



## water affairs

Department:  
Water Affairs  
REPUBLIC OF SOUTH AFRICA

# Development of a Reconciliation Strategy for the Luvuvhu and Letaba Water Supply System

## Study Management Team Meeting No. 4 Minutes

Held at WorleyParsons Pretoria office, Ashlea Gardens Office Park Block 6,  
Ashlea Gardens, on 29 March 2012

### 1. WELCOME AND INTRODUCTION

The Chairperson, Mr. W Jezewski opened the meeting by welcoming those present and expressed appreciation for their attendance of the fourth Study Management Team (SMT) meeting for the LLRS Study "Development of a Reconciliation Strategy for the Luvuvhu and Letaba Water Supply System".

### ACTION

SMT  
members

### 2. ATTENDANCE AND APOLOGIES

#### 2.1 ATTENDANCE

An attendance register was circulated, as noted below:

W Jezewski (WJ):	DWA: NWRP In chair
S van Jaarsveld (SvJ):	DWA: OA
OJS van den Berg (OvdB)	DWA: OA
M Fayazi (MF)	DWA: WRPS
C Ntuli (CN):	DWA: WRPS
E Nel (EA)	DWA: WRPS
OT Mbotho (OTM)	DWA: WRPS SO
K Moabelo (KM)	DWA: Water Use Efficiency
R Nengovhela (RN)	DWA: RDM WRC
F Chinyowa (FC)	WorleyParsons
HG Maré (HGM):	WRP
A Joubert (AJb):	Zitholele
PG van Rooyen (PvR):	WRP

#### 2.2 APOLOGIES

It was noted that the following people apologised for not attending the meeting:

T Nditwani	(TN)	DWA: NWRP
B Badenhorst	(BB)	DWA: Water Sector: Planning & Development
J Venter	(JV)	DWA: Limpopo Infrastructure Tzaneen Office
M Mazibuku	(MM)	DWA: RDM: SWRR
A Hernandez-Maldonado	(AH)	DWA: Limpopo, Assistant to Chief Director

### 3. APPROVAL OF THE AGENDA

The agenda was accepted with the following changes.

- It was agreed to discuss the details of the preliminary scenarios identified for the screening workshop, as part of Item 6.3, and not to include it as a separate item under general.
- "Tzaneen Dam short-term risk analysis" was added as Item 9.1.

### 4. MINUTES OF THE PREVIOUS MEETING

#### 4.1 APPROVAL

The minutes was approved with the following changes:

1. Page 1, Item 2.1 change "(EA)" to "(EN)".
2. Page 3, Item 5.2.2 change "resulted in the movement of the intensity of work" to "resulted in the adjustment of the intensity of work".
3. Page 4, Item 5.2.2 fifth paragraph: change "is already busy with" to "has completed".
4. Page 4, Item 5.2.2 last paragraph, rephrase the last sentence to read: "Some of the tasks therefore show a dormant period with activity again later in the study, which is to allow for refinements close to the formulation of the final strategy."
5. Page 5, Item 6.2.2 change "OvdB" to "EN"
6. Page 5, Item 6.2.2 change "showed large uncertainties" to "revealed uncertainties"
7. Page 5, Item 6.4.2: Change "stastionarity" to "stationarity".
8. Page 5, Item 6.4.2: Change "AIP" to "IAP".
9. Page 6, Item 6.6: Change "EN" to "OvdB"
10. Page 7, Item 6.8: Replace first sentence by the following: "OvdB and SvJ requested that some risk analysis be carried out on the existing hydrology for Tzaneen Dam. SvJ is to setup an internal meeting with DWA colleagues to discuss the matter"
11. Page 7, Item 6.8: Change "most probably by EVN" to "by WSM"

HGM

#### 4.2 MATTERS ARISING

All matters listed under Item 4.2 were completed.

