

Community Sustainability

Rural Development

Umgeni Water has firmly committed to government's strategic priorities through providing sustainable water services that would reduce backlogs in local municipalities and wards, and progressively move people 'up the water ladder' and out of poverty.

There are significant poverty levels in some of the municipalities, where up to sixty-one percent (61%) of households still get their water from rivers or streams. Umgeni Water's bulk potable water supply and capital investment plans attempt to address these challenges. In respect of expenditure, Umgeni Water is driving more than R1 billion, which comprises thirty-five percent (35%) of its total capital expenditure commitment, to develop and extend water infrastructure to rural areas.

The infrastructure projects are all designed to provide sixty (60) litres of water per person per day, as compared with the twenty-five (25) litres of water per person per day, which will enable municipalities to reduce household water backlogs as well as sustain livelihoods.

Seven (7) of Umgeni Water's rural development programmes are summarised in the section that follows:

- **The Ngcebo Bulk Water Supply Scheme**, will supply potable water to 16,656 people in eight (8) rural communities in Maphumulo Local Municipality, at a cost of R35 million.
- **The Maphumulo Bulk Water Scheme**, will supply potable water to 149,756 people in rural areas in iLembe District Municipality, at a projected cost of R255 million.

This development together with the Ngcebo scheme will significantly reduce the sixty-one percent (61%) water backlog in the Maphumulo Local Municipality.
- **The Mhlabatshane Bulk Water Scheme**, will supply potable water to 100,962 people in ten (10) formally tribal areas in Ugu District Municipality and Mzumbe Local Municipality, at a projected cost of R155 million.
- **The Ozwathini Bulk Water Supply Scheme**, will have capacity to serve 80,000 rural people in the uMgungundlovu District Municipality and iLembe District Municipality, at a projected cost of R148 million.
- **Maphephethwa Water Treatment Works Upgrade**, will secure potable water supply for 35,000 people in the rural Inanda area in eThekweni Metropolitan Municipality, at a projected cost of R36 million.
- **Richmond Bulk Water Supply Pipeline**, will convey potable water to serve 98,000 people at a projected capital cost of R121 million, and will reduce the water backlogs in the Richmond Local Municipality.
- **Upgrades of Ndwedwe Reservoirs 1 & 2** at a projected capital investment of R16 million will ensure sufficiency in potable water storage capacity and secure supplies for the growing demands in rural areas of Ndwedwe, in the iLembe District Municipality and eThekweni Metropolitan Municipality.

Umgeni Water is confident that progress made with these developments will help reduce community vulnerability by:

- Providing assurance of supply for drinking water and other crucial domestic uses,
- Ensuring adequacy of sixty (60) litres of water per person per day, as an imperative for community livelihoods, including food security,
- Ensuring water sufficiency to support community income generating activities, and,
- Mitigating the impacts of climate change, through securing one dam per local municipality in vulnerable areas.

A further description of these infrastructure developments follows.

Ngcebo Bulk Water Supply Scheme

The Ngcebo Bulk Water Supply Scheme was developed to supply rural communities in the uThukela Valley in Maphumulo Local Municipality in the iLembe District Municipality.

The development comprised:

- Upgrade to the Ngcebo Water Treatment Works, construction of a reservoir and raw and potable water pipelines.

Construction of the Ngcebo Scheme was completed in 2009/2010 at a cost of R35 million and secured potable water to 16,656 people in eight (8) rural communities in Maphumulo Local Municipality, as per **Table 10**.

Table 10: Population served through the Ngcebo Bulk Water Supply Scheme

Area	Population
Ngcolosi & Ekuthadzeni	2,016
Ngcolosi	1,368
Ngubane & Washi	3,424
Ekhata, Mambulu & Kwahlongwa	4,304
Mambulu	688
Mabomvini	680
Eshabe	2,376
Mangongo	1,800
Total	16,656

Maphumulo Bulk Water Supply Scheme

The Maphumulo Bulk Water Supply Scheme development will extend a sustainable and reliable supply of potable water to the rural communities in the iLembe District Municipality in and around Maphumulo town.

The first phase of construction will spread over four (4) areas:

- A 6,000 cubic metres per day water treatment works,

- Maphumulo Pipeline,
- Maqumbi Pipeline, and
- Ashville Pipeline.

The Mmvutshane Dam, which will have a capacity of 3.2 million cubic metres will be developed in the second phase.

