new policy guidelines that are being formulated concurrently would be followed. Stakeholders asked what will happen to ensure that people understand what is going on in terms of the process of establishing the CMA and how will this be checked?
- Stakeholders wanted to know what is going to happen with the current Water Boards?
- Stakeholders were concerned with who pays for the CMAs? The potential high cost of running a CMA in a relatively poor area was raised. Allied to this, the issue of water use charges was a concern. Stakeholders were concerned as to how much they will be charged, how affordable tariffs would be in the context of the poverty in the area and can CMAs determine their own tariffs? The potential problem of non-payment and high costs to recover charges was also raised.
- There was a feeling that the CMA should be concerned with ensuring that part of the water resource was made available for small scale irrigation and in encouraging the development of emerging farmers.
- Stakeholders wanted clarity as to the role of DWAF during and after CMA establishment. Of particular concern is the staffing of CMAs and potential employment opportunities provided by a CMA. There was a feeling that the CMA should be staffed, as far as possible, from within the WMA and that capacity building was required to ensure that suitable people from within the area could be trained to take up appropriate positions.
- There was concern that the DWAF did not have sufficient capacity to run the CMA. The need to outsource where viable was stressed. Stakeholders did however feel that DWAF was doing a good job of resource management in the area.
- The issue of HIV/AIDS was raised. This was seen to be an important consideration in the catchment and stakeholders wanted to know if planning for the water resource included consideration of this issue.

3.0 FEASIBILITY STUDY

3.1 Description of Water Management Area

The major rivers in the WMA are the Pongola River, the Mhlathuze, the Mkuze and the Mfolozi. A particularly important issue with respect to the Pongola is that it is an international river with its catchment area shared with both Lesotho and Mozambique. The various Usutu tributaries in Mpumalanga drain into Swaziland and thus also have international implications.

The Pongola River rises at some 2 200 m above mean sea level near Wakkerstroom (in Mpumalanga) and descends steeply through the major portion of its catchment to the west of the Lebombo Mountains. It has an area of 7081 km². It has a mean assured yield of 862 million m³ per annum sufficient to provide an assured annual duty of 1220mm to approximately 48 000 ha (Heeg and Breen, 1982).

The Mhlathuze River catchment has a surface area of 4,209 km². It rises in the west at an altitude of 1,519m and flows over 100km eastwards to the sea. There are nine quaternary catchments and the coastal area is characterised by several freshwater lakes. By South African standards this is a high rainfall catchment, with rainfall generally ranging between 800 to 1400 mm along the coastal belt. There are some rain-shadow pockets where rainfall is between 700-800 mm. The Goedertrouw Dam was constructed on the Mhlathuze River in 1980. It currently has a capacity of 300 million m³ and is principally for provision of water to the industrial complex at Richards Bay.

The high rainfall coastal belt is heavily afforested to the north, includes agriculture, and, most importantly, heavy industry. The deep-sea port of Richards Bay is situated at the mouth of the Mhlathuze River and all industrial development is focused within the Empangeni/Richards Bay complex. This is one of the most important industrial complexes in South Africa, based on the export of coal from Northern KZN and Mpumalanga, and on heavy industrial development, notably aluminium smelting, pulp and paper, and fertilisers. Power, water, and export facilities are the generators of the industrial sector and there are expectations that this sector may double in size over the next 20 years.

This WMA supports large coalmines in the Vryheid area (Hlobane Collieries) and there is also mining activity around Piet Retief and at Richards Bay (Richards Bay Minerals). The majority of land is used for agriculture with areas of grassland. There are large amounts of forestry around Richards Bay up to the St. Lucia wetland areas, as well as around Melmoth, Nongoma and the northern areas from Paulpietersburg up to the top of the WMA in the west.

The agriculture found in this WMA includes large areas of beef pastures, wheat and maize cropping with sugar cane (irrigated and dry-land) along the coast and up towards Pongola. Cotton and citrus are also grown in the coastal areas up to Pongola, with vegetables, nuts, soya and other crops and dairy pastures being spread from the coast to the inland regions. The majority of irrigation is carried out using sprinkler irrigation systems, but micro irrigation is also used in the western areas. About 30% of the irrigation water losses occur in the canals below and coastward from Pongolapoort Dam.

The Usutu to Mhlathuze WMA supports large natural park and wetland areas. The entire coastline from St Lucia up to the Mozambique border at Kosi Bay is a wetland sanctuary. Other reserves include Tembe Elephant Park, Umfolozi, Ndumo, Itala and Hluhluwe reserves.

The total population of the WMA is approximately 2.16 million, of which 80% is in KwaZulu-Natal and the remaining 20% in Mpumalanga province. Much of the area is rural in nature, containing several large conservation areas. The principal urban area is the Richards Bay/Empangeni conurbation, which has a population of nearly 250,000 people.

The districts with the lowest populations are Ngotshe and Wakkerstroom, both of which have less than 35,000 people. Several rural farming districts in the interior have populations of less than 50,000 including Piet Retief, Paulpietersburg and Utrecht.

The two most heavily populated districts are Lower Umfolozi (241,000), which includes both Richard's Bay and Empangeni, and Eshowe (215,000)². The Usutu to Mhlathuze WMA has an average population density of 39 people per square kilometre, which is among the lowest of all WMAs on the eastern side of South Africa. Fifty-three percent of the total WMA area is settled at a density of less than 10 people per square kilometre.

The districts of Ermelo and Wakkerstroom (which occupy the northern portion of the WMA in Mpumalanga) are both sparsely populated. Low population densities are also found in KwaZulu-Natal, in the districts of Ngotshe and Ubombo and in the Umfolozi, Hluhluwe and St Lucia reserves. The highest population densities, which average more than 350 people per square kilometre, occur in the coastal strip adjacent to and including Richard's Bay and Empangeni. Other pockets of relatively dense settlement occur around inland towns such as Ulundi, Eshowe, Vryheid, and Paulpietersburg.

Income levels in the WMA are low. The average per capita income for the entire WMA is R5,300 per annum, which is significantly below the national average of R9,520. The highest average income of R6,500 is found in the Mhlathuze catchment, which includes Richards Bay and Empangeni. The Mfolozi catchment is second highest with R5,300. The sparsely populated Mkuze catchment, with no major industrial or commercial centres, has a per capita income of R3,400 per annum, which equates to a subsistence level of R285 per month. The remaining tertiary catchments have an average income of R5,300.

The poverty index for the entire WMA is 0.63, which is significantly higher than the national average of 0.41 (a higher score denotes comparatively more poverty). The districts of Ingwavuma, Ubombo and Nongoma, in the northeast, as well as Nquthu, Nkandla and Babanango in the south of the WMA, are particularly impoverished. Ingwavuma, for example, has the second highest poverty score in South Africa. Much of the Apartheid legacy of inequitable service provision and low government spending is evident here.

Rainfall is strongly seasonal in this WMA with in excess of 80 % of rain occurring as thunderstorms during the period October to March. The peak rainfall months are December to February in the inland areas and November to March at the coast.

3.1.1 Water Requirements and Water Availability

Much work has been carried out by the Department over the last two years to determine the position of water resources in the country as a whole. The initiative to assess and analyse this is known as the National Water Resource Strategy (August 2002). The outputs of the study are pitched at a strategic level and are designed specifically to assist CMAs with decision making with respect to the key water resource concerns in their areas of jurisdiction. The primary outputs cover the areas of water use, water availability and the water balance. The latter issue is the crux of the matter as it relates directly to the question of water availability in catchments and particularly those rivers experiencing water stress.

In terms of water requirements, the current global estimates for the WMA are given in Table 3. It illustrates that the greatest 'use' in the WMA is for the ecological reserve. This is the water requirement estimated to maintain the ecosystems related to the river in good condition. The next greatest use is for irrigation. It should be noted at this point that the analysis carried out for the National Water Resource Strategy is coarse-grained and cannot be used for decision making at a more detailed level. This is illustrated by the fact that the authors have acknowledged that there were significant problems with modelling of the ecological reserve, the impact of afforestation and alien plant usage, river losses and return flows from irrigation. It should also be noted that the determination of the ecological reserve requirements, even though it constitutes by far the greatest water usage, was calculated utilising very crude methods.

A breakdown of estimated water use by catchment is given in Table 3 and illustrated in Figure 4 on the following page.

² It should be noted that some stakeholders contested these figures.

Table 3: Water Requirements for the Year 2000 (million m³/a)

Catchment(s)	Irrigation	Jrbar	Rural	Mining and bulk industrial	Power generation	Afforestation	Ecological Reserve	Total local requirements
Upper Usutu	13	8	5	0	0	43	328	397
Pongola	213	1	6	1	0	34	200	455
Mkuze	61	1	10	0	0	6	218	296
Mfolozi	23	12	11	4	0	2	275	327
Mhlatuze	94	32	8	86	0	19	171	514
Total for WMA	404	54	40	91	0	104	1 192	1 855

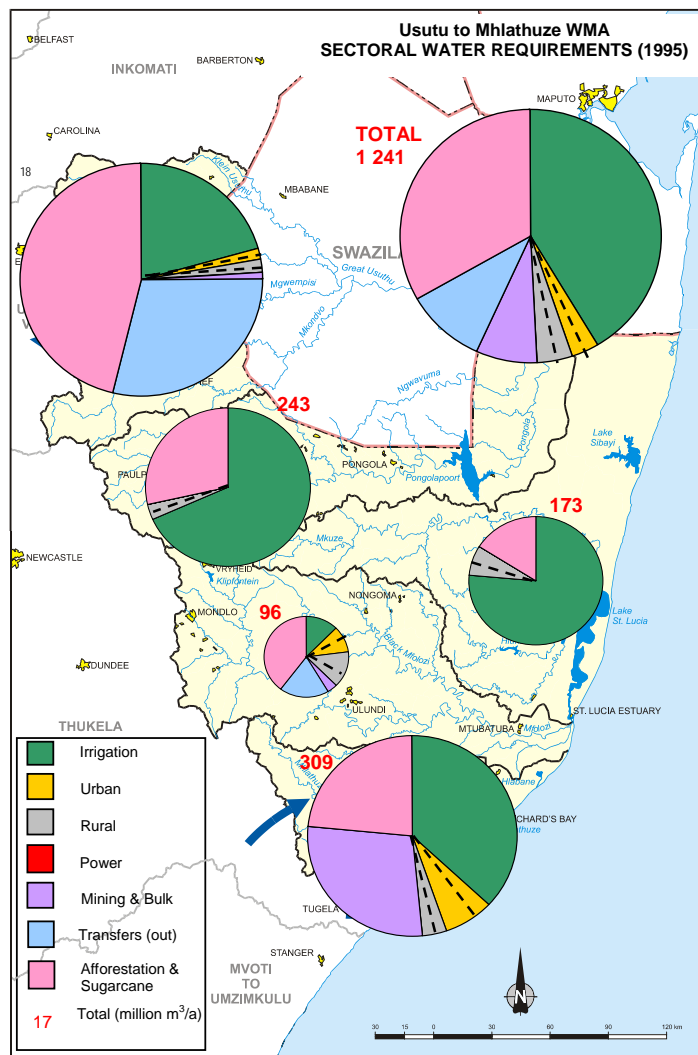


Figure 4: Water Requirements in the WMA

The Virgin Mean Annual Runoff (MAR) figures for the catchments in the WMA is given in Table 4 on page 23.

Table 4: Mean Annual Runoff Figures for the WMA

Component / Sub-area	Total Local Requirements	Virgin MAR
Upper Usutu	69	901
Pongola	255	1 344
Mkuze	78	635
Mfolozi	52	962
Mhlathuze	239	938
Total for WMA	693	4 780

A quick comparison between the MAR and the water requirements indicate that the water resources are more than adequate to satisfy the demands. This is particularly the case in the Mfolosi and Usutu catchments. In terms of current water resource availability, the Pongola has a very large available resource in the form of the Pongolapoort Dam. This superficial assessment of water availability is nevertheless misleading. The reason being that the MAR, as the name implies, is the mean figure; this implies therefore that in a "normal year" the water resources will be more than adequate but it says nothing about "abnormal years". To carry out a more thorough assessment it is necessary to carry out sophisticated statistical analysis to determine what is the assurance of supply. This is particularly important for domestic and industrial development, which requires high levels of assurance. Usage such as irrigation can tolerate lower levels of assurance. In particular, it is of note that it has been claimed that the Mhlathuze system is under stress and thus relies on augmentation from the Thukela River.

The water balance for the catchments in the WMA, at a 1 in 50 level of assurance, is given in Table 5 below

Table 5: Water Balances for Usutu to Mhlathuze Catchments (for 1 in 50 year assurance)

Sub-Catchment	Local Resource	Transfer In	Local Requirements	Transfers Out	Reserve Requirements	Balance
Mhlathuze	204	78	239	3	16	24
Umfolozi	106	0	84	18	25	-21
Mkuze	88	32	78	0	45	-3
Pongola	806	0	332	37	160	277
Upper Usutu	273	0	67	130	79	-3
Total for WMA	1 477	56	800	188	325	274

Table 5 reveals a significantly different picture to that implied by table 3 with the upper Usutu, Mkuze and Umfolozi catchments under significant stress in a 1:50 year drought scenario.

