



DEPARTMENT: WATER AFFAIRS AND FORESTRY
Directorate: National Water Resource Planning (NWRP)
WATER RECONCILIATION STRATEGY STUDY FOR
THE KWAZULU-NATAL COASTAL METROPOLITAN AREAS

STUDY STEERING COMMITTEE MEETING No. 1

DRAFT MINUTES

DATE AND TIME:	THURSDAY, 18 OCTOBER 2007 AT 09H00
VENUE:	DWAF REGIONAL OFFICE KZN: 10 FLOOR SOUTHERN LIFE HOUSE, 88 FIELD STREET, DURBAN

ITEM	DISCUSSIONS	ACTION
1.	<p>WELCOME AND INTRODUCTIONS</p> <p>Mr Niel van Wyk, Chief Engineer: NWRP (East) DWAF Pretoria welcomed the members to this first Study Steering Committee (SSC) meeting. He thanked them for their attendance and said the Department values their contributions. All participants were asked to introduce themselves.</p> <p>In his introductory remarks, Mr van Wyk emphasised the importance of the KZN metropolitan area as an economic cluster which requires sustainable water resources. He emphasised the importance of collaboration in the development of management strategies.</p> <p>He stated the objectives of the meeting, namely</p>	

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	<ul style="list-style-type: none"> • To convene the first meeting of the SSC; • To confirm the roles and functions of the SSC; • To present the study procedure and status; • To receive comments on the components of the study including the technical and stakeholder engagement process; • To strengthen the partnership between DWAF and key stakeholders. <p>Mr van Wyk posed the question whether he is the appropriate person to chair the meeting. It was agreed that he continues in the role as a practical arrangement and that it be discussed later (<i>see Item 9.1 of the minutes</i>).</p> <p>Mr Johan van Rooyen, Director: NWRP, DWAF, Pretoria remarked on the well represented committee and thanked all participants for making time available to attend this meeting.</p>	
2.	<p>ATTENDANCE AND APOLOGIES</p> <p>Apologies were received from a number of members. The attendance register is attached as Appendix 1.</p> <p>Mr van Wyk thanked Ms Patty Moothelal (Acting DWAF KZN Regional Director) for hosting the meeting.</p>	
3.	<p>ACCEPTANCE OF AGENDA</p> <p>The agenda was accepted as presented.</p>	
4.	<p>OVERVIEW OF KZN METROPOLITAN AREAS WATER RECONCILIATION STRATEGY STUDY</p> <p>The study leader, Mr Pieter van Rooyen, indicated that the presentations may seem to be a repetition, which is so as they were presented at other forums of the study. However the repetition here is a necessity to inform members who were attending this as their first forum of the study. In his presentation he stated the objectives of the study, namely to:</p>	

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	<ul style="list-style-type: none"> • Analyse the water demand profile and future water requirements; • Identify the interventions that will reconcile the water requirements with the available water for the period up to 2030; • Integrate the augmentation and bulk supply options to achieve optimised overall benefits; • Ensure a flexible strategy to accommodate future changes in actual water use; • Engage with stakeholders to build partnerships and promote co-operation. <p>He presented an overview of the study and said that the current and future water demand must be compared to the water availability. Planning must be done that will reconcile the requirements up to 2030. Integration of systems is important and the study team is working closely with Umgeni Water, eThekweni municipality, iLembe etc. and their different initiatives. There is also a close link-up with DWAF's Water Conservation and Water Demand Management (WC/WDM) study and initiatives with regards to desalination, feasibility studies on the Mkomazi and Mvoti Rivers and the reserve determination studies.</p> <p>The study focuses on the KwaZulu-Natal north coast supply area, the Mgeni system and links to the south coast. It is following a three phased approach:</p> <ul style="list-style-type: none"> • The inception phase during which data has been collected; • The second phase (current status of the study) which involves the development of the first stage reconciliation strategy; • The third phase during which cognisance will be taken of the inputs from the stakeholders and refining of issues. The deliverable during this phase is the main product of the study which is the second stage reconciliation strategy. <p>Mr Pieter van Rooyen explained the scope of work and the different tasks and invited the steering committee members to make contact with the different task leaders for further information they might require. The task leaders are: Messrs N Serfontein (infrastructure), R Savage (water requirements), R McKenzie and W Wegelin (WC/WDM), D Mnguni (water resources), T Coleman (water quality and re-use), P van Rooyen (documentation and strategies), Dr R Heath</p>	