As at the end of the reporting period, the water treatment works and pipeline developments were all entering construction stage.

The construction of the water treatment works will enable potable water to be provided to 38,140 people in the town of Ngcebo.

Construction of the Maphumulo Pipeline will ultimately provide potable water to:

- 4,872 people in Maphumulo,
- 17,248 people in Masibambisane,
- 17,192 people in Kwasizabantu, and
- 13,250 in Ngcebo.

Construction of the Maqumbi Pipeline will provide water to 26,280 people in Maqumbi and 21,510 people in Ngcebo.

Construction of the Ashville Pipeline will provide water to 11,264 people in Ashville.

The construction of the Mvutshane Dam will be undertaken in 2013, and once completed will firmly secure the raw-water supply for the Maphumulo Bulk Water Supply Scheme.

Umgeni Water's projected capital investment for this development is R255 million, which will secure potable water supply to a total of 149,756 people in iLembe District Municipality in and around Maphumulo (further details shown in **Table 11**).

Table 11: Population served through the Maphumulo Bulk Water Supply Scheme

Area	Population
Maqumbi	26,280
KwaMaphumulo	4,872
Masibambisane	17,248
Kwasizabantu	17,192
Ngcebo 2 RWSS	72,900
Ashville	11,264
Total	149,756

Mhlabatshane Bulk Water Supply

Umgeni Water is currently implementing a bulk water supply scheme with Ugu DM that will reduce water services backlogs in certain rural areas in the Mzombe and Hibiscus Coast Local Municipalities.

This includes construction of:

- The Mhlabatshane Dam, of capacity 3.65 million cubic metres, to secure the bulk supply, and
- A 3,300 cubic metres per day water treatment works.

Potable water will be supplied to Ugu DM for reticulation through an extensive gravity-fed network to rural communities.

Table 12: People to be served through the Mhlabatshane Scheme

Supply Zone	Population
Bhekani	1,197
Nhlangwini (west)	25,401
KwaCele 1	11,723
Hlubi	4,826
Mabhaleni (west)	10,426
KwaCele K	9,519
Frankland	4,200
Qwabe P	6,360
Shabeni	16,605
KwaMadlala	10,705
Total	100,962

Community Sustainability continued

The development was entering construction stage at the end of the review period. The projected cost for this development is R155 million, and will secure supply to a total of 100,962 people in ten (10) formally tribal areas (Table 12) of Ugu District Municipality and Mzumbe Local Municipality.

Ozwothini Bulk Water Supply Scheme

The Ozwothini Bulk Water Supply Scheme will supply potable water to rural communities within Mshwati and Ndwedwe local municipalities, in the iLembe and Umgungundlovu District Municipalities.

This development was entering the design phase at the end of the review year and includes:

- The construction of a dam of capacity 5.5 million cubic metres, on the Sikoto river, that will secure the water supply, and
- A 6,000 cubic metres per day potable water treatment works.

Construction of the scheme will take two years to complete. The projected capital cost is R148 million, and will have capacity to serve 80,000 people with 75 litres of water per day.

Maphephethwa Water Treatment Works Upgrade

The Maphephethwa Water Treatment Works is located in the rural Inanda area in the eThekweni Metropolitan Municipality. Rapid increases in demand triggered the need for an upgrade to the works to secure supply to the area.

At the end of the review period, the detailed design for the upgrade was complete and the development was entering the construction phase.

The development comprises:

- Two (2) package plants with a combined capacity of 500 cubic metres per day, already installed to augment the supply from the slow sand filters, and

- Upgrade of the water treatment works from 750 cubic metres per day to 5,000 cubic metres per day, by constructing a conventional water treatment works.

The projected cost for this upgrade is R36 million, which will secure potable water supply for 35,000 people.

Richmond Bulk Water Supply Pipeline

Umgeni Water is developing a bulk water supply pipeline that would secure water services to the town of Richmond and surrounding areas in the uMgungundlovu District Municipality.

The development will include:

- The construction of a pipeline, 30km long, to convey 27,000 cubic metres of potable water per day, and
- Construction of a 5,000 cubic metres storage reservoir.

Creating Value for Communities

As at 30 June 2010, work on the final design was largely complete. Construction of the infrastructure is scheduled to begin in July 2012 for completion by December 2013.

The projected cost for this development is R121 million and can supply 98,000 people, to effectively reduce the water backlogs in Richmond Local Municipality.