3.1.2 Water Resource Planning and Projected Water Demand Scenarios

Water resource planning work depends intimately on demand growth scenarios. These in turn are dependent on a whole host of factors but probably the most important are population growth and economic growth. In addition, in recent times, water conservation and water demand management initiatives are starting to have a significant impact in those areas where they have been implemented aggressively. The Mhlathuze Catchment has recently undertaken a major water conservation and demand management study. In many ways this approach represents a new paradigm for South Africa but this is wholly appropriate if one considers the water resource constraints that the country is facing in the not too distant future. Of course the water resources of the Usutu to Mhlathuze WMA are relatively abundant however, because of their international importance, they certainly cannot be looked at from a parochial perspective.

The raw water supply to the Mhlathuze system supplying the Richards Bay/Empangeni complex has recently had a major augmentation in the form of the Middledrift scheme (capacity of 134 million cubic

metres per annum). This supplies water via a weir on the Thukela River and a major pumping scheme and pipeline. This should provide sufficient capacity for the next 10 to 15 years.

A major dune-mining project is currently being planned by Tidor at Fairbreeze, just south of Mtunzini. This will require between 0,5 and 1,5 cumecs, depending on whether it is also utilized for irrigation and urban purposes. This project will be supplied with water from either the Thukela direct or the Mhlathuze. If it is from the latter, then the Middledrift scheme will need to be augmented substantially earlier. A more likely scenario however is that a new pipeline will be developed closer to the coast. If this proceeds, then it will be sized to provide further augmentation capacity to the Mhlathuze system.

Significant expansion plans are being considered by both Richards Bay Minerals and Mondi Kraft. The water requirements for these have been allowed for in the Mhlathuze augmentation plans outlined above.

Mhlathuze Water is planning to upgrade their Nsezi waterworks by 35 MI/day in 2003 and by a further 30 MI/day within ten years.

Major existing and proposed water resources infrastructure is shown in Figure 5 on Page 25. A number of significant transfers in and out of the WMA are also identified.

Potential expansion of water demand in the agricultural sector is difficult to estimate. Under the new National Water Act, a comprehensive programme of registration of water users is taking place. This process involves the registration of an estimated 5000 water users in the WMA. This is a substantial logistical undertaking but is critically important because it will impact directly on the revenue base for catchment management. Furthermore it is important that as many users are "brought into the net" as possible as this will reduce the unit cost. Nothing like this has been undertaken in the past and the final results are not completely clear. Provisional results, as of June 2004, are presented in Table 6 below.

In the final analysis, the potential growth in the agricultural sector could be closely linked to the outcomes of the registration, licensing, and ultimately, tariffing process. Furthermore, national and international price trends, in particular those associated with dairy and sugar cane, will also affect growth in demands for water for irrigation.

A critical issue that will have a major impact on water use assessment in the WMA will be the requirements of the Environmental and Social reserve. This, generated by means of a Reserve Determination Study, gives an estimate of the water requirements to maintain, in a healthy condition, the ecosystems associated with the river. A detailed reserve study for the Mhlathuze system, below Goedertrouw Dam, has been undertaken. No other detailed assessments have been undertaken in this WMA.

Table 6: Registration in the Agricultural and Forestry Sectors

Sector	Number of registrations	Area (HA)	Consumption (million m ³ /annum)
Irrigation	1 375	71 517	615
Forestry	2 492	443 279	318
Other Agricultural Users	98	1 700	2
Totals to Date	3 965	516 496	935

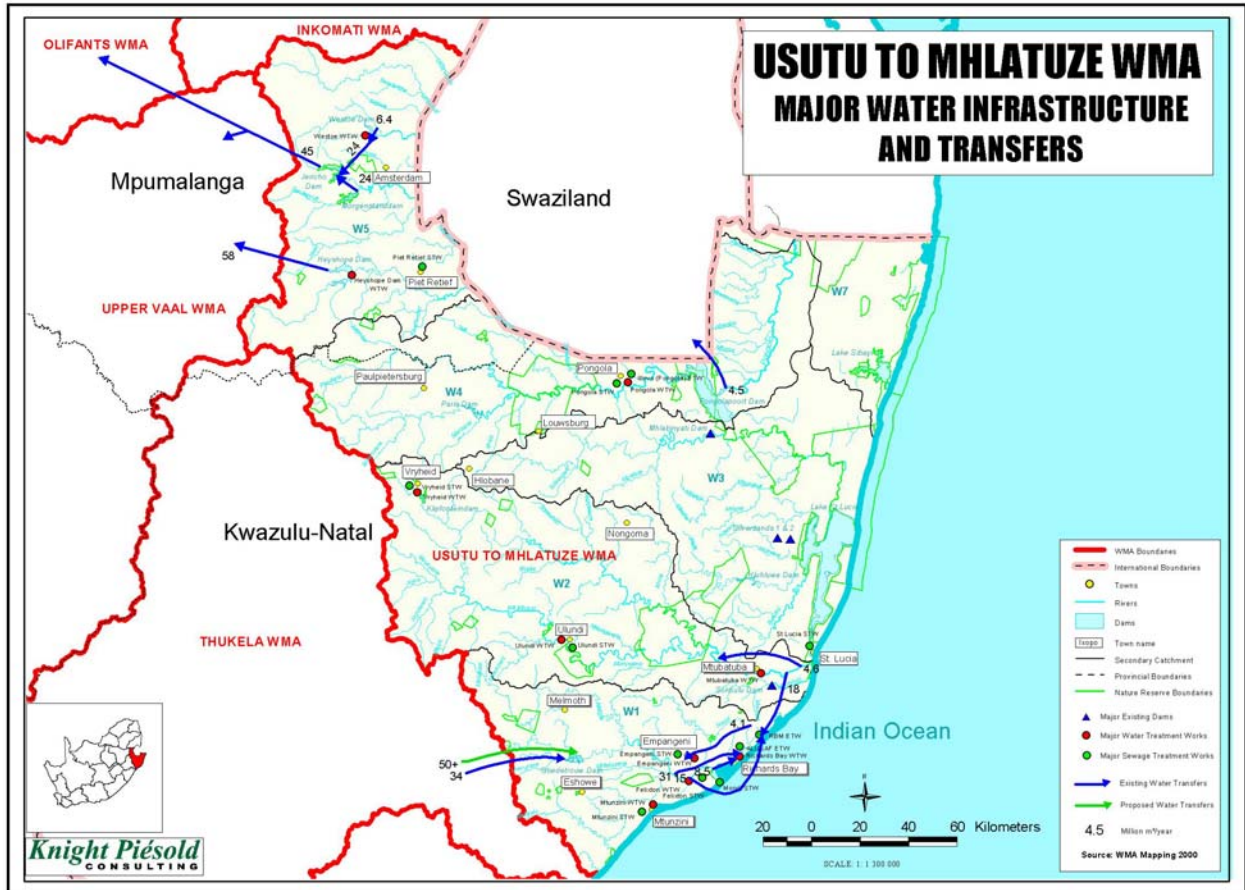


Figure 5: Major Water Infrastructure and Transfers

3.1.3 Cost Recovery Issues

The Department of Water Affairs (Regional Office) currently has two different groups of major water users in the province as a whole. The first group consists of Water Boards, Regional Councils, TLCs and certain major industries such as Iscor. There are 19 of these and they are billed monthly. The second group consists mainly of Irrigation Boards and some farmers. There are 76 of these and they are billed every 6 months. Overall cost recovery for these customers is excellent with 100% achieved in the year 1999/2000. This yields an amount of R70 million.

Once the registration process referred to in section nine is complete, then it is estimated that there will be an amount of between 12 000 and 16 000 users throughout the Province. In the new dispensation these will all have to be billed by the CMAs and possibly in the interim by the DWAF Regional Office. In certain cases these can be administered by an intermediary institution, which will reduce the numbers dealt with directly by the CMA to some extent. It nevertheless clearly represents a significant logistical challenge and a completely different scenario from the current situation.

Cost recovery amongst other institutions in the WMA varies greatly. It would appear that most of the local authorities are coping reasonably well although many are experiencing problems in the townships incorporated from the former KwaZulu administration. In the rural areas the situation is much more problematic with virtually all the local government institutions, as well as DWAF, achieving very low levels of cost recovery.

3.1.4 Water Quality Issues

Potential problems with managing the pollution occurring in this WMA are its size, multiple-catchments and dispersed nature, inclusion of part of Mpumalanga province, and river catchments that drain into (and out of) Swaziland and Mozambique. Local area catchment and pollution management offices will probably be essential to be able to cover this very large WMA, and significant inter-provincial and international problems will have to be dealt with. Several industrial towns may cause point source pollution, but erosion-related and agricultural pollution problems dominate.

The Mhlathuze is a relatively small catchment with quite large areas of formal agriculture. Around Babanango, this is generally extensive livestock production, with forestry further downstream in the Melmoth area. Some erosion problems are likely, particularly in the steep topography of the central valley area, which is predominantly subsistence agriculture. Some areas of intensive vegetable production exist. Towards the coast, the gradient flattens out, and sugar cane production is dominant, with soil loss and some nutrient and biocide contamination possible. Waste and bi-products from the milling of cane are potentially and historically (e.g. Archibald et al. 1969) sources of significant organic pollution. Close to the coast, urban and industrial problems from Empangeni, eSikhawini and the Richards Bay complex are significant, and includes issues related to the harbour and shipping. The newly developing Iscor heavy minerals mining operation may also contribute to mineral and sediment pollution in this area.

Small adjacent catchments include the Mlalazi, with Eshowe and Mtunzini towns, and the Matigulu, with Gingindlovu and Amatikulu towns. These catchments include quite significant rural populations with erosion problems predominant. Small-scale crop and vegetable production may exacerbate this. Localised faecal and related pollution is likely from some of the denser settlements, and extensive areas of sugarcane close to the coast may cause related pollution problems.

Faecal and nutrient pollution is likely at times in the upper Mfolosi catchment from Vryheid and settlement areas such as Emondolo. Mine related pollution problems are also possible with Archibald et. al. (1969) having identified elevated sulphate levels from the upper Black Mfolosi River, attributable to coal mining in that catchment. Erosion related issues are associated with predominantly cattle farming, both formal and subsistence, from the source to below Ulundi. Besides local faecal pollution, the latter town is not significant. The Hluhluwe Umfolozi Game Reserve complex is a well-managed land use area with limited pollution potential. Below this, limited erosion related sediment and nutrient problems, and some localised faecal problems are likely in the flatter coastal margin where there are quite large areas of subsistence rural agriculture (including several other small catchments in the Nongoma area), commercial sugar cane (large and small scale), other plantation crops and some forestry. Mtubatuba has some faecal/nutrient pollution potential, and a large sugar mill is located here, with attendant historical records of organic enrichment from wastes (e.g. Archibald et. al. 1969). The river occasionally ceases to flow during the dry season (significant as the self-purifying ability of the river will be impaired). Based on the report of Porter (1981) the water quality in the Mfolosi system appears to be relatively unchanged between 1969 and 1979.

The upper Pongola catchment is in reasonable condition, with predominantly extensive formal agriculture. A number of wetland areas in the upper catchment help maintain quality. A section of the upper catchment falls within the Mpumalanga province. In the Paulpietersburg area, there is some localised faecal and mining related pollution likely from human settlements and mining related activities, respectively. Archibald et al. (1969) notes "gross pollution" (high TDS, low pH, high sulphate and iron concentrations) in the Mkuze River from coalmines in the Vryheid area. The latter is also possible in the upper Mkuze catchment at Hlobane. Quite large areas of timber plantations also exist in this area. The central areas of both catchments are quite dissected and have some erosion potential, but in general is utilised reasonably well by commercial livestock farming and game reserves. Close to the Swaziland border, there are some population concentrations including Pongola town, but pollution problems are limited, localised and faecal in nature. Historical records (Archibald et al. 1969) note high organic pollution immediately below the town of Pongola but that the river recovered quite quickly below the town. The coastal flats below the Ubombo mountains have significant irrigation schemes, which may cause problems. The water table is very high, with salinity an issue. The remainder of the plain is poorly drained and used for subsistence agriculture for the most part, with large wetlands. Populations are generally low. There are some areas of forestry, and due to the very flat terrain, erosion problems are minor. The Pongola River drains into Mozambique, and thus international quality and quantity issues must be met.

The Assegaai River falls entirely within Mpumalanga. The upper catchment resembles that of the Pongola, but the Heyshope dam is a notable feature. Downstream of this are large areas of forestry and the town of

Piet Retief, a possibly significant pollution source at times. Populations elsewhere are low and dispersed. The river flows into Swaziland, and again international quality and quantity issues must be met.

The Ohlelo, Ngwempisi, and Usutu Rivers for the most part drain gently undulating terrain used for formal agriculture, predominantly timber. Amsterdam is the only town of any size, and elsewhere population numbers are low and dispersed. In general, few serious pollution problem sources are known to exist.

3.1.5 Name for the CMA

The name for the CMA was not actively debated by stakeholders and therefore at this stage remains as the Usutu to Mhlathuze Catchment Management Agency.