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	<p>the strategy. The SSC membership list was discussed and the following recommendations were made:</p> <ul style="list-style-type: none"> • That Ezemvelo Wildlife and KZN Agricultural Union (KWANALU) be included in the committee. • That the Catchment Management Agency should be represented in the committee. • That although Mr Derek Airey works for Sappi-Saiccor, he be indicated as representing Forestry South Africa. <p>5.4 Strategy Implementation and Monitoring Process</p> <p>Mr Johan van Rooyen said that the KZN Coastal Metropolitan Areas Reconciliation strategy of interventions will be developed for a scenario up to year 2030 and will include demand and supply options. The reconciliation strategy must be seen as an ongoing process. It must be maintained and updated over time and must lead to implementation of interventions as is required.</p> <p>He shared some of the experiences of the Western Cape reconciliation study and emphasised the importance of the SSC providing input, feedback and that there is agreement on the way forward. Presentations will be made to the members' constituents after the first stage strategy to get the necessary understanding and buy-in.</p> <p>He also explained that, although the development of the strategy has a specific life span (appointed time of the professional service providers) the implementation of the recommendations in the strategy is an ongoing process and will require monitoring and adjustment if and when necessary. Therefore, after completion of this study the SSC must be reconstituted into a Strategy Steering Committee to oversee the implementation of the recommendations. Although this committee will not have any decision making powers their recommendations and input will carry enormous weight and their value cannot be overemphasised.</p> <p>The objectives of the Strategy Steering Committee will be the following:</p> <ul style="list-style-type: none"> • To ensure implementation of the recommendations of the strategy; 	

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	<ul style="list-style-type: none"> • To update the strategy in order to ensure that it is relevant; • To ensure that the strategy and its recommendations are appropriately communicated. <p>The following responsibilities are assigned to the Strategy Steering Committee:</p> <ul style="list-style-type: none"> • Monitor implementation of the recommendations; • Assess implications of deviations; • Make recommendations on mitigation/adjustments. <p>The committee will meet twice a year and the focus of their work would be implementation of specific recommendations and areas where the strategy needs to be updated.</p> <p>Discussions:</p> <ul style="list-style-type: none"> • Steve Gillham (Umgeni Water) asked whether DWAF will fund specific actions once a decision has been made that they should be implemented. <p>Mr Johan van Rooyen responded that the different task leaders must cost the activities that are needed and DWAF will put budget aside for those actions that are part of its function. He said this involves a process of budgetary recycling which needs to be factored into the programme to avoid unrealistic expectations. The programme of interventions will indicate the time allowed for the institutional arrangements.</p> <ul style="list-style-type: none"> • Ms Faeza Ballim requested information about the timing of the newsletters (whether information will be made available at each milestone), their purpose (whether they are meant to disseminate information or whether they will provide input into the study). <p>Ms Seymore responded that information will be disseminated through various tools at specific times in the study. The Background Information Document was developed to introduce the study. The first newsletter will provide information about the outcomes of the present SSC meeting and the second newsletter will provide information about the second public meeting that will take place early in</p>	

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	<p>2008 (February/March).</p> <p>Mr van Wyk added that newsletters are only one tool with which to provide committee members with information to share with their respective constituencies. There are also technical meetings where information is shared.</p> <p>Mr Johan van Rooyen said that the Western Cape experience was similar to this and the Catchment Management Agency meetings were used to disseminate information but also to get input from the meeting. Therefore, all opportunities and public forums should be used to disseminate information.</p> <ul style="list-style-type: none"> • Professor Siphoshe Shabalala (Office of the KZN Premier) cautioned the committee that the study should not merely be a technical, book reading activity. The study must incorporate economical, social, technological, political, social and cultural issues of the area. Water is a critical and contested resource and it goes hand in hand with all issues of land, land use and related issues. • He also said with regards to communication, the study is not a pamphlet issue but an engagement issue. The public needs to be fully empowered by way of information and informed of the study. People must be incentivised to feel that they must participate in order to ensure that the results of the study are defensible. <p>Mr van Wyk explained that the study attempts to address these issues by disseminating information at forum meetings. He also emphasised that the primary target audience of this study is not the grass root level but that the actions that stem from the strategy will impact on all people, including the grass root level.</p> <p>Ms Seymore added that more public meetings are taking place throughout the study and although people are invited from a database of stakeholders, the meetings are also advertised in KZN newspapers. It is therefore open for anyone to attend.</p> <ul style="list-style-type: none"> • Professor Shabalala indicated that the contents of the strategy must address some of the issues as in the end it is the economic and social development that will determine the water requirements. On the other end the political, economical and social development will be principal in determining water availability. Therefore it is necessary to reconcile the two sides beyond the 	