<b>5. RECURRING TASKS</b>	
<b>5.1 TASK 19: STAKEHOLDER ENGAGEMENT AND PUBLIC PARTICIPATION</b>	
<b>5.1.1 Matters arising</b>	
<p>Previous item 5.1.2: AJB did follow up on the required representation of SSC members in the north-eastern part of the Luvuvhu catchment. JV still to come back with names in this regard. AJB be will follow up with JV on this matter.</p>	AJB/JV
<b>5.1.2 Progress</b>	
<p>AJb stated that the next SSC meeting that is scheduled for 25 April 2012 will take place at the same venue as the first SSC meeting. The venue has been secured and invitations were sent out. Several responses to the invites were already received. Meeting reminders will be sent out next week.</p>	AJb
<p>An agenda will be prepared for the meeting and circulated to TN &amp; WJ for comments. A BID will be prepared for the screening workshop. The Screening of Options will be the theme for this SSC.</p>	AJB/PvR
<b>5.2 TASK 20: PROJECT MANAGEMENT – WORK PROGRAMME</b>	
<b>5.2.1 Matters arising</b>	
<p>The updated study programme was distributed along with the minutes of the meeting, as requested at the previous SMT meeting (see previous Item 5.2.2).</p>	
<b>5.2.2 Progress</b>	
<p>PvR stated that the completion of the Literature Review report was delayed, due to additional 18 reports on the Mutale Catchment that were only received recently. The Literature Review report should however be available for distribution by the end of next week.</p>	HGM/Albert Jeleni
<p>PvR explained that due to the gaps in the Validation data, the completion time of several tasks will be affected. These tasks are all marked on the programme handed out at the meeting. A delay of approximately 4 to 6 months is expected for most tasks. The delay on the Upper Groot Letaba hydrology, is however, expected to be only 1.5 months, as reasonable data for this area is also available from another source.</p>	

### 5.2.3 Additional Work

During the presentation of the Inception Report to Johan van Rooyen (JvR), JvR suggested that a VO should be prepared in order to fill the gaps in the validation database. WRP is currently in the process to prepare the request for a VO. Bennie Haasbroek (BH) is communicating with Schoeman & Venote who will provide a cost estimate to carry out the irrigation work. The study programme will be adjusted accordingly, once all the information was received. The Screening Workshop scheduled for 25 April will not be affected.

PvR

BH

If possible, the PSP will try to fit in the additional work within the current approved end date of the study. If it is not possible, extension of time will be requested in the same VO.

PvR

## 6. ACTIVE TECHNICAL TASKS

PvR provided feedback on the progress for the current active tasks. Detail is given in the attached progress report (Appendix A).

### 6.1 INCEPTION REPORT

The draft Inception report was delivered to DWA. Comments were received from TN and the Inception report was updated accordingly. The possible additional task must still be included. This can only be carried out once all the related information is available to define the extent of the additional task.

HGM

### 6.2 TASK 1: SUMMARY OF PREVIOUS AND CURRENT STUDIES

#### 6.2.1 Matters arising

- Previous Item 6.2.1 first bullet: The first DVD was prepared. Further updates will be prepared as reports produced from the current study become available. This item is included in the Action List.
- Previous Item 6.2.1 second bullet: Guidelines for data & report archiving were received from EN.
- Previous Item 6.2.1 third bullet: No comments were received on the table of contents for the Literature Review Report, as distributed at the previous SMT meeting.
- Previous Item 6.2.1 fourth bullet: The request to firm up on the losses and yield results of the Tzaneen Dam raising option and Nwamitwa Dam, will be carried out as the study progresses. This matter was therefore included in the Action List.

#### 6.2.2 Progress

Progress on this task was already covered under item 5.2.2 regarding progress on Task 20. The first draft Literature Review Report should be ready for distribution by end of next week.