3.1.6 Water Resource Management Priorities and Management Issues

The following have emerged from discussion with the stakeholders (PDWG) and from the Situational Assessment study as the key strategic water resource management issues in the catchment:

- By South African standards, this WMA is well endowed with water resources. This implies that in normal circumstances there is not undue competition for water in the WMA, with the possible exception of the Mhlathuze catchment. From experience however this position can change dramatically in a severe drought situation! Water shortages inevitably result in conflict between users and these situations will become more prevalent as demand increases in the future. The CMA will have to adopt a strategic vision and plan for these eventualities. The stakeholders considered that conservation of water resources was a crucial issue.
- The socio-economic analysis reveals great disparities in terms of income, education and access to services, as is common in many parts of South Africa. The average per capita income for the area is R5 300 which is well below the national average of R9 520. In addition, the poverty index of the WMA is very high. It has been stated that in the Mhlathuze catchment, around 10 percent of the people, typically the better off, use 99 percent of available water resources (Steyl et al. 2000). The CMA will have to actively adopt a pro-poor stance in order to address the water related issues associated with inequitable distribution of the resource and access to the resource.
- Water quality in the rivers in the WMA is generally good. There are however areas of concern which will need to be carefully monitored and hopefully improved over the course of time. One of the focus areas that the CMA will have to concentrate upon will be addressing these water quality problems.
- In view of its tremendous environmental (and tourism) assets, which include the World Heritage Site of the Greater St Lucia Wetland Park, environmental concerns are of critical importance. In this regard, it is encouraging that, in terms of the Ecological Status Classification, some 81 of the quaternary catchments are classified as "A" or "B". As was noted above however there are areas of concern. In some cases, the ecological classification of sections of a river has deteriorated to "E/F" (the lowest possible). This is clearly unacceptable and programmes need to be put in place to ensure that this situation improves in the future. Appropriate reserve determination studies are also required.
- In much of the WMA, the information on the extent of alien plant infestation is rather sketchy. The information available indicates that there are significant problems in the Mhlathuze catchment. The rivers to the north of this would appear to have relatively minor problems.
- Although there are a number of well-established and resourced institutions within the WMA, these tend to be concentrated in the Richards Bay/Empangeni area. These institutions should play a key role in supporting the CMA. The services of the Water Board in the area should also be used where possible to support the CMA.
- There are also relatively few Water User Associations and Catchment Management Fora and they are geographically widely dispersed. The nature of the CMA model relies implicitly on a cooperative and collaborative approach, so the capacity of the various potential partner institutions is of considerable interest. The CMA will probably have to set up additional Catchment Management Fora and Catchment Management Committees, particularly in the rural areas.

- The CMA will have to be aware that apart from the tremendous diversity and size of the WMA, a particular challenge lies with respect to the substantial area of the WMA in another province (Mpumalanga) and (two) international boundaries. This not only makes the institutional environment more complex but also renders the difficult task of effective catchment management substantially more challenging. The international boundaries also result in very specific requirements in terms of downstream obligations to neighbouring countries.
- The WMA is subject to a range of political tensions. The CMA will have to manage these tensions in carrying out its mandate. As such, it will have to ensure that it is seen to be part of a broader co-operative governance approach and be seen to be consulting widely, and in good faith.
- There is a broad spectrum of water users in the WMA but not a particularly large number. The history of cost recovery in the area is patchy. The urban areas have generally performed well but the record in rural areas is very poor. This has financial implications for the CMA.
- This WMA is a net exporter of water via the two transfer schemes from the upper Usutu into the Vaal system. In terms of the new DWAF raw water pricing policy, this will ultimately provide the facility for the CMA to gain additional income for its catchment management efforts. Similarly however, the WMA will become responsible to pay for the water transfer from the Thukela WMA.
- There are significant gaps in the information regarding the WMA. A programme driven by the CMA to address this will be important, as good decision-making will not be possible without it. Key areas include the following:
 - Comprehensive Environmental Reserve Determinations for important rivers
 - More extensive water quality data for the rivers north of the Mhlathuze
 - More detailed evaluation of the extent and impact of alien plant infestation for most catchments
 - The extent and impact of erosion problems generally
 - More information on the status of wetlands
 - More hydrological information for the rivers north of the Mhlathuze
- The WMA should be “marketed” so as to attract donor funds which could be used to top-up any budget shortfall and empower local communities to manage water resources.
- The Governing Board needs to be representative of a broad cross section of sectors in the WMA.
- It is important to educate and empower all communities.
- The creation of the CMA should ensure that all sectors are involved at a local level.
- The Tribal Authorities must be involved in the CMA process.
- Sound developmental principles should be established for the WMA.

3.2 Proposed Delegation of Functions

The delegation of functions to a new CMA is, as outlined in the National Water Act and amplified in Guide 2 of the CMA/WUA series, clearly an evolutionary process. An obvious factor in this is the progressive development of capacity of the organisation however there is also an argument for setting timescales and thus facilitating a proactive process. There is also clearly a “chicken and egg” dynamic in this process.

In terms of Guide 2 in the CMA/WUA series, the evolution of responsibility, and hence delegation, should be guided by the following hierarchy:

1. Initial functions
2. The powers and duties set out in Schedule 3 of the Act
3. The powers and duties of a "responsible authority"
4. "Other powers and duties"

The initial functions are conferred by virtue of the establishment of the CMA and are thus, in a sense, "automatic". Their focus is on planning, co-ordination and public participation as opposed to the more "operational" aspects which it will carry out, in the latter stages of its development. In the case of the Usuthu to Mhlathuze CMA, the stakeholders have proposed that this initial phase should last for at least the first two years. The emphasis is seen to be very much on establishing communication and advisory linkages with the relevant stakeholders and government departments as well as on internal and external capacity building. Developing a strategic vision forms the third part of the initial phase.

In years three to five, the emphasis will be on extending the activities into assuming Schedule 3 powers and duties. This includes water resources monitoring, management and protection, as well as the implementation of the catchment management strategy. The powers and duties of a responsible authority have more of a legal flavour and cover the facets of licensing, authorization and registration.

Other powers and duties that may be delegated are at the discretion of the Minister and include overseeing the activities of a WUA.

The delegation of functions and responsibilities referred to above is couched in general and somewhat abstract terms. There is thus a need to translate this into practical activities, deadlines and resource implications if development is to occur in an orderly manner. One way of doing this is to consider what would be a reasonably logical evolution of the organization. A conceptual programme for development of the functional capability of the CMA is shown in Figure 6. It follows that the delegation of responsibilities to the CMA should be aligned to this type of evolutionary process.

The activities identified in Figure 6 include items, which would be required at the inception of any new organization, activities to be taken over from DWAF and some completely new functions. Where the responsibility is to be taken over from DWAF, the duration shown refers to the time required to successfully achieve the transition.

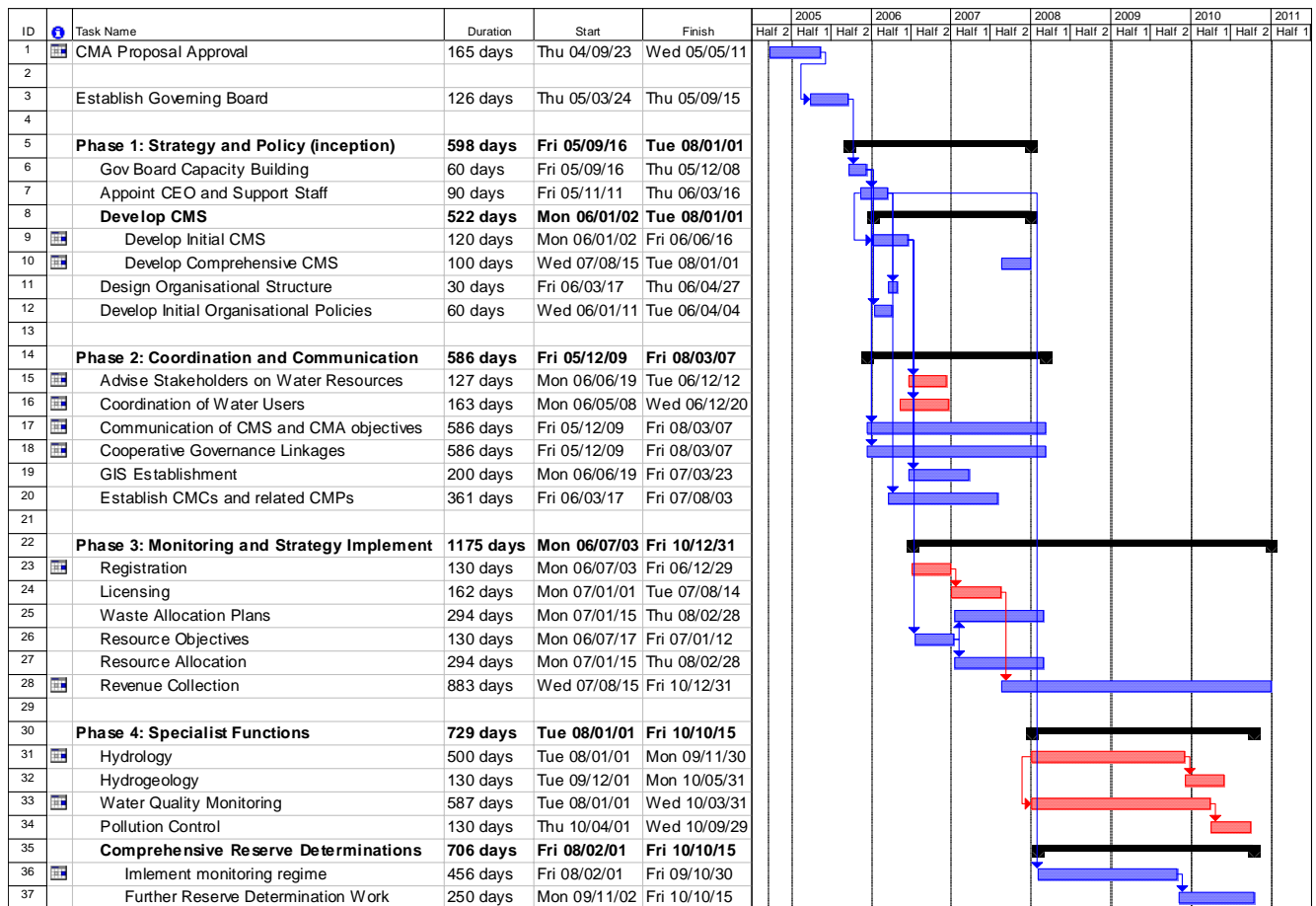


Figure 6: Conceptual Programme for Organisational Evolution

Figure 6 illustrates that the proposed order of functions and activities to be carried out by the CMA is as follows:

- Phase 1: Strategy and Policy
- Phase 2: Coordination and Communication
- Phase 3: Monitoring and Strategy Implementation
- Phase 4: Specialist Functions

The above plan is guided largely by the requirements of CMAs in terms of the Act as well as practical considerations that will impact on the establishment of a new water resources institution e.g. the need to establish a sound income base at an early point. It should nevertheless clearly be regarded as indicative only at this stage as it will be greatly informed by the CMS/organizational strategy that will be developed in the first phase of the institution's evolution. As has been recommended by the stakeholders, the focus in the first 2 to 3 years is very much on coordination, communication, strategy and policy. Only thereafter does work start seriously on monitoring, strategy implementation and specialist functions. The Gantt chart nevertheless illustrates that each of the 4 phases are overlapping and are interrelated in many instances. This emphasises the systemic and dynamic nature of the organizational development process. The Gantt indicates that it may take until 2009 or 2010 before the CMA starts to reach a reasonable level of capacity. This is considered to be realistic, and may even be optimistic.

Another input which should typically have an influence on the evolution of the organization (and hence delegation of functions) is the strategic priorities within the WMA. These were outlined in section 3.1.6.

There are thus at least 3 significant areas of influence on the evolution of the organization and hence the order of delegation; the DWAF guidelines (and of course the Act), the organizational evolution process and the strategic priorities.

This was discussed with the PDWG and it was considered that, due to the complexity of the subject matter and the paucity of information at this stage, it was unrealistic to develop a numerical list in terms of delegation. As a result, it was agreed that it would be more appropriate to look at broad groupings of functions and activities, which would develop in an evolutionary manner, attached to a broad timescale. This discussion culminated in the proposals outlined in Figure 7 below.

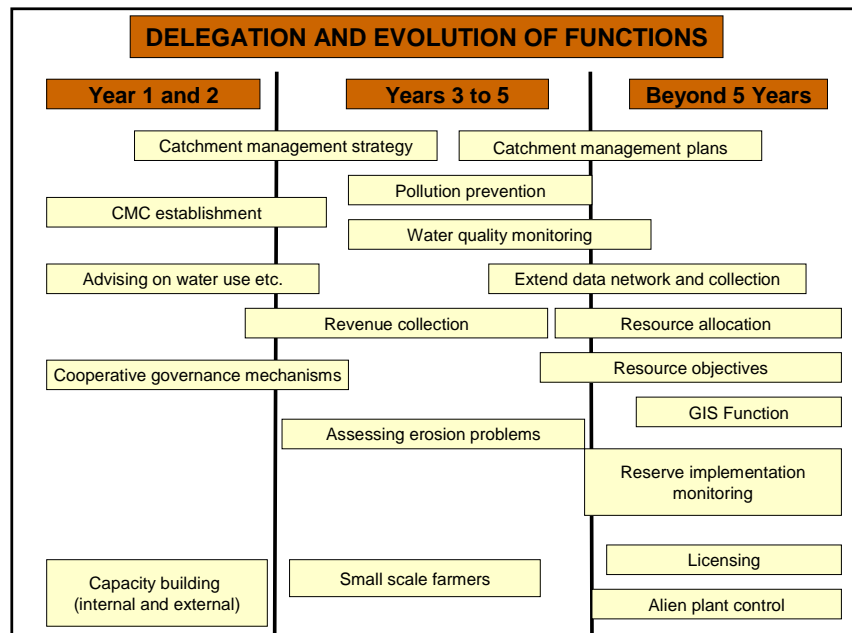


Figure 7: Development and Delegation of CMA Functions and Activities

Initial functions of a CMA are as follows:

- Investigate, and advise interested persons on, the protection, use, development, conservation, management and control of the water resources, in its Water Management Area
- Develop a Catchment Management Strategy
- Coordinate the related activities of water users and of water management institutions within its Water Management Area
- Promote the coordination of the implementation of its Catchment Management Strategy with the implementation of any applicable development plan in terms of the Water Services Act
- Promote community participation in its functions

The organization must thus gear up so that it is able to perform these functions as soon as it is able. The emphasis of these activities is clearly on coordination, management and strategy as opposed to the more operational elements. Practical considerations will dictate that the CMA will have to make a slow start to its life, although the secondment of Regional Office staff will certainly help in the initial phase. The initial establishment phase is discussed in more detail in section 4.0.