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	<p>technical specifications and only then will there be a sustainable product.</p> <p>Mr van Wyk agreed that ways must be found to deal with the issues that are not purely technical.</p> <p>Mr Johan van Rooyen confirmed this and said that in the Western Cape study there were more strategies in the end than merely the reconciliation strategy. The technical calculations must be done but the way in which it is presented often determines its acceptability. In the end it is about this area and whether its social development and economic growth can be sustained. About 42% of the people in this study area live below the economic 'bread line' and this study must address and support the economic and social needs of this area. It is all about balance.</p> <ul style="list-style-type: none"> • Mr Fokko Fokkens (Blythedale Conservancy and KZN Wildlife) remarked that all other aspects were mentioned except the ecological requirements of the area. The estuary requires clean water but at the moment it receives industrial (waste water) and reused water. The flow going down the Mvoti River is waste water from the sewage works and factories. The water is high in nitrates and phosphates with the result that there is a massive black dump in the river mouth. A flow of clean potable river water to the estuaries is essential. • Ms Di Dold (WESSA) referred to the guidelines for the SSC and specifically to the point that stated that committee members must take ownership of the final recommendations. She indicated that at this stage she cannot give that undertaking as she does not know what the recommendations will entail. 	<p>Study Team to make recommendations</p>
6.	<p>DEVELOPMENT OF THE KZN METROPOLITAN AREAS WATER RECONCILIATION STRATEGY</p> <p>STUDY PROCEDURE AND STATUS:</p> <p>6.1 Water Requirements and Return Flows</p> <p>Mr Richard Savage presented the water requirements and return flow task.</p> <p>He reported that there are extensive engagement opportunities for the committee to review the proposed options as a second scenario workshop will be held next year. The model will be presented that will determine the infrastructure plan, the people involved and the infrastructure requirements to meet the demand.</p>	

ITEM	DISCUSSIONS	ACTION
	<p>Mr Savage presented the urban return flow model and explained that this is the model that will be applied to their data which is underpinned by forecasts and which contains historic reference. The consumptive and return flow use and direct leakages are considered. The status quo at present is the following:</p> <ul style="list-style-type: none"> • The historic water requirements were reviewed at a range of consumptive nodes at municipalities such as eThekweni, Msunduzi, parts of uMgungundlovu and ILembe, the northern areas of Ugu (supplied from Wiggins Water Treatment Works); agriculture and 'off-grid' rural areas where boreholes are used as well as the off grid system. • Specialist studies were undertaken. The demographic review and projections of Dr Jeff McCarthy and Clive Coetzee of the School of Economics of the University of KZN were also considered, and the correlation of water requirements with economic indicators was reviewed. • The first workshop of water requirement scenarios took place on 13 September 2007. The workshop was reassuring and confirmed that they are on the right track as no proposals were made that they had not taken cognisance of. Valuable contact was made with Eskom which will be built on to ensure that everyone involved is aware of the relevant economic drivers. • An analysis was made of consumer categories and water demand for bulk water sales zones of eThekwini and Msunduzi municipalities. The study team now has records of supply into these municipalities from Umgeni Water and records of inflow into the waste water treatment works. <p>Mr Savage explained the slide of the eThekwini and Msunduzi water demands. The rate of consumption per customer is increasing faster than the number of new customers. This is as a result of more disposable income; appliances in our homes and an increase in new formal housing units from the informal settlements. eThekwini is rolling out about 10 000 new housing units a year which they want to increase to between 18000 and 20000 over the next few years. This means the water use per capita will increase. Msunduzi's water demands are very similar.</p> <p>He also presented the following key findings of the study by Dr Jeff McCarthy:</p> <ul style="list-style-type: none"> • Population is a key variable. Although there are uncertainties on the impact of HIV/AIDS, the ARV-roll-out means people are living longer and the mother-to- 	