HGM

Albert Jeleni

## 6.3 TASK 2: PRELIMINARY SCREENING WORKSHOP

### 6.3.1 Logistics

Progress on this task was already partly covered, as part of Item 5.1.2 Stakeholder Engagement. The workshop will form part of the next SSC meeting, scheduled for 25 April 2012. The venue for this meeting is booked at Tzaneen Country Lodge. In total 27 persons already confirmed attending the meeting. AJb will send out a reminder next week. It is important that AJb again communicate that road works is still a problem and attendees should allow an additional hour to their travel time. A BID and Starter Document for the workshop will be prepared and send out to the SSC members

AJb

AJb/HGM

### 6.3.2 Options Preparation

HGM gave a brief presentation providing background to the screening workshop process and gave a summary of the possible options as obtained from previous reports. This was followed by a brief explanation of each of the options by PvR, based on the summary information document, distributed at the meeting. These options were then discussed with the SMT members to require additional inputs and to decide whether the option needs to be excluded from the proposed list or not. Only the agreed options will be taken through to the screening workshop.

The following points were raised during the discussion:

- Coal mining north of Louis Trichardt and related water requirement. At least a statement needs to be included in the Starter Document on this matter. Corrie Marx from BIGEN Africa can be contacted for more information in this regard.
- The possibility of a dam at the current Xikundu Weir should also be included as an option.
- Tshivhase Tea plantations and related water requirements need to be confirmed, as large areas of these plantations is currently not being utilised.
- Mutale River was previously regarded as the tributary that should supply water for EWR purposes, as very little development exists in this catchment. Most of the developments are located in the main Luvuvhu River catchment. A statement on this is required. Need to consult previous EWR study reports.
- It was stated that the water treatment works below Middle Letaba Dam was already completed in 1994, and that the capacity of this plant already exceeds the 98% assurance yield of the dam.
- An important benefit of groundwater resources is that it can be developed fairly quickly. Proper development and management of these resources and related systems are however required.
- Vondo Dam was already raised before. Need to check if further raising is possible
- Upper Mbweddi Dam option must be removed from the list.
- Lutanandwa dam option's main benefit is operational related.
- Mashawane Dam to be removed from the list as it was replaced by Nandoni Dam.

### Options Preparation continue

- Proposed Mulele Dam is not a good option as it has a shallow basin, high evaporation, sediment problems and will result in the inundation of extensive areas under dry land crops. A smaller dam at this site can maybe be used for artificial groundwater recharge purposes. Contact S Swart regarding possible work previously done on this option.
- The possible dam sites on the Klein Letaba River (Majosi & Crystalfontein) have two sub-options.
  - A large storage Dam linked with the Middle Letaba supply system.
  - A smaller diversion type of structure, diverting water via a canal into Middle Letaba Dam, using Middle as the storage facility.
- The option of removing all irrigation from the Middle Letaba Scheme should also include the effects of reducing the upstream irrigation developments.

HGM

The above points as raised at the meeting need to be included in the list of options where applicable.

HGM/PVR

### 6.3.3 Observed Challenges within the study area

The following issues were briefly discussed:

- A large number of demand centres is currently part of the planning process to be supplied from Nandoni Dam, and the list keeps on growing. A priority list need to be prepared to be able to determine which demand centres must finally be supplied or partly supported from Nandoni Dam.
- The Nandoni system yield is sensitive to the operating rule.
- The reliability of the existing hydrology of the Groot and Middle Letaba rivers is a
- High uncertainties exists regarding the losses between Tzaneen and Nwamitwa dams.
- Irrigation developments upstream of Middle Letaba Dam can have a significant impact on the yield from the dam.
- Maintenance and proper operation of groundwater supply systems is lacking.
- Maintenance of surface water supply systems is lacking in some areas.