3.3 Proposed Institutional Evolution and Organisational Viability

3.3.1 Overview

The functions required of the CMA are outlined in the section above. However in order for the CMA to (a) carry out its functions mandated in terms of the Water Act (b) be a credible organisation in the eyes of stakeholders and those who will pay for the organisation and, (c) be viable, effective and efficient, requires the following:

- That it recruit the appropriately qualified staff,
- That it proactively engage in co-operative governance
- That it be seen to be acting in accord with the NWA in ensuring a sustainable and more equitable distribution of water resources (pro poor)
- That it actively assess how it will best make use of the existing institutional strengths in the WMA
- That it be organisationally and geographically positioned to make the best possible contribution to the protection and development of the water resources under its auspices

Although the above are generic to all proposed CMAs, the pro poor stance has been identified by stakeholders as being particularly important in the Usutu to Mhlathuze WMA.

It should be noted that it is the intention of DWAF to restructure their regional presence to only a handful of officials who will attend largely to control, audit and key support activities. The proposed Usutu to Mhlathuze CMA, in conjunction with the other CMAs that will operate in KwaZulu Natal, will need to attend to all of the WRM functions that are currently being attended to by the existing Regional Office of DWAF. In addition, the CMA will have to attend to a number of functions that have not yet been delegated from DWAF in Pretoria to its Regional Office.

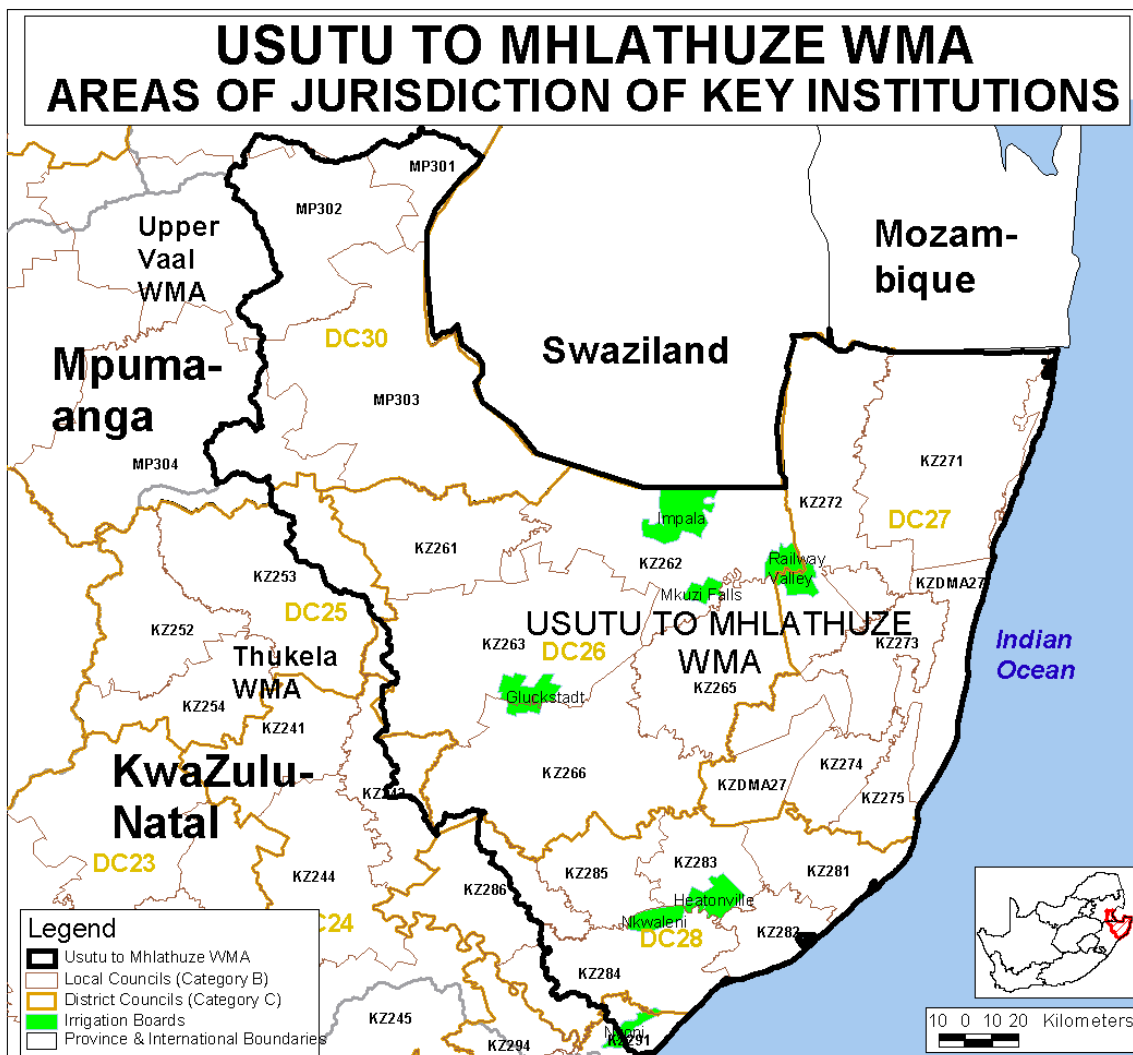


Figure 8: Areas of Jurisdiction in the CMA

In order to ensure that the CMA is able to deliver upon its mandate and avoid potential pitfalls, both the organizational and the institutional design will have to be carefully considered. These issues are considered in more detail in the sections below.

The broad subject of what this CMA should look like and how it will evolve, generated much debate with the stakeholders in this WMA (far more in fact than in the other two KwaZulu Natal WMAs). Much of this centred around concerns of the possible development of an expensive bureaucracy which could have serious economic impacts on water users. The fact that this WMA is relatively underdeveloped, with a small base of users, tended to heighten these concerns. In these deliberations, it was emphasised that the Department of Water Affairs' thinking was that CMAs would, in general, be "lean and mean" with extensive emphasis on outsourcing to both the private sector and other government institutions. In spite of this, stakeholders favoured an even "leaner" approach with absolutely minimal staffing at the outset. This subsequently became known as the "bare bones" model and would develop on a gradual, evolutionary manner over a number of years. These sentiments colour much of the discussion in sections 3.3.2 to 3.3.5 and 3.4.

In a related, although somewhat different discussion, the question of access to (and affordability of) key specialist skills was highlighted as potentially a significant risk to the organisation. In this regard, it was noted that a number of the skills required by the new CMAs are of an esoteric nature and thus will not only be difficult to access but will also be expensive. This is likely to be even more difficult in a less developed

and somewhat remote area such as this. Given this background, it was considered that the possibility of pooling or sharing key skills between the three KwaZulu Natal CMAs should seriously be considered. Various mechanisms to achieve this could be a possibility but these were not explored in any depth as it was recognised that this was beyond the scope of this exercise. It was agreed however that further consideration of this option should be included as a recommendation in this proposal.

3.3.2 Institutional Design

The complexity of the institutional environment is illustrated in Figure 8. This is a simplification of reality but emphasizes the diverse range of institutions which will have an impact on catchment management in the WMA.

A proposed conceptual institutional design for the Usutu to Mhlathuze CMA is outlined in Figure 9.

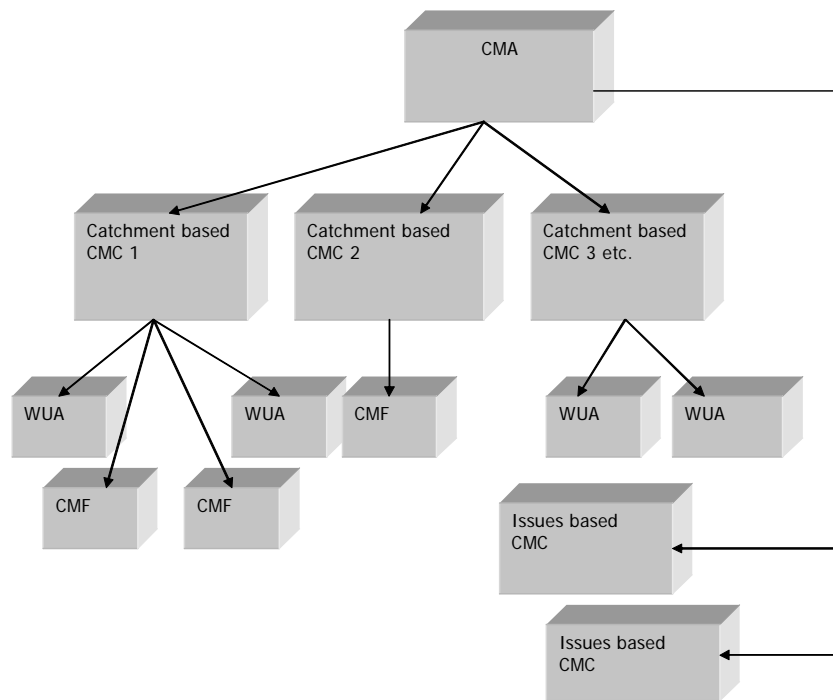


Figure 9: Outline of CMA Institutional Design

At PDWG meetings held in Vryheid in June and July 2002 as well as with the Task Team in September 2003, and within a framework presented by the consulting team, the stakeholders were asked to workshop the institutional design and make recommendations in this regard. As such it was proposed, and accepted, that the CMA would exist within the institutional context as set out in Figure 9. This context would require the CMA to relate, in a hierarchical manner, to Catchment Management Committees (CMCs), Catchment Management Fora (CMF) and Water User Associations (WUA).

As can be seen, CMCs are a crucial element in the proposed design. Their presence recognises the fact that the area is too large and diverse for the CMA to effectively manage by itself. The CMCs will thus “bridge the gap” between other water resource bodies, such as WMAs and CMFs, as well as for the broader stakeholders as a whole, and the CMA Governing Board. The CMCs are not statutory although Section 85 of the NWA refers to their establishment. The CMCs would have the following as their main functions:

- Act as the local “eyes and ears” of the CMA at a catchment/collective of catchments level.
- Act as an additional body of stakeholder representation.
- Help to determine priorities in terms of water resource management for the CMA. This would be particularly critical in drawing up Catchment Management Plans and the Catchment Management Strategy.
- Give specialist input, particularly in the case of issues-based CMCs, to the CMA.

The matter of the precise number of CMCs was a matter of some vigorous debate but the recommendation is that there be a manageable number so as not to burden the CMA with unnecessary administration; the ideal number being between 3 and 5, catchment based CMCs. There was no precise consensus as to the division of the WMA into CMCs. However, in general, it is proposed that these are structured along the following lines:

- A Mhlathuze CMC: some stakeholders indicated that the importance of this catchment means that it justifies its own CMC and it could also deal with the smaller catchments south of the Mhlathuze e.g. Amatikulu. There was however also a case made out for the inclusion of the neighbouring Mfolosi Catchment into this CMC. The argument made for this was that the Mhlathuze catchment has a great deal of capacity available. The Mfolosi, by contrast, consists largely of the rural poor. By “twinning” the two catchments, some of the capacity available to the Mhlathuze would also be made available to the Mfolosi. Either model could be adopted.
- A St Lucia CMC: this CMC would take responsibility for catchments draining into the St Lucia estuary including the Mkuze. The Mfolosi, if not included with the Mhlathuze, could be incorporated into this CMC.
- A Pongola-Maputaland and Northern Catchments CMC: this would be made up primarily of the Usutu/Mpumalanga rivers within the WMA, together with the Pongola and Maputaland. Should the management of an area of this size become too complex and diverse, then the CMC could be split between the Usutu and Pongola catchments.

In terms of issues based CMCs, the stakeholders were of the opinion that these should be developed when required and would probably only operate for a limited time span. The issues that may need to be considered would be:

- Water and health
- Pollution
- Developing the water resource for poverty alleviation - critical here was water for small scale irrigation
- Flood control and emergency preparation
- There was also some acknowledgement that the issue of alien infestation was very important in some areas and might require an issues-based CMC.

