



# Water Conservation & Demand Management under Climate Change

## PROJECT SUMMARY



**USAID** | SOUTHERN AFRICA  
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# Project partners

**WRP Consulting Engineers** is a specialist engineering consultancy of international standing in the fields of water resources engineering, water conservation and water demand management, including NRW reduction. WRP provides quality professional services to ensure the sustainability of projects while maintaining the integrity of the environment.

Through the diverse talents of committed staff, dedicated leadership and international alliances, WRP focuses on the development of innovative and cost-effective solutions in the water industry.

## WRP services

WRP offers a range of services that are essential for the efficient operation of water companies:

- Water Resources Engineering
- Water Conservation and Demand Management
- Municipal Water Infrastructure Planning and Design
- Water Conservation Community Awareness
- Software Development
- Training and Transfer of Technology



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# Introduction

The Olifants River Water Supply System provides water for domestic and industrial water use purposes, irrigation, mining and power generation. The system serves more than 3 million people comprising 18 local municipalities and parts of City of Tshwane metro inside the catchment area and Polokwane and Mokopane and their surrounding rural areas outside of the catchment area.



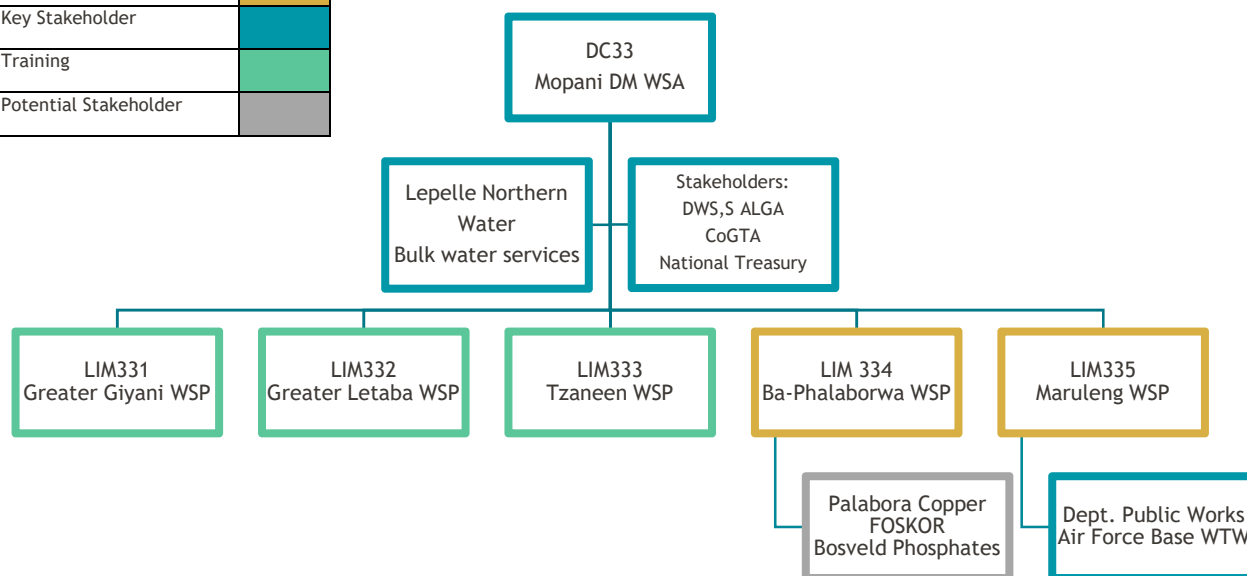
Map of municipalities included in the Olifants River catchment

Maruleng and Ba-Phalaborwa municipalities were selected for pilot areas because both have urban and rural water supply schemes and both municipalities are situated in the Olifants catchment area.