## **6.4 TASK 3: HYDROLOGICAL ANALYSIS**

### **6.4.1 Matters arising**

- Previous Item 6.4.1 bullet1: BH completed the comparison.
- Previous Item 6.4.1 bullet 2: The request for the earlier completion of the Upper Groot Letaba hydrology was included in the Action list and in the current execution of the hydrology work.
- Previous Item 6.4.1 bullet 3: The "Mutale River Water Resources Investigation: Situation Assessment, Management and Development Potential of the Water Resources" Study set of reports was collected and scanned.
- Previous Item 6.4.1 bullet 4: BH requested the gauge evaluation reports from DWA. Some reports are however still old evaluations. EN recommend that BH contact him directly to obtain the latest evaluation reports.

BH

### **6.4.2 Progress**

PvR briefly gave feedback on the hydrology task progress. Detail is given in the progress report attached in Appendix A.

## **6.5 TASK 4: WATER REQUIREMENTS AND RETURN FLOWS**

### **6.5.1 Matters arising**

- Previous Item 6.5.1 bullet 1: It was communicated to R Aird to utilise population updates from EVN and Murango. He already received information from them, and will follow up to ensure that it is the latest available data.
- Previous Item 6.5.1 bullet 2: This request was communicated to D Mguni and was also included in the action list.

### **6.5.2 Progress**

HGM briefly provided feedback on this task. Detail is given in the progress report attached in Appendix A.



## **6.6 TASK 5: WATER CONSERVATION AND DEMAND MANAGEMENT**

HGM provided feedback on this task. W Wegelin held a meeting with Mopani DM to establish the status of WC/WDM in the DM. Detail is included in the progress report attached in Appendix A.

SMT members stressed the fact that the WC/WDM plans in the end need to be implemented. Most of the local municipalities in this area are too poor to implement these plans. Due to this problem DWA are taking this over from them. The suggested WC/WDM measures as well as those from the All Town Study should be reflected in the master plans and included in the WSDPs. Local buy-in from the Political side is very important and the WC/WDM measures should be included in the council resolutions.

Progress on WC/WDM for the irrigation sector, currently focussed on desktop related work. EN asked whether these schemes/irrigators will be contacted and or visited as part of this study. . PvR replied that J Rutherford will also liaise with irrigators directly.

## **6.7 TASK 8: WATER QUALITY**

No activities during the progress period.

## **6.8 TASK 17: ASSEMBLY OF INFORMATION AND FORMULATION OF SCENARIOS**

Work on the improving and completion of the All Town Study strategies continues.

## **7. COORDINATION WITH OTHER STUDIES**

### **7.1 MATTERS ARISING**

Previous Item 7: W Wegelin visits municipalities to obtain information on WC/WDM. AJb also communicate with them by means of e-mails and direct telephone contact. As part of this process, the municipalities were invited to take part in the SSC meetings. PvR mentioned the importance to keep a list of all communication attempts with the municipalities. AJb informed that he already have such a system in place, which also record all the documents that were sent out.

WJ said that it is important to have someone from Water Services to attend the SMT meetings. HGM mentioned that Allestair Wensley is already part of the SMT and invited to all the meetings. WJ recommended that Steven Marais should also be included on the list of SMT members.

HGM

## **8. STUDY AREA VISIT**

### **8.1 Matters arising**

Previous Item 8.1 bullets one and two. Both requests were completed.

### **8.2 Progress**

The study area visit was completed successfully. It was further reported that the study area visit was very useful and worthwhile. It also gave the study team a good feel and improved understanding of the study area.



## 9. GENERAL

### 9.1 TZANEEN DAM SHORT-TERM RISK ANALYSIS

OvdB explained that in the previous meeting (Item 6.8) these analyses were already mentioned. To be able to raise the Tzaneen Dam, the spillway-crest of the dam first need to be lowered. Initial plans indicated a 7.5m lowering, while recent planning required a 2.8m lowering of the crest. This work will be carried out over a two year period, with the lowering of the crest mainly taking place during the winter months. SvJ did set up a meeting with DWA colleagues in the infrastructure branch, to obtain the required parameters. These details can however only be supplied in about a month's time.