The Gantt chart below sets out the process of establishment and integration of each of the catchment based CMCs. Critical to this process is a review of the existing water based institutions in the area, particularly the CMFs and WUAs. In this regard, it is envisaged that the establishment of CMCs might take some time. The Gantt chart allows for the development of the Mhlathuze CMC as the “pioneer project” and then the Usutu/Pongola CMC. Should it become necessary to establish an Usutu CMC separate from the Pongola CMC, then this will be done at the appropriate time

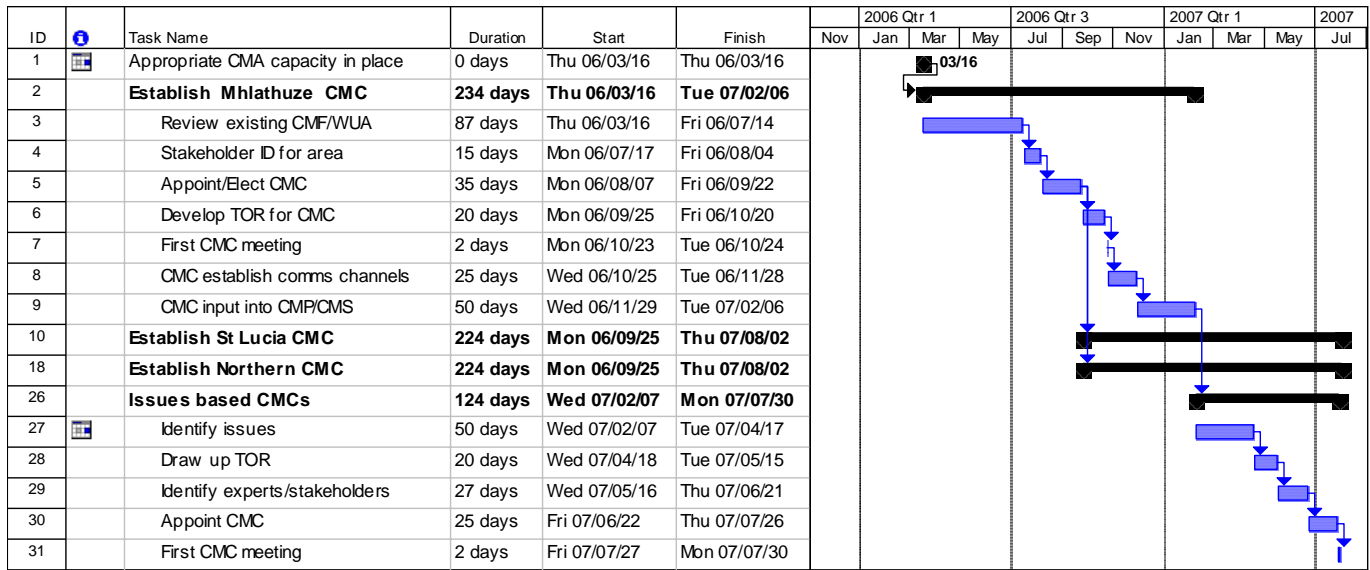


Figure 10: Process for Establishment of CMCs

3.3.3 Governance Structures

The make up of the Governing Board was discussed at the June 2002 PDWG held in Vryheid as well as with the Task Group in September 2003. The NWA sets out the procedure for appointing/electing the Governing Board and stakeholders discussed potential membership within these parameters. There was a strong feeling that appointments of overtly politically allied parties should be kept to a minimum.

In terms of the make-up of the Board, stakeholders were of the view that the following institutions and constituencies should be considered:

- A DWAf representative
- A member of the Provincial government, preferably from the Premier’s Office. This is key in ensuring inter-governmental co-ordination and in fulfilling the aims of cooperative governance.
- Members from the various District Municipalities (DM’s) within the WMA. It is envisaged that all five District Municipalities would potentially be represented on the Board (possibly through SALGA nominated representatives).³
- Bulk industrial water users in the area (the representative could be nominated by the various Chambers of Commerce as well as Nafcoc)
- Agriculture (KwaNalu should nominate a representative. Nominations from representatives of emerging farmers and farm workers should also be sought)
- Mhlathuze Water
- Forestry SA
- Sugar SA
- A representative from the NGO sector.
- Amakhosi/House of Traditional Leaders
- Conservation Authorities – (KwaZulu Wildlife to be asked for nomination)
- Eskom
- Tourism – (KZN Tourism Authority to be asked for nominations)

³ This approach was contested by some stakeholders. They felt the DMs should be approached to make a joint nomination.

- Rural water supply structures

The nominations from local government on the Governing Board will ensure that they are well represented. This is critical, as local government needs to ensure that the pro-poor mandate is carried out. Furthermore, local government acts as the cornerstone of representative democracy and they should communicate decisions of the Board to their constituents.

The representation on the Governing Board should reflect the diversity of the population of the WMA and should also strive to promote gender equity. It is recommended that at least a third of the Board be made up of women.

It is envisaged that the Governing Board, as well as the CEO of the CMA, would play a key advocacy role in setting the vision for the organisation and in terms of ensuring stakeholder buy in. As usual, the executive and operational functions would be carried out by senior management and their subordinates. The CEO would report to the Governing Board. Line management functionaries would assist the CEO in carrying out the mandate of the CMA.

Stakeholders also debated the composition of the Catchment Management Committee (CMCs). Although there was some debate as to the exact representation, there was support for the following ideals:

- CMC members should be based, as far as possible, in the catchment on whose committee they serve.
- They must be dedicated to a philosophy of maximising transparency and participation.
- CMC members should be knowledgeable about water issues or at least prepared to be exposed to capacity building.
- CMC members should have a demonstrated mandate from the constituency they represent.
- CMC members should act in the interest of the catchment, over and above any party political allegiance.
- CMC members should be of good standing in the community.
- CMCs should also be restricted to a maximum of 15 members.

In terms of representation, the stakeholders were of the opinion that the following bodies should be considered in the makeup of the CMC:

- Local (category B) municipalities as Water Services Providers, preferably in the form of a representative with technical skills
- At least one person from the CMA Governing Board so as to foster coordination and alignment between the 2 bodies
- Elected members of ward committees/forums as representatives of communities.
- Water user and interest groups
- Agriculture (commercial, and previously disadvantaged, emerging representatives, possibly someone from KwaNalu)
- Industry/mining – possibly from the Chamber of Commerce and Industry in the CMC area
- Environmental interest groups
- Traditional Leaders/Regional Authorities
- Department of Health
- Tourism
- CBOs
- Key organisations with skills and capacity

At the final stakeholder plenary sessions held in January 2004 to discuss the final draft proposal, the issue of the governance structures again produced considerable debate. In particular, the stakeholders considered this matter to be of such critical importance, that much more specific proposals should be included in the proposal document than the more general requirements outlined above. It was pointed

out to stakeholders, that ultimately the composition of the Governing Board would be the responsibility of an Advisory Committee appointed by the Minister. The stakeholders acknowledged this but still insisted that more specific proposals be included in the proposal document.

In order to address the above concerns, a proposal was put together which was very broadly circulated to all stakeholders. The content of the proposal is outlined in columns 1 to 4 of Table 7. This document also gave stakeholders the opportunity to comment on the proposals, and the comments received are summarized in columns 5 to 7.

Table 7: Proposals for the Make-up of the Usutu to Mhlathuze Governing Board

PROPOSAL CIRCULATED FOR DISCUSSION				COMMENTS FROM STAKEHOLDERS		
1	2	3	4	5	6	7
Category	Proposed Representation	Possible Make up (where relevant)	Rationale/comments	Is proposal acceptable or not? (Yes/No)	Alternative proposal?	Comments (where relevant)
Government	4 to 6	DWAF: 1 Province: 1 Local government : 2 to 4	It is proposed that local government is represented by District Municipalities as they have a constitutional obligation to play a key role in planning and coordination and there are simply too many local municipalities for them all to be represented. Local government has a crucial role in terms on planning and hence land use and is also a major user. It should therefore be well represented.	<ul style="list-style-type: none"> No No 	<ul style="list-style-type: none"> DWAF: 1 Province: 1 Local government: 2 Local government: 2 	<ul style="list-style-type: none"> Experience with the make up of for example water boards, has shown that too many representatives from local government result in major problems as politics come into play where it is not needed. You cannot let local government dominate water resource management as well as water services
User Sectors	3 to 5	Agriculture: 1 to 2 Forestry: 1 Industry: 1 Tourism: 0 to 1 Mining: 0	Both established and emerging groups should be represented in the total number.	<ul style="list-style-type: none"> No No No 	<ul style="list-style-type: none"> Agriculture: 2 Forestry: 1 Industry: 1 Tourism: 0 Mining: 0 Mining: 1 Agriculture: 2 Forestry: 2 	<ul style="list-style-type: none"> Agriculture is the biggest user of water and should have at least two representatives. All representatives must be non-governmental. Major water user and investor in water network (infrastructure) Forestry is both a large industrial and agricultural water user. The spirit of the Act in that water user sectors make up the CMA not politicians.
Civil Society	1		Civil society will invariably present an independent viewpoint, which will often add value in governance structures.	<ul style="list-style-type: none"> Yes No 	<ul style="list-style-type: none"> 1 1 	<ul style="list-style-type: none"> None Give this slot to emerging farmers
Environmental	1		The environment is the biggest "user" of all and thus should be represented! Obviously important in all WMAs but particularly crucial in this WMA with its major environmental and tourism assets.	<ul style="list-style-type: none"> No Yes 	<ul style="list-style-type: none"> Provincial Nature Conservation: 1 NGO Environmental Groups: 1 None 	<ul style="list-style-type: none"> As the biggest user of the system there is a need for Provincial conservation to be represented as well as non-governmental organisations. This is imperative for Catchment Management. None
Tribal Authorities	1		Tribal Authorities represent a highly influential grouping in this WMA and should thus be represented.	<ul style="list-style-type: none"> Yes Yes 	<ul style="list-style-type: none"> 1 None 	<ul style="list-style-type: none"> Non governmental representatives. None

PROPOSAL CIRCULATED FOR DISCUSSION				COMMENTS FROM STAKEHOLDERS		
1	2	3	4	5	6	7
Category	Proposed Representation	Possible Make up (where relevant)	Rationale/comments	Is proposal acceptable or not? (Yes/No)	Alternative proposal?	Comments (where relevant)
Utilities	1	Mhlathuze Water: 1	As well as being a very large consumer, Mhlathuze also represent one of the few institutions in the WMA that have significant water sector capacity.	<ul style="list-style-type: none"> • Yes • Yes 	<ul style="list-style-type: none"> • 1 • None 	<ul style="list-style-type: none"> • None • None
Total Representation	11 to 15			<ul style="list-style-type: none"> • No 	<ul style="list-style-type: none"> • 13 	<ul style="list-style-type: none"> • NB: It is extremely important to balance the government/non-government representation on a CMA. The proposed make up here will achieve this.

At first glance, the comments received from stakeholders would appear to be at odds with the proposal circulated. A closer examination however reveals that there is in fact a 80 to 90% agreement. The primary concerns would appear to be around the extent of representation from local government and also the “mix” of user sectors. With regard to the latter, agriculture and forestry have requested stronger representation. This is debatable, although it can certainly be argued that water use in this WMA is dominated by these sectors.

3.3.4 Organizational Design

The Project Aquarius Report undertaken for the Department of Water Affairs and Forestry and entitled “Guidelines: The CMA Structure” (dated January 2001) recommends that, as a general rule of thumb, the CMA should adopt a flat management structure i.e. have as few levels of management as possible as a flat organisational structure will enable quicker and more responsive control over the activities of the CMA. It further recommends that CMAs should also have minimal staffing and outsource all work that other service providers can provide more efficiently. This is recommended, as outsourcing is a useful way of promoting efficiency through minimising staff costs, and indirectly, management costs. It is also in line with global trends in terms of efficiency.

The report envisages a generic four-phase approach to the development of the CMAs. These four phases that could evolve either into a functional line management organisation or a geographically devolved organisation are the following:

Structure A is expected of CMAs in the initial phase of development. This phase is associated with the initial functions of a CMA.

Structure B would be expected in a CMA in the financial phase of development. The financial phase is associated with making and recovering water use charges, and thus requires financial competence, as well as the co-ordination and water resources planning requirements for the initial phase.

Structure C is expected in the Management Phase in the development of CMAs. This phase is associated with performing the water resource management activities outlined in Schedule 3 of the NWA. Technical water resource planning and management, scientific and engineering competencies will be required to function effectively, as well as financial and co-ordination skills.

Structure D is expected during the final phase in the development of the CMA. This phase is associated with the authorisation and control of water use, which requires a legal competency, supported by the technical, financial and co-ordination skills required for the other phases.

In order to address the size, diversity and complexity of the WMA, the Usutu to Mhlathuze CMA might have a number of Regional Offices. This was discussed during the PDWG and Task Group meetings. The feeling was that the CMA would only develop Regional Offices once capacity was at a sufficient level, i.e. probably in the post Year 5 era. Stakeholders felt the organisation should be based around a central head office in the first few years.

Key concepts discussed were that the core/head office may have a more substantial number of personnel if key specialist functions are centralised and shared across the catchments in the WMA. Critical to the structure would be its three key managers.⁴ These would be:

- Water Resource Manager who would oversee overall strategic and water resource management/planning (including quality and quantity aspects), hydrology and geo-hydrology, etc. It is envisaged that this would be the key appointment to the CMA. Stakeholders felt that the CEO should also have this skill set (amongst others) and would act in tandem with the Water Resources Manager to ensure that they covered the requisite functions adequately.
- Corporate Service Manager who would oversee the information systems, liaison and public relations as well as cover the capacity required to deal with environmental issues. The administrative functions of the CMA would also fall under the corporate services manager although he/she would be assisted by a relatively senior HR manager.
- Operations Manager who would oversee dam operation (if relevant) and relevant water resource development infrastructure. The working for water aspects of the CMA would also be managed from this department.