Ndwedwe Reservoirs 1 & 2 Upgrades

Umgeni Water commenced upgrades to two (2) reservoirs, Ndwedwe Reservoirs 1 and 2, in response to increases in water demands in the iLembe District Municipality and eThekweni Metropolitan Municipality.

These reservoirs were under construction at the end of the review period.

The projected cost for this development is R16 million and will enable sufficiency in storage capacity to serve the growing demands in rural areas in Ndwedwe.

Umgeni Water, through a combination of infrastructure to ensure resource sustainability, through construction of small water resource dams, and development and extension of reliable bulk potable water infrastructure, is enabling water for rural development and thereby contributing to the creation of vibrant, equitable and sustainable rural communities.

In addition to its capital infrastructure development programme to extend water services to rural areas, Umgeni Water renders implementation support to government for several other programmes, including:

- implementing water and sanitation programmes for schools and households,
- implementing working for water programmes, and
- providing strategic interventions to municipalities outside its main supply area.



Improving the Quality of Life of Communities through Water & Sanitation

Umgeni Water provides support to four (4) key programmes:

- Schools Sanitation,
- Households Sanitation,
- Schools Building, and
- Schools Borehole Water.

Schools Sanitation

Umgeni Water continued to collaborate with the KwaZulu-Natal Department of Education (DoE) and Department of Water Affairs (DWA) to address water and sanitation backlogs in schools, and create local employment and contractor empowerment.

Work in the past year saw successful completion of Phase Seven (7) of the schools sanitation programme. Nineteen (19) schools were successfully provided with sanitation infrastructure; of which eight (8) are part of the Department of Education programme and eleven (11) are part of the Department of Water Affairs programme.

With regards to the type of infrastructure provided: Urban schools were provided with flush toilets discharging either to septic tanks or to municipal sewer lines, whilst proper VIP toilet facilities were provided to rural schools.

Over the years, since Umgeni Water first embarked on providing implementation support to the schools sanitation programme in 2005, it has successfully provided sanitation infrastructure to over 231 schools, equipping them with in excess of 25,100 toilet seats, and benefiting a total of 161,000 learners, as well as, educators.

The schools sanitation programme is to be applauded for the difference it is making to the lives of learners. However, the DoE schools programme still reflects a backlog of about 200 schools in the province. Due to the enormous support received from Umgeni Water, the Department of Education has requested Umgeni Water to assist with Phase Eight (8) of the programme in the coming year.

Households Sanitation

Umgeni Water continued to implement household sanitation programmes, in partnership with the iLembe District Municipality and uMgungundlovu District Municipality.

In the past year, these programmes were nearing completion with eight (8) out of nine (9) completed. 3,375 households were provided with VIPs, benefiting over 25,000 people.

In implementing these programmes, a labour intensive approach to construction was successfully used and returns on the training were apparent by the increased productivity of the builders who had been trained.

Furthermore, employment of woman during construction has empowered them with skills in slab making, amongst other skills.

The successful completion of these projects further enabled Umgeni Water to lend support to the following national and international sanitation awareness events:

- Promotion of National Sanitation Week,
- Promotion of National Water Week,
- Promotion of World Toilet Day, and
- Promotion of Global Hand-washing Day.



Schools Building

The schools building programmes encompass, rebuilding of mud schools, renovation of boarding schools, and building of school libraries, laboratories, and computer facilities, with the latter referred to as curriculum upgrade.

Mud Schools Programme

In an effort to contribute to literacy, Umgeni Water embarked on this programme which entailed the construction of new school buildings and demolition of the old mud buildings. It is noteworthy to report that within the period under review, four (4) schools that initially had either mud or corrugated iron structures now have face brick facilities with running water and electricity.

Boarding Schools

Further to the mud schools programme, Umgeni Water ensured that four (4) historically disadvantaged boarding schools were renovated and restored to establishments that are conducive to living and learning.

Curriculum Upgrade

The Curriculum Upgrade Programme entailed building laboratories, libraries and computer rooms at twelve (12) schools in the past year.

To date, Umgeni Water has built a total of fifty-two (52) such facilities.

Collaboration with the Department of Education's Education, Library Information & Technology Service, since inception of the programme, has proved a critical success factor for the sustainable management of the facilities.

Schools Borehole Water Programme

DWA Borehole Drilling Programme

In the past year, Umgeni Water was also requested to provide schools with water as part of a Department of Water Affairs borehole programme.