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	<p>child infection rates are lower;</p> <ul style="list-style-type: none"> • Land-use and urbanisation have a public and private component to it. Although municipalities have infrastructure plans they have to take a decision on how long such an expansion will sustain them as there is a node of high growth along the N2, the Dube trade port and from Durban to Richards Bay. • Dr McCarthy's projections show a 40% margin below the median growth projections for 2030 (low road). The high road takes into account the ARV solutions for HIV/AIDS, a sustained economic growth of 4-5% and a population margin of 40% above median growth projections for 2030. According to Dr McCarthy our population growth rates are low but our rate of consumption has increased. • The key growth corridors show there is a split. The N2-Durban-Stanger shows a best estimate increase in population of 1.2% per annum and a little less in the N3-Durban-Pietermaritzburg corridor. • In terms of the 2030 population projections in the study area, keeping in mind that Durban comprises roughly about 3.5 million people, the high road is 6.5 million. The best estimate of the population is 6 million people. • A table is shown that needs to be adapted to reflect the characteristics of our study area in terms of the rates of consumption for the different categories of housing. <p>6.2 Water Conservation and Water Demand Management (WC/WDM)</p> <p>Mr Willem Wegelin reported on the WC/WDM task and explained that it is based on the scenarios from the water requirements and return flow task of Mr Savage.</p> <p>He explained the methodology and key findings to date and said the main objectives are to assess the current demands, how much of that can be saved and the impact of the potential savings on future demands.</p> <p>The task is focusing on eThekweni and Msunduzi and the major towns in iLembe as they cover 90% of the municipal demand in the study area. The smaller towns are therefore not ignored but their impact on the bigger picture is minimal.</p>	

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	<p>The methodology being used is to split the area into smaller zones according to the municipalities' boundaries or management areas. A water balance is calculated for each of the areas using the International Water Association's (IWA) benchmarking indicators and the losses are calculated according to international best practice and previous experience. They determine how much of these losses can be saved through various interventions that will give the greatest benefit in the shortest time.</p> <p>At present three scenarios are being considered. The first scenario is to reduce the losses over five years and sustain it, the second scenario is over a 10 year period with sustainability and the third scenario is to reduce the losses over a five year period and introduce efficient use, targeting the paying customer.</p> <p>Mr Wegelin explained the Standard IWA Water Balance and said a big component of it is the unpaid for consumption. It is assessed at each municipality and the possible savings are determined. The industrial mining power sector is also being evaluated and a draft report is available.</p> <p>The non-domestic consumption in the study area is considerable. However, most of the bigger industries are driving water demand management as they often form part of an international group which is being compared to international standards. There is a huge need for potential measures in the smaller industries where incentives to save water are absent.</p> <p>Mr Wegelin explained the key deliverables namely:</p> <ul style="list-style-type: none"> • To develop realistic strategies. • To identify key constraints and develop a plan for addressing them. • To develop the strategy to address potential savings, cost implications and a programme of implementation. <p>With regards to progress made Mr Wegelin explained that they are working closely with DWAF's Water Use Efficiency study. They are looking at the Umvoti to Umzimkulu study area and a considerable part of that information coincides with this study. A model has been developed that is continuously being updated.</p> <p>eThekwinī's and Msunduzi's respective water balances are discussed and the</p>	

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	<p>potential interventions. eThekweni is running an extensive WC/WDM programme at present and they are attempting to address water demand management and water losses. Some of their key constraints include human resources, technical expertise, political support on all levels, and payment for services, illegal connections and consumer perceptions. It involves about R115m per annum and their potential savings are about 23 million m³/annum, which should bring their non-revenue water down by about 10% to 23%.</p> <p>Mr Wegelin presented some examples of unit reference values from previous studies to indicate the various interventions that can be implemented.</p> <p>6.3 Infrastructure options</p> <p>Mr Nico Serfontein presented the infrastructure options task and reported that previous bulk water studies and existing bulk water infrastructure in the study area were investigated. This is coupled with the demand projects and the water source yield which will result in various strategies and scenarios through which water can be supplied at specific times and places.</p> <p>Three supply areas are focused on namely the south coast, Mgeni system and iLembe (north coast).</p> <p>Mr Serfontein presented a 'stand alone' option as a resource that is dedicated to a specific supply area opposed to an integrated solution which refers to supply from a source that impact on multiple supply areas.</p> <p>On the South Coast, the status at present comprises the south coast pipeline phase 1 (nearing completion), which is to be linked in the future to the south coast pipeline phase 2 through the Ugu coastal system. Sappi-Saiccor's plans to construct the Ngwadini off-channel storage soon (the EIA process far advanced) which is designed to provide for Sappi's needs only.</p> <p>He said an additional source is required to augment the demands on the south coast pipeline. The south coast pipeline phase 1 that terminates at Park Rynie, is flexible and will accommodate bi-directional flows. Therefore, a source development on the south coast will alleviate the stress on the Wiggins Water Treatment Works (its current source) and the Mgeni system. Augmentation via the Ugu system from the Mzimkulu river is an option. Although this is outside the study area, the effect of it on proposed developments within the study area has to</p>	