Stakeholders felt that functions, wherever possible, would be outsourced and organisations with existing capacity should play a major role in providing expertise across the catchments within the WMA. A possible example would be in water quality assessment. Some functions necessary to the CMA may not be intensive enough to justify full time employment. The Reserve Determination is probably one such aspect. Here capacity might be shared among a number of WMAs with a "Reserve Determination team" roving between areas as and when needed. It should be noted that this WMA is fortunate in that it includes Mhlathuze Water Amanzi. Mhlathuze Water Amanzi has considerable internal capacity that it could make available to the CMA.

The location of satellite offices was discussed. No consensus was reached but the following ideas were mooted:

- The Head office would be either in Vryheid or Empangeni/Richards Bay. A case could be made for either.
- An office to look after the Pongola/Usutu catchments could be located in Paulpietersburg.
- An office located in Matubatuba could be responsible for the St Lucia and Southern Maputaland rivers
- An office in Empangeni would be responsible for the Mhlathuze and southern catchments, if the head office was not in Richards Bay/Empangeni.

The precise location of the offices needs more discussion but will probably be driven by demands in the catchment as well as by logistical criteria. The geographical structure that proposes the establishment of a number of offices is favoured for the following reasons:

- One of the *raison d'être* for the coming into being of the CMA is to devolve water management functions to a local level. By developing a series of centres within the WMA, this principle is made more explicit.
- The presence of satellite offices within various catchments of the WMA will raise the local visibility of the organisation and act to reassure stakeholders that the CMA has a local focus.
- By allowing CMA staff to take responsibility for specific catchment(s), the concept of ownership is inculcated. In addition, it will allow staff to gain an in-depth knowledge of the resource they are charged with protecting and managing.
- The geographically devolved organisation with satellite offices will be better placed to make appropriate use of the CMF structures that DWAF has put so much effort into developing and supporting.
- The geographically spread organisation will be better suited to local campaigns designed to address capacity building and empowerment. This is a more effective "pro poor" approach.

⁴ Stakeholders considered that the CEO and the three senior managers should be placed on a ± 3 year performance based contract

- Geographically based offices can probably identify and react to poverty based water issues related to their areas more effectively.

The satellite offices would need to be resourced at an appropriate level to be effective. The growth of these to an appropriate size would also be demand driven to some extent. Critical functions in the satellite offices would probably include licensing, revenue collection, capacity building, water quality monitoring, data collection and catchment liaison.

The proposed conceptual organisational design is illustrated in Figure 11 below.

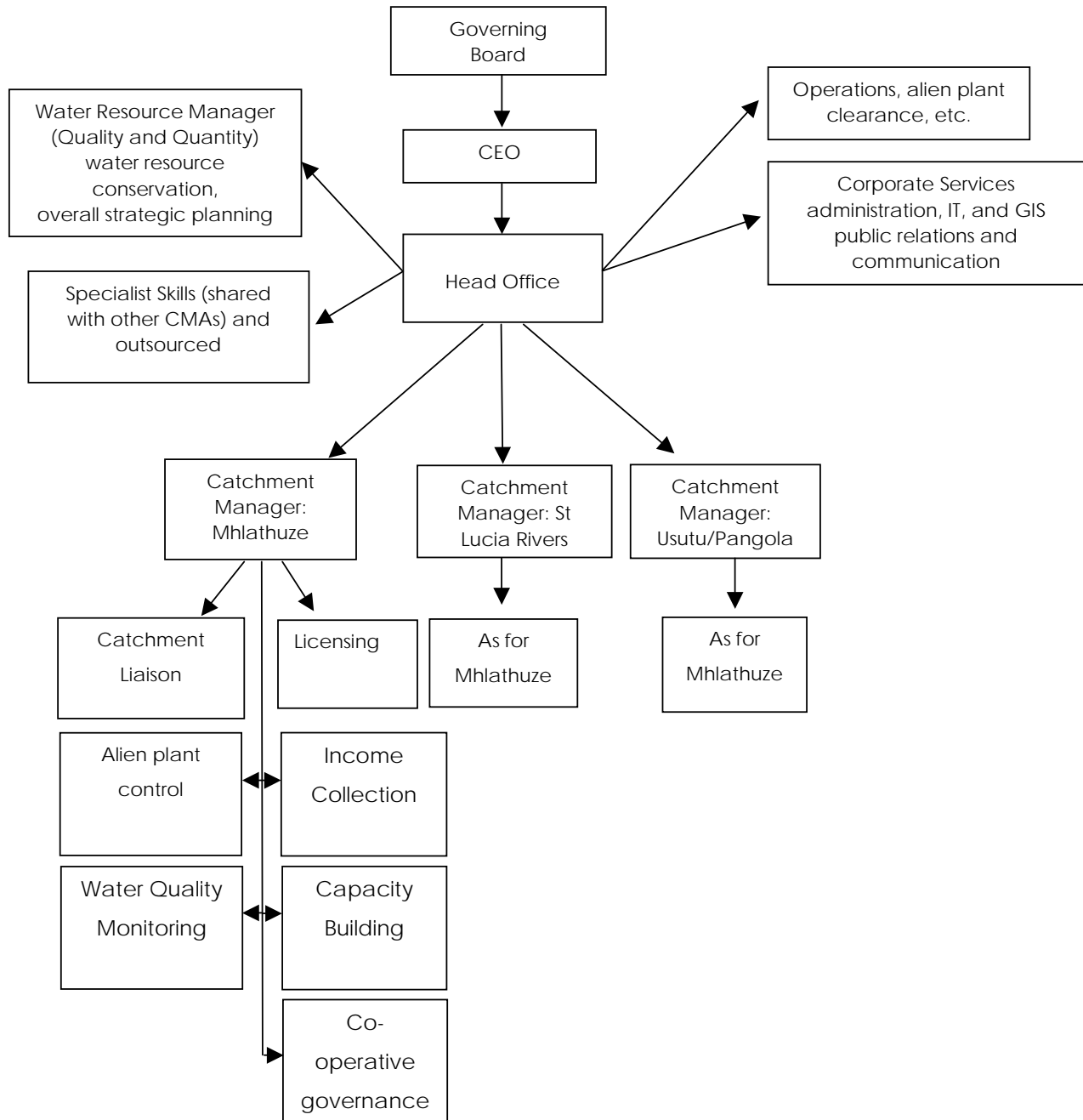


Figure 11: Notional CMA Organogram in Latter Stages of Development (beyond 5 years)

3.3.5 Staffing Issues

South Africa is not well endowed with specialist water resources skills and as a result, the CMA is likely to struggle when it comes to specialist areas and top-level management positions. The CMA should however be able to source a significant portion of the generic and lower/middle management positions without too many problems. One of the keys to staffing the CMA is obviously to transfer relevant personnel from existing DWAF line functions to the CMA. According to senior DWAF personnel, after the CMAs are in place, the Regional Office would probably shrink to between 8 and 30 people. The Project Aquarius Report entitled "Guidelines: The CMA Structure" (dated January 2001) indicates that as part of the recruitment process, the secondment and transfer of DWAF employees must be carefully considered. The report then sets out some of the parameters around staffing and outlines the following options:

- **The secondment of DWAF employees:** for the most part it is envisaged that these would be from the Regional Office (although this could also be from the national office).
- **The transfer of DWAF employees:** again for the most part it is envisaged that these would be from the Regional Office (again it could also be from the national office). The process design for the transfer will need to be very carefully thought through, as these issues can be extremely sensitive. For example; would staff transfer be automatically aligned with transfer of functions or would relevant personnel be expected to apply for similar positions in the CMA?
- **In-house CMA capacity:** the CMA will recruit the personnel and acquire the infrastructure necessary to perform its functions.
- **Shared CMA capacity:** neighbouring CMAs may "share" certain personnel or infrastructure, especially where there are capacity constraints and limited resources, or the need for significant cooperation between WMAs (see also discussion under section 3.3.1).
- **Re-delegation:** certain functions may be re-delegated to other water management institutions (or even other organs of state) in the WMA that have the necessary administrative or technical ability and resources.
- **Outsourcing:** various functions may be outsourced under a management or service contract, to private companies, public institutions or organisations. While legally functions such as setting water user charges and issuing licences cannot be contracted out, there are a range of functions that legally can, such as identifying significant water management issues within the WMA and potential means of addressing them; spring and source protection; flood prevention; construction and operation of waterworks; monitoring the performance of water users; monitoring the condition of water resources (including collection and analysis of information); education on water resource management; training and capacity building within the CMA and amongst other stakeholders; collection of water use charges; debt collection; financial and non-financial audits; engineering, security and cleaning services; operation of workshops; communication and public relations and recruitment of CMA staff. Selective outsourcing is generally regarded as global best practice and has been pursued effectively in both the public and private sectors.

The staffing strategies pursued by the Usutu to Mhlathuze CMA are likely to be key issues of a sensitive nature. This is so as:

- The Usutu to Mhlathuze CMA is only one of three CMAs in KwaZulu Natal and should not be prejudiced in terms of access to qualified DWAF personnel by the establishment of the other CMAs.
- The stakeholder lobby group, who will pay for the CMA, may resist what they might perceive as an expansionist drive from the public sector. This will become particularly sensitive if the CMA struggles to provide a service which is more efficient, in terms of protection and management of the water resource, than that which is already in place.
- The WMA is relatively poorly endowed in terms of existing capacity and attracting suitably skilled people into the region, particularly with competition from other CMAs could be difficult.

The staff numbers costed in the financial model are projected to increase from 19 at inception to 90 in ten years time. The initial numbers are very low but this is in line with the "bare bones" philosophy described earlier. This implies of course that the CMA will have minimal capacity in the first few years. An aggressive cooperative governance approach, coupled with extensive outsourcing, will thus be necessary if desired objectives are to be achieved.

3.3.6 Co-operative Governance

The issue of co-operative governance will be key to the efficacy of the CMA. In order to ensure this, the CMA should pursue the following strategies:

- The make-up of the Board, with particular emphasis on representation from all the relevant spheres of government, will ensure that the spirit of co-operative governance is pursued in the organisation's highest echelons (see 3.3.3). In this regard, representation from local and provincial government is particularly important.
- A highly participative approach to the development of the Catchment Management Strategy and river based Catchment Management Plans (CMPs). The latter should also preferably be demand driven.
- Co-operative agreements with neighbouring CMAs around sharing of resources and the resolution of cross and inter-basin issues and concerns.
- Co-operative agreements with bodies in the WMA that are likely to be able to play a significant role in supporting the CMA.

It is very important that the development of the CMS and ancillary CMPs will be undertaken concurrently, and in cooperation with, the development of local government planning. Local Government's key planning mechanism is of course the Integrated Development Plan (IDP). Although IDPs are generated at a local level and approved by local government councils, the provincial government has input in that it provides a checklist and line departments review the various IDPs. A key element of these are the Water Services Development Plans (WSDPs). These spell out the water requirements, as well as resource protection, conservation and development plans within the local government area.

The interrelationship between these two multi-layered and multi-faceted processes will be complex. There is likely to be the need for a number of iterations and the recognition that it will take some time for the output to become well integrated. A conceptual process diagram for this is given in Figure 12 below.

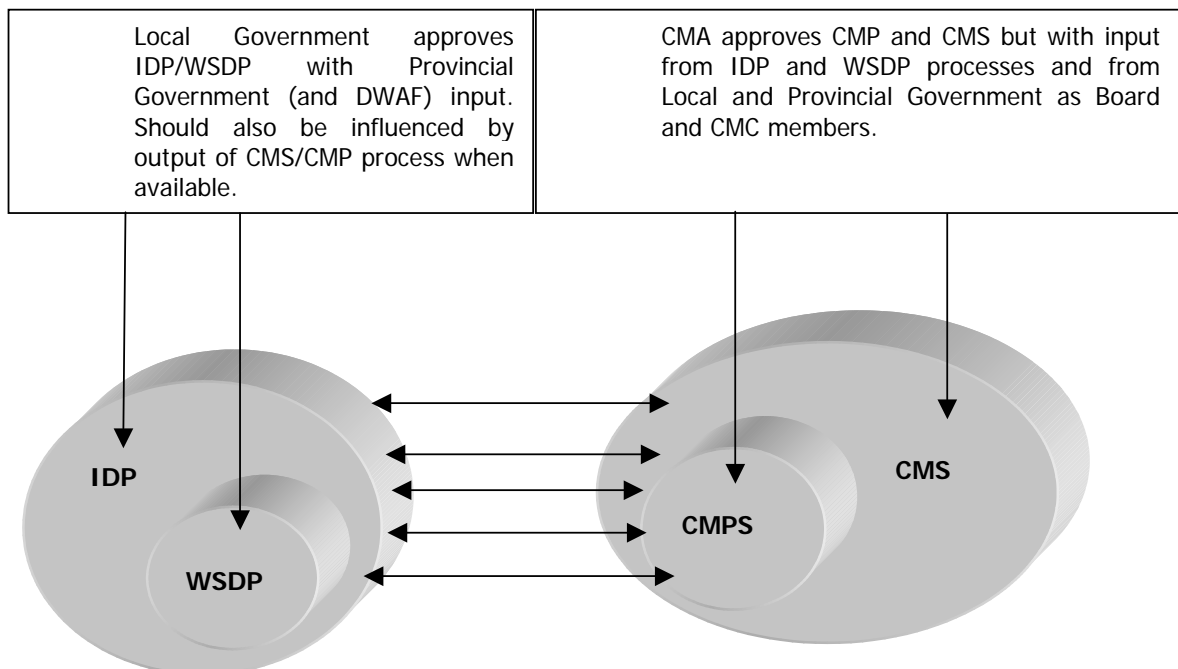


Figure 12: Integration of Local Government and CMA Planning Processes.