All 223 schools on the programme, located in the Ugu District Municipality, eThekweni Metropolitan Municipality, Sisonke District Municipality, iLembe District Municipality, uMgungundlovu District Municipality, as well as Uthukela District Municipality were visited.

In response to the assessments, Umgeni Water provided ninety-one (91) schools with borehole mono pumps and submersible pumps.

The remaining sites investigated were found to either have a reliable municipal source or were not suitable for borehole supply due to unsustainable water levels (dry during drilling), as well as unsuitable quality for drinking water use.

Through implementing these various water and sanitation programmes, Umgeni Water has ensured that it could contribute to the eradication of water and sanitation backlogs for households and schools and support sustainable rural development.



Bulk Water Services Support to Municipalities: OR Tambo District Municipality

Over and above its core mandate, Umgeni Water continues to provide ongoing water services support to municipalities. In particular, Umgeni Water is providing support to the O R Tambo District Municipality in terms of four strategic interventions.

Progress made with these interventions in the past year has enabled Umgeni Water to assist the municipality in

securing the water supply to a predominantly rural part of Eastern Cape.

The 1st Intervention was **N**ormalising the Bulk Water Supply Infrastructure in the town of Mthatha

This intervention has successfully been completed.

Work undertaken included performance evaluation of the Mthatha bulk water supply system comprising, Thornhill Water Treatment Works to Fort Gale Reservoir and Pump Station, Signal Hill Reservoir Site, and Owen Dam Reservoir Site.

These components form a sub-system within the bulk water supply network of the town of Mthatha.

The partnership developed between Umgeni Water, the Department of Water Affairs and O R Tambo District Municipality was central to ensuring the successful completion of this intervention and facilitating the future interventions.

Creating Value for Communities

The 2nd Intervention was Master planning for Mbizana, Qaukeni (Ngquza Hill) and Ntabankulu LM

This intervention is also complete and included studies at a reconnaissance level for Mbizana Local Municipality, Ingquza Hill Local Municipality, and Ntabankulu Local Municipality.

The detailed feasibility study for the Bulk Water Supply System for Ingquza Hill Local Municipality has been proposed as the next stage.

The 3rd Intervention is Implementation of the Mbizana Regional Bulk Water Scheme

This intervention is progressing well and comprises a number of components:

- Development of the raw water supply system,
- Upgrade of the Nomlacu Water Treatment Works, and the bulk potable water supply system,

The implementation of the 1st Phase of the Mbizana Regional Bulk Water Scheme is progressing well.

The completion date of this project is planned to coincide with the proposed Ludeke Dam development scheduled for mid-2012.

The 4th major intervention is Turnaround of water services delivery in O R Tambo DM.

The work has been scoped around ten strategic outcomes that would ensure effectively managed water services in the O R Tambo District Municipality.

Implementation is proposed for the coming year.



Creating Jobs & Empowering Local Service Providers

The spend efficiency for 2009/2010 was 5,427 work days per R1 million spend. (Figure 11). This compares very favourable to the Minister's future year's target of 3,565 days of work for every R1 million spend.

- Recommendation of one (1) of the three (3) contractors by the landowner to his neighbour, which resulted in him obtaining clearing work for a further eight (8) months; and
- employment of contractors by Umgeni Water for clearing sites in the vicinity of its bulk water supply infrastructure.

Working for Water

Umgeni Water continues to implement the Working for Water programme in the Mvoti to Mzimkhulu Water Management Area (WMA), which is closely aligned to Umgeni Water's gazetted supply area. Alien plant clearing is undertaken in five (5) catchment areas: Upper Mgeni (Lions), Mgeni Valley, Nagle, Karkloof, and Mvoti, which are all strategic water supply catchments for Umgeni Water.

In 2009/2010 over 30 km² of land was cleared and created 24,964 days of work.

Umgeni Water employed twenty-seven (27) contractors to effect this clearing, each with an average team of eleven (11) people. All contractors and their employees were provided with functional and developmental training, through the Department of Labour, to increase their capabilities and enable easier access to the formal job sector at the end of the programme.

Some of the successful job spin-offs in the past year included:

- Employment of three (3) contractors in the Umgeni Valley project area by a private landowner to undertake further alien plant clearing and maintenance;

Participation in this DWA initiative of job creation through water resources management has enabled Umgeni Water to both support the strategic priorities of government and contribute to assurance of supply in the Mgeni system.