After Emalahleni, Ba-Phalaborwa local municipality was identified as the second largest urban water user and the municipality with the highest per capita consumption in the Olifants river catchment. Maruleng and Ba-Phalaborwa local municipalities have no WCWDM programmes while their water losses and non-revenue water are in excess of 50% and it is unlikely that water services could be sustained unless urgent WCWDM interventions are undertaken.

# Project Purpose

Pilot Municipality	
Key Stakeholder	
Training	
Potential Stakeholder	



The purpose of this project was the development of a Water Conservation and Water Demand Management (WCWDM) strategy and business plan for Maruleng and Ba-Phalaborwa local municipalities.

The development and implementation of a WCWDM strategy is a legal requirement and is critical in terms of water security and achieving national strategic objectives.

The WCWDM strategy should be aligned to the following national and regional policies and documents:

- The National Development Plan (NDP) recognises that reducing growth in water demand is as important as increasing its supply. Current planning assumes it will be possible to achieve an average reduction in water demand of 15 percent below baseline levels in urban areas by 2030. To ensure that this target is achieved, municipalities must set clear targets for 2017 and 2022 in line with existing strategies.
- The National Water Resource Strategy (NWRS2) submits that WCWDM should be one of the top priorities, and measures to reconcile demand and supply must be in place to provide for goals of a better life for all through job creation and economic growth. The NWRS2 requires implementation of the reconciliation and all town strategies.
- Every Water Services Development Plan (WSDP) must contain details of existing and proposed water conservation, recycling and environmental protection measures.
- Regulations R 509 - Compulsory national standards and measures to conserve water state that a water services audit must be undertaken as a component in the WSDP and must include details on WCWDM activities undertaken.
- The Olifants River Reconciliation Strategy (DWS, 2015) states very specific goals as listed in Section 1.2 must be achieved to ensure water security in the catchment.

## Activities



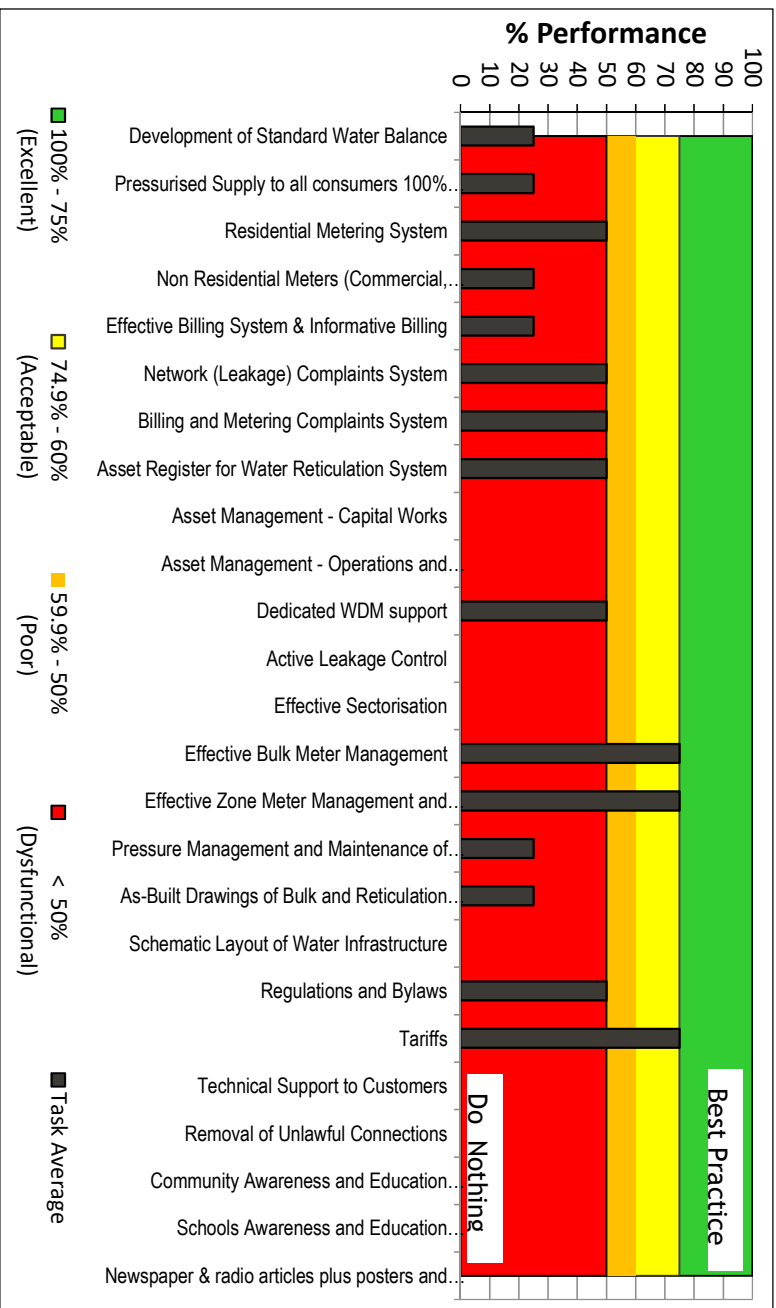
1. Desktop study, collect and collate information - gather existing information from Maruleng and Ba-Phalaborwa municipalities to get a proper understanding of the existing water supply system.
2. Skills gap assessment, training and capacity building - a two-day effective water supply management master class registered with SAICE was presented to the technical staff from Lepelle Northern Water, Department of Public Works, Maruleng LM and Ba-Phalaborwa LM.