3.4 Financial Viability

3.4.1 Proposed Sources of Funding

There are 7 primary sources of ongoing funding for this WMA. These are irrigation, urban use, non-urban industrial use, forestry, water transfers to other WMAs, DWAF subsidies and DWAF seed funding. The estimated proportion of income generated by these income sources are shown in Table 8 below.

Table 8: Funding Sources for the Usutu Mhlathuze CMA

<i>Funding Source</i>	<i>Year 1 (%)</i>	<i>Year 10 (%)</i>
Forestry	16	16
Irrigation	8	17
Urban and Industrial	4	5
Water Transfers (out of WMA minus those in)	2	4
DWAF Subsidies	59	58
DWAF Seed Funding	12	0
Totals	100	100

As can be seen, the income is initially heavily weighted towards DWAF subsidies, although the agriculture and forestry sectors are also significant. The income from other sources is nevertheless expected to increase over time. The DWAF subsidies are made up of the following items:

- Irrigation
- Forestry
- Underdevelopment
- Discharge Levy
- Catchment Management Strategy

The first 2 were negotiated with the sectors concerned and their purpose is to assist these sectors to adjust to the phasing in of catchment management charges. The underdevelopment subsidy addresses the fact that the water use in some WMAs is very low in relation to the water available, although it is zero in this WMA.

The funding from water transfers is from 2 sources:

- The Upper Vaal – Heyshope transfer of some 63 million cubic metres of water per year.
- The Morgenstond/Jericho/Westoe scheme of some 71 million cubic metres of water per year.

These are largely offset by a transfer in from the Thukela WMA and water transfers are thus not a significant funding source for this CMA.

The, initial DWAF seed funding is extremely important in the early years. It comes at a point in the fledgling CMA's history when it will be at its most vulnerable. Its primary purpose is to assist with funding significant capital items in the first few years, prior to establishment of a sound income base. It is spread over 3 years and will total R6 million. A list of some of the major capital items in question is given in Table 9 on Page 45 and briefly described thereafter.

Table 9: Summary of Major Capital Items for the new CMA

<i>Expenditure Item</i>	<i>Year 1 (R M)</i>	<i>Year 2 (R M)</i>	<i>Year 3 (R M)</i>	<i>Year 4 (R M)</i>
Information Systems (including GIS)	1,0	0,7	0,5	0,5
Head Office Building	0	0	2,5	0
Water Monitoring Equipment	0,5	0,5	0,5	0,5
Hydrology Network	1,25	1,25	1,25	1,25
Totals	2,75	2,45	4.75	2,25

It is clear that the CMA will require significant capability in information systems to be able to operate effectively. This will need to address basic management support functions such as Internet access, E-mail, billing, debtors, asset management, amongst others. These systems are fundamental for the operation of virtually any business today. In addition however, it is clear that a GIS is a core system for a CMA because of the great diversity of information which is relevant to a CMAs operation and the spatial nature of its distribution. At the outset, a significant amount of information can be transferred from the existing DWAF GIS, both regionally and nationally. It will not be possible to transfer the Department's regional system in total because of its need to continue to support the balance of the Province, as well as the remaining functions. As a result, the CMA GIS will be a major system with significant costs. Progress on the development and implementation of this will need to be rapid if the CMA is to start playing a meaningful role in its area of jurisdiction.

Continuing on the theme of information, the Situational Assessment has highlighted the serious lack of information on a number of the significant rivers. To rectify this, it will be necessary to implement a more extensive monitoring programme, both in terms of quantity and quality issues. This will require an investment in suitably qualified staff while at the same time introducing a number of new monitoring points. These new monitoring points will require equipment and, in some cases, substantial civil works, hence the inclusion in the model of large items for expansion of the hydrology network and monitoring equipment.

3.4.2 Financial Viability Analysis

The Financial Viability Study for the CMA is attached as Annexure B. This includes a financial model for a period of 10 years. Important points to note in the viability assessment are as follows:

- The income sources are as outlined in section 3.4.1 above
- The organizational structure and functions which have been assessed in the financial feasibility study are described and amplified in Annexure B. These are discussed in more detail in section 3.3 of this report. Staffing and budgets have been set at very low levels, in line with the "bare bones" philosophy described earlier.
- Budgets have been allowed for a range of overheads and administrative items

As has been noted, most of the expenditure in the model is for ongoing operating costs, primarily in the form of staffing (or alternatively for outsourcing contracts/appointments). Limited capital and one-off items have been allowed for as the income stream does allow a limited amount of discretionary expenditure in these areas. The following are some of the items that have been included under expected expenditure:

- Ongoing Reserve Determination Work.
- Expansion, upgrading and necessary replacements for the hydrology and water quality monitoring programmes (including very significant chemical analysis costs)
- Ongoing CMS and CMP work

- Continuation, and possibly expansion of, the Working for Water programme
- Some expenditure on IT (and GIS)
- Hydrological modeling analysis
- Ongoing support to both new and existing institutional structures addressing water resources

The feasibility assessment has revealed that the establishment and ongoing operation of this CMA can be achieved at a reasonable cost to the water users in the area. The primary reason for this is the DWAF funding support. This will account for over 70% of the income of the CMA in its early years. The estimated tariff for urban consumers in Year 1 is 1,4 c/kl rising to 2,4c/kl by Year 5. Tariffs for the other sectors and users are given in Table 10 below.

Table 10: Proposed Sector Tariffs

<i>Tariff Type</i>	<i>Tariff for years 1 to 5 (c/kl)</i>	<i>Tariff for years 6 to 10 (c/kl)</i>
Urban Domestic and Industrial	1,4	2,4
Irrigation	1,0	1,0
Forestry	1,0	1,0
Wastewater Discharge	1,4	2,4

3.4.3 Financial Model of the CMA's Cash Flow

The financial model is included in the feasibility study attached as annexure B. As with all models dealing with projections for the future, it is important to list the key assumptions. These are as follows:

- Discharge levies will only become payable by year 4
- No loan funding is assumed to be required
- Registration and collection efficiency will improve over time as shown in the projections
- Manning levels are summarised in the model. For further details see Appendix B.

3.4.4 Possible Risk Areas and Risk Management Strategies

From the discussion above regarding financial viability, it is clear that by far the largest source of income for this CMA come from outside of the catchment in the form of subsidies. The DWAF subsidies and seed funding will initially make up 70% of the income of the CMA. This will remain significant to CMA income even after ten years, eventually falling to 58%. Although this would enable the catchment to benefit from a structure largely funded externally, there are some risks associated with this situation. Any threat of removal of the subsidy would have dire consequences for the viability of the organisation.

The record of cost recovery of monies for water use from domestic and industrial consumers in the WMA is relatively good. Some urban areas have a record of default but they are not large enough consumers of water to threaten the financial viability of the CMA. The logistics of collection of levies from the forestry and agricultural sectors may be substantially more difficult. It will nevertheless be very important for the CMA to pursue these in a vigorous and efficient manner. Apart from the obvious benefits in terms of broadening the income base, it will be important for the CMA's image, particularly in the urban areas (and hence with local government). The CMA will thus be seen as spreading the load in terms of revenue generation for the institution.

Concern has been raised that it would be difficult to attract "quality" staff to work for the CMA. The perception is that the Mvoti to Mzimkhulu CMA will attract the best of the DWAF regional staff and that the Usutu to Mhlathuze might have to make do with second (or third) best. Again, in order to manage this it is imperative that the CMA be seen to be a credible organization, with local support, and one that is regarded as attractive to work for.

In order for the CMA to meet its core mandate, it will have to have a pro-poor and a developmental agenda. Failure to do so will almost certainly result in rejection of the CMA by the majority of the stakeholders. Means by which this might be addressed are spelled out in more detail in section 3.5 and 3.6.

3.5 Social Viability

3.5.1 Mandate and Support from Stakeholders

Support from the stakeholders has been difficult to gauge. Although there is fairly broad acknowledgement that a CMA is necessary it is evident that some of the sectors only conditionally support the CMA establishment. Threats to stakeholder support include perceived lack of added value as well as concerns around additional financial burdens being placed upon water users.

3.5.2 Risks Associated with Proposed Institutional and Organisational Evolution

The model currently being proposed by the stakeholders is based on a “bare bones” organisation that would grow slowly as it demonstrates its effectiveness and efficiency and as the perceived need for its expansion increases. The major risk associated with this model is that the relatively small organisation and large size of the WMA means that it will be difficult to make its impact felt. Critical to the ability of the CMA to demonstrate success will be the quality of the initial staff that it employs. Highly motivated staff with a desire to forge co-operative governance linkages will be of the utmost importance. This implies that multi skilling is a key requirement.

3.5.3 Perceptions about the Service the CMA will Provide and Cost of Service to Users.

Although there is a degree of consensus that protection of the water resources in the CMA is important, there may be a feeling among some stakeholders, particularly the irrigators and domestic urban sectors, that the CMA could result in an organisation that adds little value. The concept of the regionally based office with local liaison officers, allied to WUAs and CMFs that actively promote catchment management and police implementation will go some way towards dispelling this notion. Actively demonstrating that the CMA is “lean and effective” will further help to promote the view that the organisation is cost effective.

3.5.4 Perceptions about the CMA’s Ability to Facilitate Meaningful Stakeholder Participation

After some initial problems, the PDWG meetings have subsequently been well attended and have resulted in vigorous debate. Stakeholders generally appear to be supportive of the process and it is hoped that this spirit of positive engagement and support will accompany the CMA in its establishment phase. The CMA will however have to comply with stakeholder demands around accessibility, accountability and representation in order to maintain the good will generated to date.

3.5.5 Understanding of the Purpose and Need for the CMA amongst Stakeholders

There appears to be a reasonable understanding of the purpose of the CMA among stakeholders. This has been developed as a result of intensive capacity building during the PDWG meetings. Meetings have regularly started with a “capacity building – catch up session” for stakeholders who feel they needed additional information and/or discussion to clarify issues pertaining to the role and function of the CMA.

3.5.6 Pro Poor Emphasis

The National Water Act (1998) of South Africa is internationally recognized as a most promising formal legal framework to address the key challenges in water management. One of the major issues in South Africa and in many developing countries, is to manage its water resources for the benefit of poor people and thus to contribute to poverty alleviation. Sectoral and specialized agencies have a mandate to make interventions that affect particular aspects of human wellbeing. In the case of the Department of Water Affairs, and in the near future at least partially CMAs and WUAs, domestic water supply and water pollution prevention are directly related to an overall programme of addressing issues of poverty. Water used for productive purposes in rural areas improves poor people’s incomes from self-employment in cropping,

livestock, forestry, fisheries, small industries, etc. Wage employment is created by large-scale irrigated farming, mines, forestry, and environmental tourism that depend upon the aesthetic value of water and water provision for the flora and fauna at the tourist sites. For productive water uses, DWAF is exclusively mandated to allocate water and ensure that poor people get their share of this natural resource.

One of the drivers for the establishment of the CMA is the need to ensure that the water resource is developed in a manner that is both sustainable and promotes equity. Allied to this, is the need to develop the resource at a level that is accessible to those who have a stake in it. Given these parameters, it is critical that the CMA embraces a philosophy that is both “pro poor” and “grass roots”. Both concepts tend to be readily endorsed but implementation is sometimes problematic. In order to ensure that the CMA has a pro-poor stance and is receptive to grass-roots demands, it is imperative that key aspects of the development of the CMA are accompanied by intensive public participation.

The National Water Act emphasises inclusive, representative public participation, community involvement in decisions that affect people’s lives, redress of race and gender inequities and accommodation of local needs in the CMAs and WUAs. The new institutions should also facilitate implementing water for poverty eradication agenda and establish sustainable links with other development agencies. The design of water governance institutions that can achieve this at a local and catchment level is an unprecedented challenge.

Ample international experience has shown that the early phases in which new institutions are designed are extremely critical. Once institutional arrangements start crystallizing, the forces within or outside the institution that can reorient the basic structure and functioning of the young organisation start to dissipate (Shah 1996). For example, contacts that are established during the formative phase of the CMA’s establishment, create certain expectations regarding longer-term and permanent relationships between communities and the organisation. As a result, and ideally at an early stage, the location and structure of long-term public participation and community involvement units in the future CMAs, needs to be designed and planned. This has been recommended in this proposal. Furthermore, the aspect of co-operative governance, also spelled out in more detail in this document, will act to ensure a greater degree of public accountability at grass roots level as well as giving the CMA a presence in the historically disadvantaged areas. In addition, appropriate representation on the Governing Board, through the ideal of representative democracy, will serve to give the voices of the poor a say in the running of the CMA. Within this WMA, and as soon as possible, it is proposed that the CMA should act on the following to ensure that a pro-poor stance is entrenched:

- Set up appropriate CMFs and CMCs with the necessary broad level of representation from previously disadvantaged communities.
- Ensure that these CMFs and CMCs are populated with people who have a mandate from the communities that they represent and are able to effectively communicate with those that they represent.
- If required, embark on a capacity building exercise within the CMFs and CMCs to ensure that members understand their role within water management.
- Develop a “Water for Poverty Alleviation Agenda” and ensure that this is a key concept within the catchment management plans and strategies that are developed.