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	<p>be determined.</p> <p>Mr Serfontein reported on the present status of the Mgeni system:</p> <ul style="list-style-type: none"> • The feasibility studies for the Springgrove Dam are to commence in 2008 and it is expected that the dam will be completed in 2012. • The phase 1 system on the Middle Mkomazi River (Smithfield Dam) could possibly release water for use on the south coast. • The western aqueduct is a pipeline that is being planned by eThekweni. It alleviates the load on the Durban Heights Water Treatment Works and the Northern Aqueduct. <p>Proposed solutions on the Mgeni system will have an impact on supplies to the south coast, with some effects to the north. The Phase 1 development on the Mkomazi River will supply the Mgeni system via the Umlaas reservoir. The optimal placement of that water treatment works could possibly augment supplies directly to the south coast.</p> <p>The possible use of recycled sewage water needs to be investigated. Indications are that, on some of the estuaries to the north of Durban, the results of the estuarine reserves determinations indicate that no extra water (such as treated effluent) can be accommodated. The possibility of further treatment and blending with potable water could be a solution. With regards to the Inanda Dam, energy versus new capital investments are the strategies that are being investigated.</p> <p>Mr Serfontein reported on the status of the iLembe/north coast:</p> <ul style="list-style-type: none"> • Hazelmere dam will be raised by 2008 • The Ngebo scheme being designed by Umgeni Water will be supplied from the Thukela River and include supplies to KwaDukuza. Indications are that the proposed Mvotipoort Dam is required by 2020 and will replace the Thukela as a resource. • The Ballito-KwaDukuza pipelines are being upgraded with completion in 2008 and will make provision for bi-directional flows. 	

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	<ul style="list-style-type: none"> • The Stanger Water Treatment Works will be refurbished and a sand point system (6Ml/day) is being considered for abstracting water from the river bed. • The Welverdient and isiThundu dam options need to be reviewed against the background of an alleged bio-fuels development coming to the fore. <p>Interim solutions are:</p> <ul style="list-style-type: none"> • The development of the Mvoti View option will use existing infrastructure, but does not have regulated flow supported by an upstream dam (e.g. siThundu). • The Welverdient weir is much closer to Stanger but needs a dam for regulated flows (Welverdient Dam). • Both the Mvoti View and the Welverdient schemes have the Fawley Park reservoir and pertinent water works as commonality. <p>Water supplied from developments on the Mvoti and can also be piped southwards through the bi-directional Ballito-KwaDukuza pipeline. This will relieve the stress on the Hazelmere Dam which could then supply the northern parts of eThekweni through an existing link.</p> <p>Mr Serfontein emphasised that the challenge is to find right combinations of options for optimal solutions for all three supply areas.</p> <p>6.4 Water Resource Assessments</p> <p>Mr Pieter van Rooyen presented the water resource assessment task on behalf of Mr D Mnguni and said they are using existing information. The task may involve linking the loose standing systems together in order to estimate the yield of the combined resources. There will be planning analysis of different scenarios of water requirements and interventions. The scenarios for ecological water requirements to be released by the systems are important and the options need to be evaluated and the operating rules considered.</p> <p>He said that the ground water component has to be considered. Assessments are being conducted and the schemes and water quality are being evaluated.</p>	

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	<p>6.5 Water Quality and Reuse</p> <p>Mr Pieter van Rooyen presented this task on behalf of Mr Trevor Coleman.</p> <p>The objectives are to understand the current water quality. The status has almost been assessed and a report will be available for review soon. With regards to the strategy this task needs to consider reuse and options such as desalination.</p> <p>The assessment procedure involves collecting, assessing and evaluating available information especially on salinity and nutrients. Discussions took place with water boards and municipalities in terms of water quality issues and the review of reports and other available information.</p> <p>Mr van Rooyen gave a very brief view of the water quality status and explained the graphs of the status of the water quality assessment that the team had already analysed. Some of the information used was obtained from the Umgeni Water database.</p> <p>With regards to reuse options and desalination, the team is tapping into existing information and Umgeni Water is already doing a lot of work in this regard. The procedure being followed is to determine the locations, plant capacities and treatment processes used at waste water treatment plants. This links with Mr Savage's task as return flow is waste water. Assessments of treatments plants are being done to determine the quality and volume of water. With regards to future planning, costs need to be determined as well as upgrade requirements etc.</p> <p>In terms of desalination the size of future initiatives must be analysed, the option of technologies available, the cost thereof and the implementation dates.</p> <p>The team has identified the possible re-use of treated sewage effluent from the Darvill works. The Tongaat area could also possibly reuse water to meet the growing water requirements north of Durban. There is also a possibility of supplying the reused water to the irrigators who are currently being supplied from Hazelmere Dam and some of the treated water could also be discharged into Hazelmere Dam.</p> <p>6.6 Environmental Task</p> <p>Mr Pieter van Rooyen presented the Environmental task on behalf of Dr Ralph</p>	