3. Knowledge Attitude Perception surveys - conducted in MLM and BPLM to identify potential interventions to improve efficiency, identify municipal perception and service delivery and more importantly, to understand water resource knowledge, value of water and water use patterns by the community.
4. Schools audit and awareness campaign - six schools were visited in Maruleng LM and Ba-Phalaborwa LM.
5. Field investigations - to validate the information collected during the desktop study task. Bulk meters were investigated to understand their conditions and confirm if they were loggable.
6. Retrofitting and repairs
7. Pressure and flow logging - to understand the water supply to each zone
8. Analysis, completion report and documentation - compilation of water status quo reports for Maruleng and Ba-Phalaborwa local municipalities.
9. Development of a WCWDM strategy and business plan
10. Stakeholder workshops and strategy approval
11. Production of media and communications materials

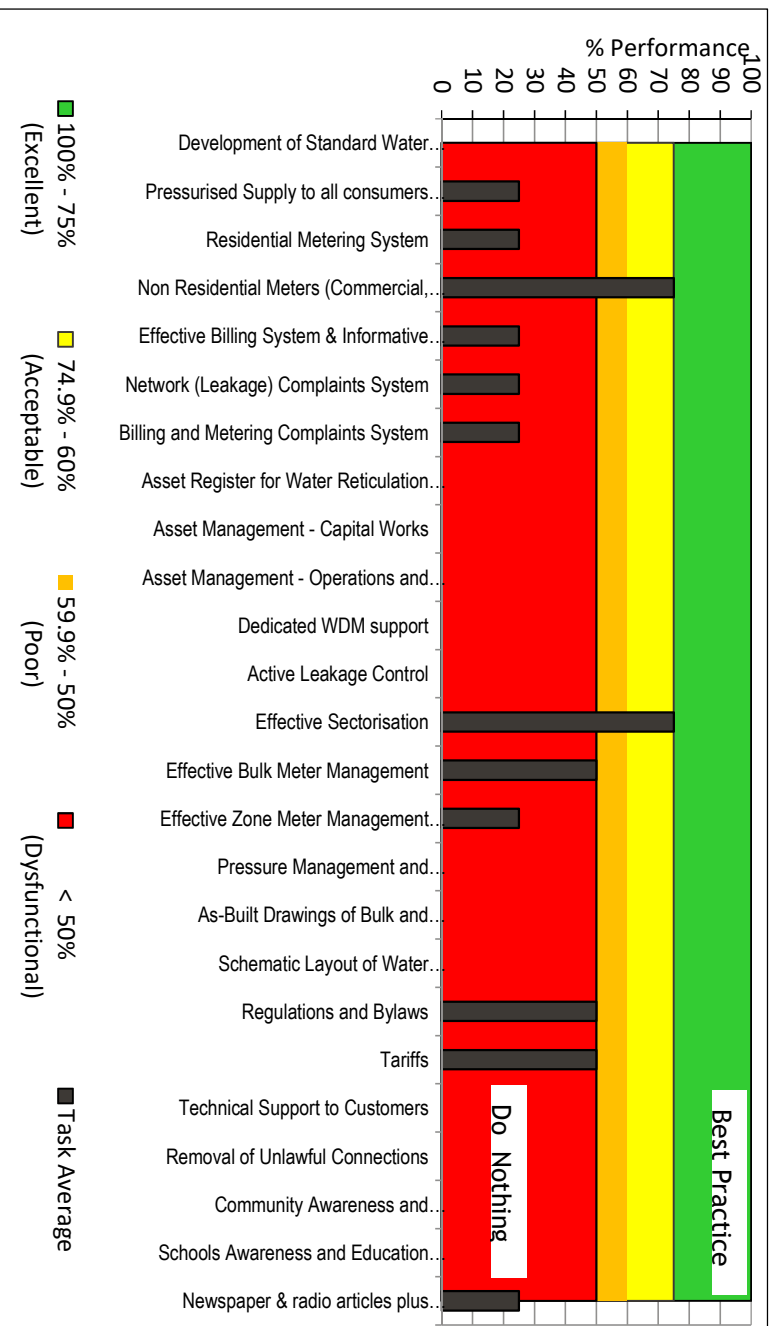


# Results

Ba-Phalaborwa Local Municipality



Maruleng Local Municipality





# Recommendations

## Recommendation 1

- The project team faced some challenges when planning workshops and feedback sessions to engage stakeholders involved in the project. It is recommended that in future, relevant stakeholders' platforms be utilised to engage and update project stakeholders of project progress and results.

## Recommendation 2

- The social awareness team experienced resistance and negative attitudes from some of the residents during the community awareness campaign especially when conducting surveys in suburban areas. Recommendations are made to brief residents at their community forums and gatherings about campaigns that will require their participation.