SvJ

The WRPM will be used for these analyses. In the meantime the PSP will start building the WRPM from the most recent WRYM setup. The current operating rules as used in practice will be obtained and build into the model setup.

HGM

One of the important requirements is that the domestic supply should not be affected by the lowering of the crest.

## 10. DATE FOR NEXT MEETING

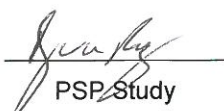
The next meeting is scheduled for 9h00 on 24 May 2012 and will take place in Pretoria. The venue will still be confirmed.

HGM


## 11. CLOSURE

WJ thanked everyone attending the meeting and closed the meeting.

**Minutes certified as correct and final**

  
PSP Study  
Leader

13/08/2012  
Date

  
DWA Study  
Leader

13/08/2012  
Date

## DISTRUBUTION OF MINUTES

Name	Organisation	Title	E-mail	Telephone
T Nditwani	DWA: NWRP Pta	Chief Water Resource Planner	nditwanit@dwa.gov.za	(012) 336 8189 '082 888 5113
Jezewski Witek	DWA: NWRP Pta	Deputy Chief Engineer	jezewski@dwa.gov.za	(012) 336 8160 '082 809 5609
OJS van den Berg	DWA: Options Analysis (North) Pta	Chief Engineer	vandenBergO@dwa.gov.za	012 336 8613 '082 809 2011
S van Jaarsveld (Attend)	DWA: Options Analysis (North) Pta	Engineer	vanjaarsvelds@dwa.gov.za	012 336 7284 '079 510 8523
Weston Barbara	DWA : Resource Directed Measures (RDM) Pta	Deputy Director	WestonB@dwa.gov.za	(012) 336 8221 083 631 0801
Henry Maluleke	DWA : Resource Directed Measures (RDM) Pta		malulekeh@dwa.gov.za	
M Mazibuko	RDM: SWRR Pta		mazibukoj@dwa.gov.za	
Ms Nancy Motebe	DWA: Resource Directed Measures Pta	Scientist Manager	MotebeN@dwa.gov.za	(012) 336 8073 082 882 4706
Mr Rufus Nengovhela	DWA: Resource Classification Pta	Production Scientist	NengovhelaR@dwa.gov.za	(012) 336 7886/7854 082 803 7356
Mr Pieter Viljoen WRPS WQ	DWA: Water Resource Planning System Water quality Pta	Deputy Director	tda@dwaf.gov.za	(012) 336 7514 082 808 0497
ML Mosoa WRPS WQ	DWA: Water Resource Planning System Water quality Pta		mosoal@dwa.gov.za	(012) 336 7564 082 885 1968
Mr Allestair Wensley	DWA: Water Services Planning and Information Pta	SR Specialist Engineer	igc@dwaf.gov.za	(012) 336 8767 082 808 5642
Celiwe Ntuli WRPS	DWA: Water Resources Planning Systems Pta.	Deputy Chief Systems Operation	NtuliC@dwa.gov.za	012 336 8324 0828851942
Ms Martha Komape	DWA: Water Regulation and Use Polokwane	Director	KomapeM@dwa.gov.za	(015) 295 1463/3249 082 941 7965
Mrs Allison Hernandez-Maldonado	DWA: Personal Limpopo - Polokwane	Assistant to Chief Director	hernandezmaldonado@dwa.gov.za	(015) 290-1215 082 809 5604
Mr Andries Munzhedzi	DWA: Water Use Management Polokwane	Acting Chief Engineer	MunzhedziA@dwa.gov.za	(015) 290 1200 082 809 2160
Mr Bernie Badenhorst	DWA: Water Sector Planning and Development Regional Office Polokwane	Chief Engineer	BadenhorstB@dwa.gov.za	(015) 290 1218 083 627 5912
Ms Mpho Mabuda	DWA: Cathment Planning Polokwane	Scientist Manager	mabudam@dwa.gov.za	(015) 306 7300 082 885 6775
Mr Isaac Nyatlo	DWA: Catchment Planning Polokwane	Chief Industrial Technician	nyatloi@dwa.gov.za	(015) 290 1357 082 805 6384
Mr Jakkie Venter	DWA: Limpopo Province Tzaneen	Area Manager	venterj@dwa.gov.za	(015) 307 3627/8600 082 808 5822
AD Maumela	DWA: Polokwane Regional Office: Institutional		maumelad@dwa.gov.za	
Elias Nel	DWA: Water Resource Planning System	Scientist Manager	NelE2@dwa.gov.za	012 336 7882 082 809 5419
Fanus Fourie	DWA: Water Resource Planning System	Scientist Manager	fourief@dwa.gov.za	012 336 7303
Fayazi Morteza	DWA: Water Resource Planning System	Scientist Manager	fayazim@dwa.gov.za	012 336 7553 082 809 5726
Koena Moabelo	DWA: Water Use Efficiency	Principal Development Expert	moabelok@dwa.gov.za	012 336 8174
LT Kobe	DWA: Polokwane Regional Office: Institutional			
Mr PG van Rooyen	WRP	Study Leader	pieterv@wrrp.co.za	(012) 346 3496 082 321 3446
Mr HG Maré	WRP	Deputy Study Leader	maniem@wrrp.co.za	(012) 346 3496 082 326 9378
Andre Joubert	Zitholele	Task Leader	andrej@zitholele.co.za	(011) 207 2077 '079 505 3763
S Mynaka	Kaleo Consulting (Zitholele)	Specialist	smynaka@kaleoconsulting.co.za	(012) 348 0000 079 505 6684