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	<p>Heath.</p> <p>All the proposed strategies must be acceptable in terms of environmental considerations. Major problems will be identified and must be highlighted for further assessment.</p> <p>The task involves the collation of information and engagements with DWAF's Director of Water Resource Directive Measures have taken place. Information was obtained on the ecological water requirements of the different river systems.</p> <p>A workshop was held and activities were prioritised in terms of water requirements and the reserve determination studies. A list was developed with information on where licence applications require the need for reserve determination studies.</p> <p>In some river systems there are more flow than what is acceptable for the ecology and capping flows (limitations on waster water discharges) has been specified as part of the reserve assesments. Monitoring has commenced as the data is required for the reserve determination studies.</p> <p>6.7 Strategy Development (current views)</p> <p>Mr Pieter van Rooyen presented the current perspectives which are a summary of all the tasks. He emphasised that the current views are not yet substantiated by numbers, however, presenting them provide a point of departure for the development of the reconciliation strategy:</p> <ul style="list-style-type: none"> • WC/WDM –Mr Wegelin indicated in his report back that there is potential for WC/WDM. Mr van Rooyen feels strongly that this should be a priority intervention in terms of the strategy. • South Coast supply area - Mr van Rooyen said that some of the smaller water supply treatment plants are being decommissioned. This is obviously for practical operational reasons but it places a larger demand on the Mgeni River System through the south coast pipeline. One option is to incorporate into the strategy that until such time as there are larger solutions or interventions in place for Mgeni, these plants should be run and utilised as they will help to alleviate the pressure on the main system. • Mgeni River system – The planning and implementation of Springrove Dam is 	

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	<p>essential and should proceed. The planning of Mkomazi River scheme should continue as it is a possible long term solution to augment the water supply. The water reuse options need to be assessed. A strategy for the waste treatment plant is needed as per DWAF's Internal Strategic Perspective and this study will also underline this aspect. Ecological water requirement scenarios for the relevant systems will be evaluated. Planning of the bulk conveyance of the western aqueduct will also be taken into consideration.</p> <ul style="list-style-type: none"> North Coast area - Proceed with the planning and implementation of the raising of Hazelmere Dam and other related infrastructure on the north coast. Implement the bi-directional North Coast Pipeline. Assess reuse options. Obtain and assess all available planning information. Proceed with the planning of the Ncgebo Scheme, as recommended by the Illembe Bulk Water Supply Master Plan. Assess the Mvoti River water resource development options. In previous studies the need for flow gauging structures on the Mvoti River was identified and remains an important requirement. Desalination options need to be investigated and the Mvoti River's water use and compliance control systems must be evaluated. <p>6.8 Study Managements</p> <p>Mr Pieter van Rooyen informed the meeting that Dr Thinus Basson provides strategic guidance to the study; reviews the proposals of the study team and assists to identify the issues.</p>	
7.	<p>DISCUSSION AND COMMENTS</p> <ul style="list-style-type: none"> Ms Ballim asked why the agricultural sector was excluded from the WC/WDM task. Although it is appreciated that Msunduzi, eThekwini and iLembe are urban areas, the Mgeni system has prominent industrial demand and the agricultural sector is a major water user. She is of the opinion that interventions within that sector could contribute hugely towards WC/WDM. <p>Mr Pieter van Rooyen said that although a major study on agriculture water conservation was not foreseen there was a suggestion at the scenario workshop that agriculture should be included. It probably will not be on the same level as the other studies but should not be neglected.</p> <p>Mr Johan van Rooyen said there is the possibility that the urban sector can assist</p>	Study Team