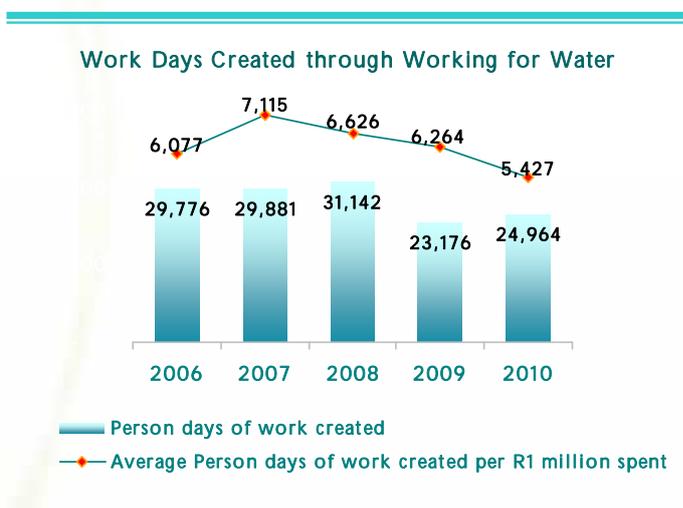
Employment Creation Through Capex Infrastructure Development Programme

In implementing its capital infrastructure development programmes, Umgeni Water ensured it created employment opportunities and developed skills. R10 million of the Capex spend was on job creation for projects, as described further below, with a total of 378 jobs created. All construction projects provided opportunities for bricklaying, and welding, as well as employment of semi-skilled, and general workers.

With regards to Capex projects:

The DV Harris to World's View Pipeline project, which was completed in May 2010, created a total of 112 jobs during the construction period, at a cost of R3.3 million;

Figure 11: Job Creation Trend through Working for Water Implementation



Creating Value for Communities

The Ngcebo Bulk Water Supply Scheme, completed during the year, created a total of 139 jobs during the construction period, as a cost of R1.1 million;

The Durban Heights Pump Station, completed during the early part of the year, created a total of twenty-one (21) jobs during the construction period at a cost of R 0.58 million; and

The Avondale to Honolulu Pipeline, commissioned in December 2009, created a total of 106 jobs during the construction period at a cost of R5.13 million.

Contractor Development Through Water & Sanitation Programme

Umgeni Water continued to implement its water and sanitation programmes to further job creation and empowerment, whilst ensuring efficient use of natural resources.

During 2009/10, a total of 2,348 people were employed across all water and sanitation programmes.

This included thirteen (13) emerging contractors who employed 961 local people through sanitation construction projects.

The organisation is furthermore pleased with the institutional development support that it provided to contractors, which has continued from the previous year, and enabled contractors to progressively improve their grading levels.

Current contractors that have a 1GB CIDB grading will be developed to a 2GB level through skills training and development programmes.

Four (4) contractors were awarded three (3) projects each, valued at 1GB level. Through this empowerment, the four (4) contractors will in future successfully qualify for 2GB level projects. Umgeni Water will continue to assist emerging contractors in this way.

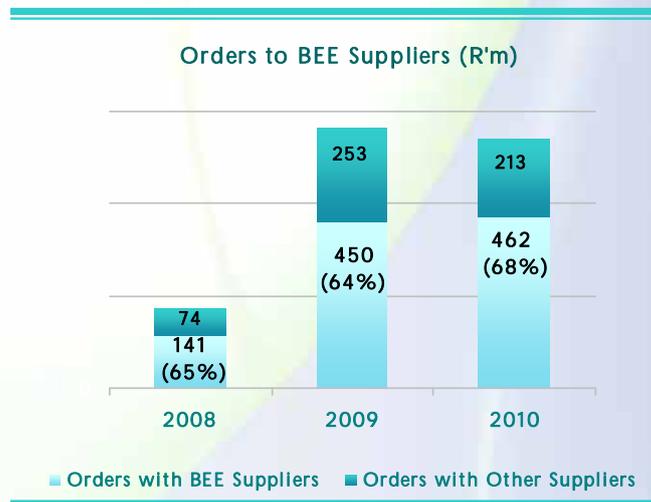
Of the thirteen (13) BEE compliant contractors that worked on water and sanitation projects in 2009/10, six (6) of the thirteen (13) contractors were 100% woman owned, two (2) contractors were partly woman owned and only five (5) 100% male owned.