MINUTED BY: HG Maré (with input from Project team Members)

## **Appendix A**

### **Progress Report**



## water affairs

Department:  
Water Affairs  
**REPUBLIC OF SOUTH AFRICA**

Directorate: National Water Resource Planning

### DEVELOPMENT OF A RECONCILIATION STRATEGY FOR THE LUVUVHU AND LETABA WATER SUPPLY SYSTEM

#### STUDY MANAGEMENT TEAM MEETING NO 4

#### TECHNICAL PROGRESS REPORT NO 3

Date: 28 March 2012  
Period: 26 January 2012 to 28 March 2012

TASK	WORK DESCRIPTION
	<b>INCEPTION PHASE (TASK LEADER: PG VAN ROOYEN)</b>
	<ul style="list-style-type: none"> <li>Draft inception report was tabled.</li> <li>Comments from DWA received and included.</li> <li>Inception report was presented to J van Rooyen (Director Water Resource Planning) and discussed</li> </ul>
<b>1</b>	<b>SUMMARY OF PREVIOUS AND CURRENT STUDIES (TASK LEADER: A JELENI)</b>
	<ul style="list-style-type: none"> <li>Feedback was received from team members regarding section 3 (Synthesis of available information) as well as for Appendix A (List of possible augmentation options). These were all included in the document.</li> <li>An additional set of almost 20 reports on the Mutale catchment was received, scanned and included Literature review report.</li> <li>The document is now approximately 99% completed</li> </ul>
<b>2</b>	<b>PRELIMINARY SCREENING WORKSHOP (TASK LEADER: PG VAN ROOYEN)</b>
	<ul style="list-style-type: none"> <li>Draft list of possible intervention options for the purpose of the workshop was compiled for internal discussion purposes with the team.</li> <li>Discussion with WorleyParsons took place. Others to follow</li> </ul>
<b>3</b>	<b>HYDROLOGICAL ANALYSIS (TASK LEADER: B HAASBROEK)</b>
	<ul style="list-style-type: none"> <li>Initiated the development of historic point source time-series data. All point source data from existing reports were captured and now need to be compared with recent observed data where available.</li> </ul>