## Recommendation 3

- Surveys indicated that consumers have lost confidence in their municipalities. It is recommended that the municipality should implement community programmes that will improve community relations and restore the municipality's image.

## Recommendation 4

- Some of the councillors lacked basic understanding of the WCWDM issues facing their municipalities. This is a disadvantage as it becomes a challenge for them to translate project objectives to community members. It is recommended that councillors be involved and informed on municipal WCWDM activities through their forums and planned workshops.

## Recommendation 5

- Disparity between the district municipality and local municipalities was evident. Local municipalities are not motivated to work with the district as they believe the working relationship is not good enough. It is recommended that water services personnel from the district and local municipalities meet on a regular basis to improve the working relationship and address water issues affecting both municipalities. Service level agreements need to be reviewed, updated and signed to improve the working relationship between the district municipality and local municipalities.





# award

The Association for Water and Rural Development

AWARD is a non-profit organisation specialising in participatory, research-based project implementation. Their work addresses issues of sustainability, inequity and poverty by building natural-resource management competence and supporting sustainable livelihoods. One of their current projects, supported by USAID, focuses on the Olifants River and the way in which people living in South Africa and Mozambique depend on the Olifants and its contributing waterways. It aims to improve water security and resource management in support of the healthy ecosystems to sustain livelihoods and resilient economic development in the catchment.