Our support for Local supplier development further resulted in contractors using seven (7) BEE plant hire firms, whilst two (2) companies developed into plant hire firms due to the exposure received from working with Umgeni Water on the schools sanitation programme.

Local Economic Empowerment through Preferential Procurement Spend

The organisation remains committed to a policy of preferential procurement and for 2009/2010 had set a target of sixty percent (60%) spend, to be based on orders placed with emerging contractors. As at 30th June 2010, sixty-eight percent (68%) was achieved. (Figure 12).

Figure 12: Preferential Procurement Spend



Developing Communities Through Water Education

Umgeni Water has several internal programmes for providing education and awareness and building institutional capacity and support for schools and communities.

The organisation's Education Programme is inspired by a vision of communities that are environmentally literate and actively take charge of transforming their own environments to promote sustainable development.

Awareness through Water Classroom Programmes

Umgeni Water has water classrooms at four (4) of its sites, namely Midmar Water Treatment Works, Darvill Wastewater Treatment Works, Durban Heights Water Treatment Works and Hazelmere Water Treatment Works. These sites provide highly effective environments for water and environmental health related learning.

During 2009/2010 Umgeni Water ran a total of 126 water classrooms at its sites.

Awareness programmes on water supply, water treatment, health and hygiene, water pollution, water conservation and climate change dominated the past year's programmes, and were all enthusiastically taken up by the learners.

Learners were further provided with opportunity for site tours, thus receiving first hand experience of the water treatment process and embedding concepts that would influence their future behaviour towards water and its conservation.

In the past year, approximately 7,887 learners were engaged through Umgeni Water's classroom programmes.

Rivers and Streams Schools Clean-up Campaigns

Umgeni Water embarked on a clean-up campaign of streams in the Msunduzi Local Municipality, in the vicinity of the Slangspruit and KwaDambuza areas with six (6) local schools.

This initiative resulted in 150 learners collecting more than 400 bags of trash dumped along the watercourse and banks of streams that flow into the Msunduzi River, a tributary of Mgeni River.

Prior to the clean-up, most of the participating schools had been involved in awareness programmes and hands-on activities including Mini-Sass. The learners were therefore aware of the impacts of pollution on rivers and streams and were very enthusiastic in the clean-up.

The schools were encouraged to continue to maintain the streams by adopting the spots and ensuring that the education, regarding the impact of littering, was spread to the wider community.

Adopt a Schools Programme

In its endeavour to create an environment conducive to quality learning, Umgeni Water adopted four (4) schools during 2009/2010:

- Two (2) in the eThekweni Metropolitan Municipality area, Sarasvati Primary and Bazamile Primary,



Creating Value for Communities

- One (1) in iLembe District Municipality, Juluka Ndoda Primary, and
- One (1) in uMgungundlovu District Municipality, Ndodembi Primary.

Umgeni Water's Adopt a School Programme aims to assist schools in improving conditions at the school thereby impacting positively on the quality of life of their learners. It further assists schools in developing and maintaining environmental management systems and plans, establishing food gardens, and in accessing programmes to improve infrastructure.

Some of the activities at particular schools during the year included:

- Sponsoring provision of seeds, at two (2) of the schools, to support food gardens, and engaging the Department of Agriculture, Environmental Affairs and Rural Development to assist with setting up food garden and permaculture training,

- Building waste management awareness at one of the schools,
- Placing one school on the DWA School Sanitation Programme and initiating the process for upgrading its sanitation, and
- Facilitating water classroom education and works tours for two of the schools, whilst further providing career guidance to learners.

Institutional Support and End-User Education

Umgeni Water remains committed to the long-term sustainability of the infrastructure it has invested in. Fundamental to this, is end-user education, and institutional support before, during and after infrastructure development projects are implemented.

In support of the schools and households sanitation programmes completed in 2009/2010, fourteen (14) of nineteen (19) schools were provided with end user education and 284 of 337 target households (10%) were visited.

Institutional support and development interventions were provided for twenty (20) of Umgeni Water's bulk water supply projects (pipelines, dams, reservoirs and water treatment works). This included, building awareness of the intended construction, discussing concerns with communities, capturing their inputs, and engaging in servitude negotiations with landowners, amongst other.

These interventions made it possible for Umgeni Water to maintain good relations and build mutual trust with communities, which ensured ownership and sustainability of the water and sanitation infrastructure that was installed.