TASK	WORK DESCRIPTION
	<ul style="list-style-type: none"> <li>Completed historical growth of irrigation and farm dams from previous studies per quaternary.</li> <li>Digitized additional reservoirs that was left out from the validation study database.</li> <li>Summarized validation irrigation data and compared data with past studies per quaternary catchment, for irrigation specialist and for presentation on SMT.</li> <li>Summarised information from existing reports regarding afforestation developments in the study area.</li> </ul>
4	<b>WATER REQUIREMENTS AND RETURN FLOWS (TASK LEADER: D MNGUNI)</b>
	<p style="text-align: center;"><b>Demographic Component</b></p> <ul style="list-style-type: none"> <li>Obtained all previous study documents</li> <li>All documents worked through and key information compiled into summary report</li> <li>Demographic and socio-economic data is being compiled and evaluated</li> <li>Key stakeholders being contacted for relevant demographic information</li> </ul> <p style="text-align: center;"><b>Irrigation Component</b></p> <ul style="list-style-type: none"> <li>Literature review pertaining to irrigation water use completed</li> <li>Evaluation of quality of available information on irrigation water use and consolidation of irrigation water use data commenced with Bennie Haasbroek, in terms of irrigation areas, cropping patterns and irrigation water use.</li> </ul>
5	<b>WATER CONSERVATION AND DEMAND MANAGEMENT (TASK LEADER: W WEGELIN)</b>
	<ul style="list-style-type: none"> <li>A meeting was held with Mopani DM on the 29 February 2012 to establish the status quo of WDM in the District municipality. The status quo of WDM in the municipalities are as follows : <ul style="list-style-type: none"> <li>Management information is largely lacking with very little bulk metering taking place within the district;</li> <li>Insufficient human capacity to undertake the required operations responsibilities with a vacancy rate of approximately 60% in the water services department;</li> <li>Very little metering and billing is taking place with a predominantly low income and rural population in the district;</li> <li>A dissatisfied consumer base which is unhappy with the quality and frequency of water supply;</li> <li>Water Supply systems comprised of old dilapidated infrastructure with little maintenance taking place;</li> <li>Pressure problems in various areas within the District particularly in Giyani and Tzaneen.</li> </ul> </li> <li>Follow up discussions will be held with the individual municipalities under Mopani District and access was granted by the District during the workshop session for such meetings to proceed.</li> <li>Liaison with the DWA Rapid Response Unit Programme (RRU) was done on a regular basis to avoid any duplication of work.</li> </ul> <p><u>Irrigation Component</u></p> <ul style="list-style-type: none"> <li>Literature review pertaining to existing WC/WDM initiatives, existing irrigation systems</li> </ul>