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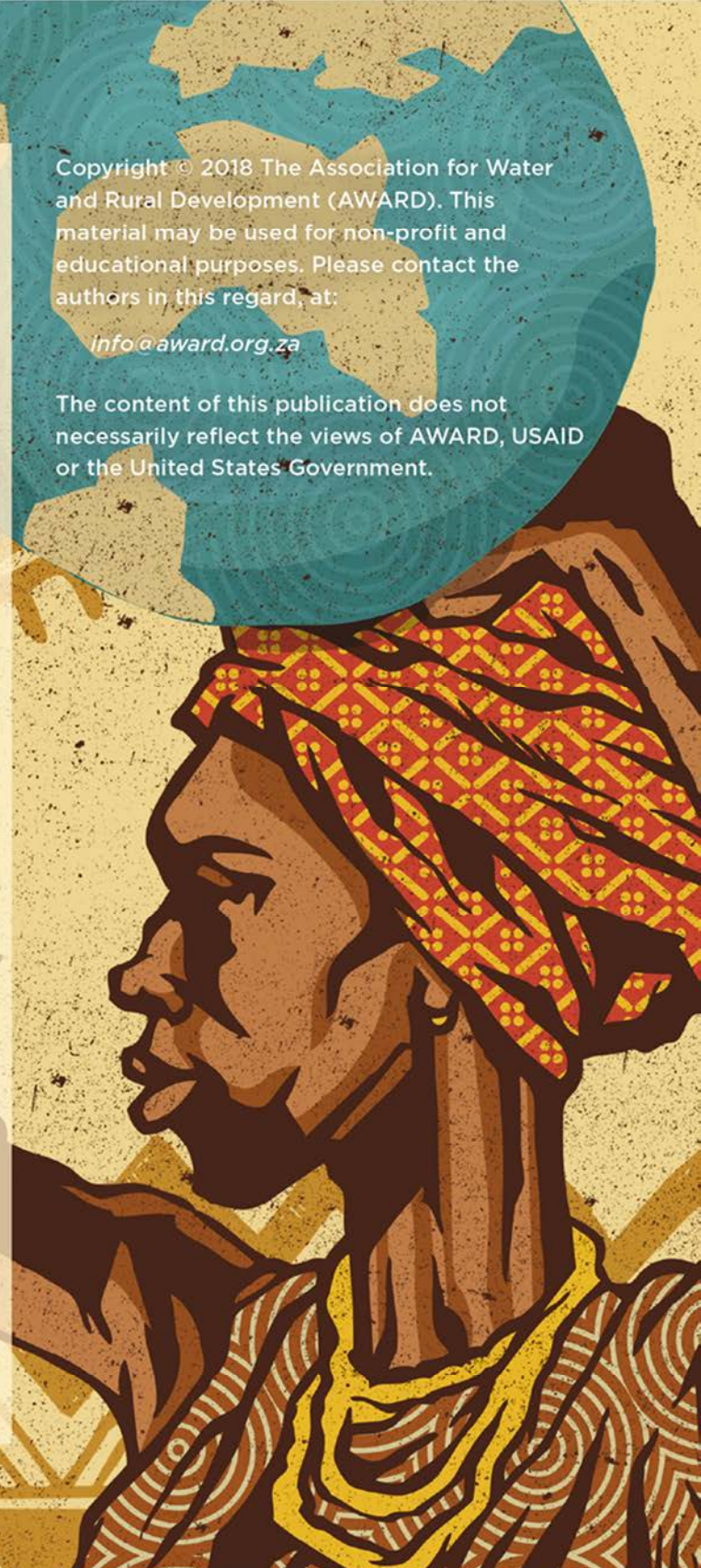
## About USAID: RESILIM-O

USAID: RESILIM-O focuses on the Olifants River Basin and the way in which people living in South Africa and Mozambique depend on the Olifants and its contributing waterways. It aims to improve water security and resource management in support of the healthy ecosystems that support livelihoods and resilient economic development in the catchment. The 5-year programme, involving the South African and Mozambican portions of the Olifants catchment, is being implemented by the Association for Water and Rural Development (AWARD) and is funded by USAID Southern Africa.

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