ITEM	DISCUSSIONS	ACTION
	<p>the agriculture sector with saving water and in that way buy a portion of their water. In that way water will not be lost for production but inefficient use will be traded. He said that scenarios are required to determine the possibilities.</p> <ul style="list-style-type: none"> • Mr James Perkins (KZN DWAF) said that wasted agricultural water lands up in the system only to be caught in one of the dams on the way down. Therefore, savings can be made on the evaporation but not on the leakages. <p>Mr van Wyk explained saying that Mr Perkins is obviously referring to a system saving and not a local saving. This definitely will be taken into account and will be analysed.</p> <ul style="list-style-type: none"> • Mr Johan Geringer (DWAF) remarked that the importance of reuse of effluent must be emphasised in the study. The full potential of reuse must be considered. Therefore industrial and domestic use as well as its treatment. • Ms Anne Bindoff (Dept Agriculture and Environmental Affairs) raised her concern that all waste water does not go to the sewer, but that much of it is transported to storm water systems in order not to overload the sewage systems. However, it is a coastal area and waste in storm water and even increased sewage treatment water goes to the natural water sources, either directly into our marine environment or river environment. There are huge debates around this on the coast. She said they initiated (although still in an embryonic stage) a committee to investigate industrial and domestic recycling and possibly the reuse of gray water. It would be appreciated if this committee can get assistance and guidance from the study team on what they need to investigate in order not to duplicate or re-invent the wheel and to develop strategies and physical implementation of recycling water in households. <p>Mr van Wyk responded that the study team will be happy to interact and that the relevant person is Mr Trevor Coleman with whom Ms Bindoff should link up.</p> <ul style="list-style-type: none"> • Mr Fokkens commented about the importance of bio-fuels for the future. He said that sugar cane production can be increased if it has sufficient irrigation, e.g. 120 tons of cane can be produced from 1 ha but without sufficient water (irrigation) only 40 tons will be produced on the same land. He said there is 1000 ha of deep red soil available for sugar cane if the isiThundu Dam is built and it can supply the necessary water. Sugar cane can however use waste water and the returns from sewage works can be pumped on to the cane 	

ITEM	DISCUSSIONS	ACTION
	<p>fields. He further mentioned that distilleries produce 10 litres of waste water for every litre of alcohol produced. He therefore said that there is a tremendous task for the South African Sugar Association to ensure that waste water is reused as irrigation water.</p> <p>Mr van Wyk responded that the study will probably not be able to go into all the detail but it is noted for further consideration.</p> <ul style="list-style-type: none"> • Mr Fokkens said that sediment is clogging up the Hazelmere Dam and proposed that the sediment be extracted from the dam and worked into the coastal sandy soils. He also said that rain water should be used for the sugar cane in more effective ways. <p>Mr van Wyk replied that DWAF is contemplating studies in the Mvoti and the issues raised can be addressed there. He suggested that Messrs Fokkens and Geringer continue this discussion.</p> <ul style="list-style-type: none"> • Ms Dold requested that careful consideration be given to the building dams as it stops the natural flow of sand that goes down into the coastline. The beaches must be replenished as it is becoming critical and will affect this area's tourist trade. She further said that trading in silt should be considered. Studies were done on this and she has requested the results of these before. There is a tremendous shortage of plastering sand and silt would be perfect for this. She furthermore said that she is concerned about the ecological reserve of the rivers as the dams are not releasing water in an ecological sustainable way. The area has experience of a river that has been totally muted of water for four days because DWAF was trying to recoup the exact level in the dam. <p>Mr James Perkins (KZN DWAF) gave his assurance that that matter will be looked into.</p> <ul style="list-style-type: none"> • Professor Chris Buckley (University KZN) remarked the following: <ul style="list-style-type: none"> ○ On the water demand side no mention was made of a potential petrochemical complex south of Durban which will make an enormous difference in the industrial water demand. ○ With regards to WC/WDM no mention was made of tariffs or elasticity of demand and supply. He said that the biggest cost in the water circuit is 	<p>Study Team</p>