TASK	WORK DESCRIPTION
	<p>and cropping patterns and irrigation efficiencies completed.</p> <ul style="list-style-type: none"> <li>• Compiled draft document on national legislation and strategy for WC/WDM in agriculture relevant to the study.</li> <li>• Commenced compilation of WC/WDM strategies for the various levels of irrigation water use (including the many smallholder irrigation schemes) within the study area. The strategies include water management institutional issues (WUA's and Water Management Plans) and technical issues including improvement of water measuring systems, adaptation of irrigation systems, irrigation scheduling, reticulated water loss minimisation and crop selection for improved water-use efficiency.</li> <li>• Commenced with estimation of potential savings from WC/WDM initiatives..</li> </ul>
<b>6</b>	<b>WATER RE-USE (TASK LEADER: T COLEMAN)</b>
	<ul style="list-style-type: none"> <li>• No activities during the progress period.</li> </ul>
<b>7</b>	<b>INVASIVE ALIEN PLANTS (TASK LEADER: B HAASBROEK)</b>
	<ul style="list-style-type: none"> <li>• No activities during the progress period..</li> </ul>
<b>8</b>	<b>WATER QUALITY (TASK LEADER: T COLEMAN)</b>
	<ul style="list-style-type: none"> <li>• No activities during the progress period.</li> </ul>
<b>9</b>	<b>RESERVE REQUIREMENT SCENARIO ANALYSIS (TASK LEADER: PG VAN ROOYEN)</b>
	<ul style="list-style-type: none"> <li>• No activities during the progress period.</li> </ul>
<b>10</b>	<b>GROUNDWATER UTILIZATION SCENARIOS (TASK LEADER: K SAMI)</b>
	<ul style="list-style-type: none"> <li>• No activities during the progress period</li> </ul>
<b>11</b>	<b>HONORING INTERNATIONAL OBLIGATIONS (TASK LEADER: D MNGUNI)</b>
	<ul style="list-style-type: none"> <li>• No activities during the progress period.</li> </ul>
<b>12</b>	<b>YIELD ANALYSIS (TASK LEADER: HG MARÉ)</b>
	<ul style="list-style-type: none"> <li>• A simplified schematic for the combined Luvuvhu Letaba system was distributed for comments. Improvements were added</li> <li>• Summarising information on previous yield results</li> </ul>
<b>13</b>	<b>WATER QUALITY MODELING (TASK LEADER: T COLEMAN)</b>
	<ul style="list-style-type: none"> <li>• No activities during the progress period.</li> </ul>
<b>14</b>	<b>PLANNING ANALYSIS (TASK LEADER: HG MARÉ )</b>
	<ul style="list-style-type: none"> <li>• No activities during the progress period.</li> </ul>
<b>15</b>	<b>REVIEW SCHEMES AND UPDATE COST ESTIMATES (TASK LEADER: D SMOOK )</b>



TASK	WORK DESCRIPTION
	<ul style="list-style-type: none"> <li>• A reconnaissance study area was undertaken from 13 February 2012 to 16 February 2012</li> <li>• Started collating pertinent technical information/data on schemes identified in previous studies</li> </ul>
16	<b>REVIEW AND ASSESS SOCIAL AND ENVIRONMENTAL IMPACTS (TASK LEADER: F HUMPHRIES)</b>
	<ul style="list-style-type: none"> <li>• No activities during the progress period.</li> </ul>
17	<b>ASSEMBLY OF INFORMATION AND FORMULATION OF SCENARIOS (TASK LEADER: PG VAN ROOYEN)</b>
	<ul style="list-style-type: none"> <li>• Continue with review of relevant Information on All Town Study data for incorporation into this study</li> </ul>
18	<b>FINAL SCREENING WORKSHOP (TASK LEADER: PG VAN ROOYEN)</b>
	<ul style="list-style-type: none"> <li>• No activities during the progress period.</li> </ul>
19	<b>STAKEHOLDER ENGAGEMENT AND PUBLIC PARTICIPATION (TASK LEADER: A JOUBERT)</b>
	<ul style="list-style-type: none"> <li>• Maintain and manage database of stakeholders.</li> <li>• Maintain and update list of Study Steering Committee (SSC) members</li> </ul>
20	<b>STUDY MANAGEMENT (TASK LEADER: PG VAN ROOYEN)</b>
	<ul style="list-style-type: none"> <li>• Site visit were planned, arranged and completed</li> <li>• Discussions were held with local PSPs within the study area.</li> <li>• Maintain and update list of Study Management Team (SMT) members</li> <li>• Fourth invoice and related progress reports were prepared</li> <li>• General management of study and communication with team leaders</li> <li>• Held SMT meeting 3 and SAM meeting 2.</li> <li>• Complete minutes, include comments and distribute</li> <li>• Preparations for SMT 4 &amp; SAM 3</li> <li>• Progress report for SMT 4</li> </ul>
21	<b>STUDY TERMINATION (TASK LEADER: PG VAN ROOYEN)</b>
	<ul style="list-style-type: none"> <li>• No activities during the progress period.</li> </ul>