3.6 Summary of Requirements for a Viable CMA

3.6.1 Risks

From the previous discussion, a range of significant areas of risk to the new CMAs have been identified. The most critical of these, together with the recommended response to adequately address them, is summarised in Table 11 below.

Table 11: Key Areas of Risk and Responses

<i>Area of Risk</i>	<i>Context</i>	<i>Response(s)</i>
Funding stream dependent on sources from outside of catchment	Most funds will be acquired from water users located outside the catchment and from subsidies from DWAF	<ol style="list-style-type: none"> 1. “Outside payees” must be convinced of benefit of CMA and willingness to pay inculcated 2. Active involvement of outside payees in governance structures 3. Subsidies need to be guaranteed.

<i>Area of Risk</i>	<i>Context</i>	<i>Response(s)</i>
Establishment process lacks credibility	This will certainly be a very bad way to start the life of an important new institution!	<ol style="list-style-type: none"> 1. Process must clearly be highly transparent with no hidden agendas 2. Exceptional efforts must be made to allow all stakeholders to participate in the process and particularly the marginalised sectors of society
Perception of lack of added value	A number of sectors have expressed significant concerns around this issue.	<ol style="list-style-type: none"> 3. Clear communication with respect to the (unique) role of the CMA 4. Emphasis on local issues, addressed locally, using local money 5. Emphasis on co-operative governance 6. Emphasis on utilisation of existing resources in existing organisations N.B. Mhlathuze Water, WUAs, CMFs, etc.
Perception of empire building	This is a risk if the new organisation is perceived to not add value and/or to be top heavy.	<ol style="list-style-type: none"> 1. Utilisation of "lean and mean" approach to structure/strategy 2. Extensive use of outsourcing 3. Extensive use of existing capacity
Governing Board lacks credibility	The choice of leadership for the new organisation will set the tone for everything that follows. The public will watch this carefully.	<ol style="list-style-type: none"> 1. Very careful consideration by the Advisory Committee 2. High quality and credible persons on Advisory Committee 3. Transparent process as far as possible
Non-payment of levies by key local authorities	The implications of this are obvious. This could result from either a crisis within the LA or lack of confidence or credibility of the CMA.	<ol style="list-style-type: none"> 1. Once again, emphasis of role of CMA 2. Use of existing institutions wherever possible 3. Lean and mean approach
Perception of organisation being too distant from stakeholders	Very large area in WMA and over 2 million residents. Special efforts and strategies will be needed to disseminate the catchment management "gospel"	<ol style="list-style-type: none"> 1. Major emphasis on communication and capacity building 2. Critical to structure organisation along geographic (catchment) lines plus develop a culture of delegation to the catchments, wherever possible
Accessing key skill sets	Obvious risk to organisation if it cannot get the human resources it needs. Catchment management is a new discipline and some of the key skills are esoteric in nature.	<ol style="list-style-type: none"> 1. Lean and mean approach will allow packages to be more competitive 2. This is one of the first CMAs, so resources will be easier to access. 3. Outsourcing of specialist skills
Demand curves need to be accurately predicted	Income is dependant on continued demand in certain key sectors. Financial planning is dependent upon these being accurately predicted . Failure to do so could result in financial failure of the organization.	<ol style="list-style-type: none"> 1. Water Resource Manager will require good data sets from which to make predictions. 2. Ongoing interaction with key consumer bodies is critical
Building financial reserves will be difficult.	The organization runs on a money in-money out basis and the scope for accumulating capital reserves is limited.	<ol style="list-style-type: none"> 1. Sound financial management and awareness of overextending financial risk is of paramount importance.
CMA capacity is unevenly spread	Although some areas of the WMA are well resourced with capacity, much of the WMA is not. This means that equitably spreading advocacy and advisory functions of the CMA will be difficult.	<ol style="list-style-type: none"> 1. Development of regional/satellite offices to extend capacity is critical. 2. Support from well resourced catchments to poorly resourced catchments, via the CMC structures, is required.
Failure of co-operative governance type of approach	Co-operative governance is quite theoretical at this stage and will need to be developed into practical implementation approaches. Government often pays lip service to this but the track record is not a good one.	<ol style="list-style-type: none"> 1. Appeal to higher levels of government in worse case scenario 2. Develop practical methods and strategies to undertake co-operative governance 3. Very important for the Board of the CMA to set the right example
Failure of advocacy type of approach	Approach of CMAs emphasizes advocacy; convincing, persuading, communicating, etc.	<ol style="list-style-type: none"> 1. CMA will have to acquire the powers to enforce for those (hopefully rare) cases when it will need them. 2. The CMA should have some resources at its disposal available to initiate measures and programmes "off its own bat", even if this is regarded only as seed money.

3.6.2 Conditions to Ensure Viability and Sustainability

First and foremost in terms of viability is the funding stream. This will depend on the ability and willingness to pay of water users, particularly the range of intermediary institutions in the area. As was noted above, the image and perceptions of the organization will have an impact on this.

The other key-funding stream is the seed/subsidy funding from DWAF at the inception of the CMA. The importance of this cannot be underestimated. The early days will be critical in terms of establishing the organization. There will be a tremendous amount of work to be undertaken and adequate resources must be made available to facilitate this process.

Information is the currency of effective management. Catchment management is an eclectic subject spanning many disciplines. The ability to access good information and to analyze it effectively will be crucial to the CMA's functioning. The CMA will need the ability to track a vast array of developments and plans of a range of development institutions. In addition, because it is a new discipline, there will be a need to access and develop new information sources. Powerful information systems are thus mission critical for this type of organization.

The ongoing support of the Regional Office is another prerequisite to success, for obvious reasons. For the transfer of functions to occur in a well-managed manner, good relations and support will be essential. In addition, the transfer of key human resources to the CMA is obviously of great importance in the early stages of its existence. The acquired experience and local knowledge available in the Department will be extremely valuable to the new organization. Having said this, transfer should not be regarded as if it is a "fait accompli". The new organization will have a different mandate, new functions, a different way of operating and a different culture. This implies that for some staff, transfer will not be appropriate.

The cooperation and support of the full range of water institutions is very important. Ultimately the CMA is designed to provide leadership to the sector but it can only do this with the assistance of the full range of WUAs, CMFs, Water Boards, Water Services Institutions, etc. etc.. To achieve this, the Act prescribes that the style of leadership must be participative; the old days of prescriptive top-down government institutions has been confined to the history books. In the early stages of its existence, the CMA will clearly not be in a position to provide much in the way of leadership and at this point it will be even more dependent on the assistance and support of the other institutions.

The comment above with respect to the support from water institutions applies equally to the range of other institutional stakeholders that are somehow involved, or have an impact on, water resources and/or water quality. As we have noted repeatedly, this covers a broad range of organizations. The catchment management efforts will fail or succeed on the back of the philosophy of cooperative governance since it will be impossible to merely exert "line authority" in a simplistic manner. The cooperation and support of these institutions is thus essential.

4.0 IMPLEMENTATION PLAN FOR CMA ESTABLISHMENT

The inception period for a new institution is a challenging time in any circumstances. It is a time of great excitement, enthusiasm and idealism but by the same token, a time when there will be very little in the way of capacity. Because of the number of unknowns, it is a time when it is impossible to predict precisely how events will unfold in the early months. It is also a time of vulnerability for a new organization about to embark on uncharted waters, undertaking a complex and difficult task, in a new and developing discipline with little in the way of precedent, particularly in the South African context. It is therefore incumbent on us to be as thorough as possible in our planning of the inception, in order to prepare the way as well as we can.

There will be a number of conflicting demands on the organization at this point. One of the key areas of conflict will be the need to follow the correct processes while at the same time attempting to build capacity at the earliest point. To overcome this it will be necessary to implement strategies designed to provide interim institutional capacity during the critical first steps. A good example is the appointment of the CEO. People of this calibre are not easily available and, as a result, the recruitment process is likely to take anything between 3 and 6 months. This is a long period for the new organisation to be doing nothing, so consideration will have to be given to what, in practical terms, can be achieved during this period. Another simpler example relates to the inception of the Governing Board. It will not be possible for them to function without the services of a secretariat and the resulting logistical issue is; by whom and how will this be undertaken?

4.1 Timeframes

A Gantt chart is set out below which illustrates the first steps necessary to establish the CMA. This illustrates that, in broad terms, there are 3 phases to the initial establishment process namely; consideration of the Proposal, establishment of the Governing Board and the initial organizational establishment phase.

Following consideration of the proposal by the Minister and agreement to proceed with establishment, the next step is to set up the Advisory Committee required in terms of the Act to advise the Minister on membership of the Governing Board. They will need a reasonable period to deliberate and to decide on what their recommendations will be. This process will be demanding, taking into account the complexity of the subject and the diverse and extensive range of stakeholders. This is made more complex by the need to determine how best to represent the people resident in the WMA. In addition to representivity, it will also be essential to assemble a team in the Board that can adequately address the governance issues for such an important organization. This means that certain skill sets will be crucial in the composition of the Board. Examples that come to mind are financial, water resources, environmental, legal and scientific.

As was noted earlier, the process to recruit the CEO will realistically take between 3 and 6 months. People of this calibre are not easily available and it makes sense to take the time and effort to follow a rigorous process. Some work will need to be undertaken on the requirements of the CEO (leading to a job description) together with conditions of service. The process to secure recruitment will need to be discussed and agreed. It is proposed that specialist consultants should be secured to assist with this process.

One of the first tasks of the new CMA is to develop a CMS. It is debatable however as to whether it is advisable to undertake this at the inception of the Board. A fundamental problem is the lack of institutional capacity to support this process. Again, it is an option for DWAF to facilitate this but will they have the capacity and is this desirable anyway? A further problem is that of development of the strategy without the CEO yet having been appointed. From an ownership point of view, this is certainly not ideal! It is thus proposed that the planning of the process, essential background research and data gathering is undertaken initially. This will then prepare the way for the process proper to be started as soon as the new CEO is appointed.

While the process to recruit the CEO is proceeding it makes sense to recruit some of the other staff in a parallel process. Ideally the CEO should be heavily involved in the recruitment of the top management team. It should be noted that stakeholders were of the opinion that all of the top management structure should be placed on performance based contracts. These contracts should run for a period of 3 to 5 years.

Following the dictum that "form follows function", the organizational design should only be undertaken after the CMS is developed. The focus initially should thus be on support and administrative functions. These will be relatively low risk and will be important to the initial functioning of the organization.

As was noted above, to expedite the very important process of developing the initial CMS, it is a good idea to carry out some initial research work on those aspects that will inform the CMS. The situational assessment identified that there are very significant gaps in the information that the CMA will need. In addition, much of the existing information is in different formats, numerous different locations and refers to differing areas and boundaries. Information gathering should thus commence almost immediately. This is a very good task to outsource as in many cases it involves specialist and sometimes esoteric skill sets. Typical examples of areas of key information are as follows:

- Water quality
- Demographics
- Extent of alien plant infestation
- Extent of erosion problems
- Extent, location and condition of wetlands
- Hydrology
- Institutional roles, responsibilities, capacity and current activities
- Water use
- Continuation/ completion of the registration process

All of these were looked at in the situational analysis to some extent but the level of analysis was necessarily superficial due to time and budgetary constraints. Of course it will not be possible to undertake major new studies in the initial period of 6 months but collection and assimilation of existing data will be a significant achievement in its own right. Thereafter analysis can be carried out which will be an extremely useful input into the CMS process.

It is also proposed that some initial work is done on the development of organizational policies. These should focus on the basics such as finance, administration, human resources etc. More sophisticated work should be delayed until the stage when there is more capacity available. Many of the areas of policy mentioned are of a generic nature and thus the policies of other similar organizations can be adapted.

An ongoing interaction, discussion and negotiation can be commenced with the DWAF Regional Office. This relationship is of vital importance since, in many respects, the CMAs are the "children" of DWAF, albeit with an amended role, mandate, responsibilities, and a closer relationship with stakeholders. These discussions

will need to cover the full ambit of issues, although the following will be of particular relevance in the early stages:

- Transfer and/or secondment of staff
- Delegation of functions
- Funding and budgets
- Registration of water users and income base
- Seed funding

4.2 Resource Requirements

As can be noted from Figure 13, this initial establishment phase is anticipated to last for a period of approximately 12 months (please note that this does not imply that the organisation will be fully capacitated at the end of this period). A summary of the funding requirements for this phase is given in Table 12 below.

This would undoubtedly form part of the initial seed funding from DWAF.

Table 12: Summary of Funding Requirements for the Start-up Phase of the CMA

<i>Item</i>	<i>Monthly Cost (R)</i>	<i>Number of Months</i>	<i>Funding Requirement (R)</i>
Board Stipends	40 000	9	360 000
Secretariat	10 000	10	100 000
Administration	100 000	9	900 000
Hire of offices	20 000	9	180 000
Operational Costs	20 000	9	180 000
CMS Research Work	NA	NA	500 000
Recruitment of CEO	NA	NA	100 000
CEO	50 000	4	200 000
Other Recruitment Costs	NA	NA	80 000
Office Furniture	NA	NA	100 000
IT	NA	NA	150 000
Miscellaneous Consulting Services	NA	NA	300 000
Totals	240 000		3 150 000

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APPENDICES

- A: Situational Assessment
- B: Feasibility Study
- C: Stakeholder Participation Process