ITEM	DISCUSSIONS	ACTION
	<p>the treatment and disposal of waste water. However, the easiest way of addressing that cost is to raise the price of disposable water. Load shedding in water should be considered as an option.</p> <ul style="list-style-type: none"> ○ On the water supply side no mention was made of the potential of climate change and the effects of land use. Various studies have been done and there are a number of projections about what could happen to the flow in the Umgeni River and the catchments. ○ As a follow up on the earlier discussion of agricultural water use, Professor Buckley informed the meeting that civil society was present at an earlier workshop and there was a definite anti-feeling against water reuse for potable purposes if industry and agriculture get the first option of the clean water but people have to use recycled water. <ul style="list-style-type: none"> • Ms Jean Lindsay (KZN Conservancies Association) said that there was no mention of rain harvesting although it was mentioned at the public meeting. The high water loss in urban areas is unacceptably high and some kind of programme or funds need to be put in place to address this. There needs to be an incentive to put a rainwater harvesting tank in one's garden. <p>Mr Johan van Rooyen responded that the regulations for assistance with rainwater harvesting, which provide assistance to poor resource farmers are with the Minister of Water Affairs and Forestry for approval.</p> <ul style="list-style-type: none"> • Angela Masefield (KZN, DWAF) said that under the current perspectives there is reference to an improved waste water strategy. This strategy however needs to be broadened and must address getting waste water to the treatment plant, minimising it etc. • Professor Shabalala said the proposed approach for this meeting is that we take cognisance of the fact that the study focuses on a specific area. However, the committee is of the opinion that there are other issues that should be dealt with as well and DWAF should ensure that other studies or interventions are considered to cover the issues raised. • Professor Shabalala also said that the issue of skills should be addressed. With regards to infrastructure, new infrastructure can be built but the old needs to be maintained as the optimisation of water availability is critical – socially 	Study Team

ITEM	DISCUSSIONS	ACTION
	<p>and politically. The question is why is relatively developed areas selected for the study area when there are such high needs in the rural areas. There are obviously resource constraints and the question is what are the options, criteria used and the budget that is available. With regards to public private partnerships the question is what the implications are when the options are being considered.</p> <p>Mr van Wyk responded that this overview by Professor Shabalala is welcomed. Some of the answers lie directly in further work that is being done and others indirectly.</p> <p>Mr Johan van Rooyen added that reconciliation strategies will be conducted countrywide for towns outside the metropolitan areas within two years. Some of the strategies may be less detailed than this one, depending on the size of the towns. It will however run concurrently with this study and the strategies will be supplied as they are completed.</p> <ul style="list-style-type: none"> • Mr Geringer added that the cost of water is covered for government schemes but for social schemes the budgets will be supplied by the regions. • Mr Julian Kiepiel (Department of Local Government and Traditional Affairs) said that there are a number of unanswered questions and he was not sure how this strategy and its scenarios link up with the provincial strategies. He is of the opinion that a position paper is required in order for the committee to have a philosophy of how this critical resource is deployed in terms of regional development and for everyone to have consensus up front. This is especially important since the committee comprises such a diverse group of members. <p>Messrs Johan van Rooyen and van Wyk responded that interaction is necessary in order to determine how to take it further. The legal framework that informs the study is the National Water Act and the National Water Resource Strategy. Catchment management strategies will however have to be developed for the management of water, which will include development issues. This study however provides a perspective of what the costs of the different scenarios are and it informs the higher levels of decision making. Sustainability issues and the environmental costs therefore need to be considered as it will inform the other processes.</p> <p>Mr Richard Savage remarked that South Africa has not yet got to the point of</p>	

ITEM	DISCUSSIONS	ACTION
	<p>addressing the cost of water demand. The east coast of Australia is rapidly moving into a completely different paradigm of water consumption because they do not have choices and one can see it start happening in South Africa. The issues that need to be considered are the price of water, the different tariff methods, etc. Mr Savage suggested that the issues raised by Mr Kiepiel concerning spatial restructuring and environmental rethinking should be built into the scenarios.</p> <p>Mr van Wyk confirmed that these discussions should continue.</p> <p>Mr Johan van Rooyen thanked all the members for their attendance and complemented the committee on their interaction.</p>	Study Team
8.	<p>WAY FORWARD</p> <p>Mr van Wyk confirmed the way forward namely a newsletter will be developed by the end of the year and this meeting will inform its content. This will be followed by the first stage draft strategy. Information will be sent to the committee members before the next Study Steering Committee meeting on 28 February 2008 which should be studied.</p>	
9.	<p>GENERAL</p> <p>9.1 Mr van Wyk addressed the issue of Chairmanship and the members agreed that Mr van Wyk should continue in this role.</p> <p>9.2 A request was made that the contact details of the committee members are circulated.</p> <p>9.3 It was also agreed that the current venue is too small and an alternative venue should be found.</p>	<p>R Seymore</p> <p>R Seymore</p>
10.	<p>CLOSURE AND NEXT MEETING DATE</p> <p>28 February 2008 the venue to be confirmed.</p>	