WATER RESEARCH COMMISSION
ANNUAL REPORT 2009/10

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GROWING knowledge for south africa's WATER FUTURE

When a baby is born we nurture it and protect it. And as it grows we live with the hope that with our support it will grow and prosper and reach great heights. So it is with every new initiative of the WRC. Some ideas take off quickly, others take longer to grow and develop. In the end all of the Commission's efforts are aimed at growing the armoury of knowledge needed to stave off challenges and ensure a better water future for all citizens.

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MISSION

The WRC is a dynamic hub for water-centred knowledge, innovation and intellectual capital.

We provide leadership for research and development through the support of knowledge creation, transfer and application.

We engage stakeholders and partners in solving water-related problems which are critical to South Africa's sustainable development and economic growth, and are committed to promoting a better quality of life for all.

VISION

To be a globally recognised leader in providing innovative solutions for sustainable water management to meet the changing needs of society and of the environment.

Growing knowledge for south africa's water future

CHAIRPERSON'S ADDRESS 2009/10

The governance and management of South Africa's precious water resources are critical to the country's economic growth and the wellbeing of its citizens. In this regard the WRC research supports government's overarching objective of ensuring water for economic growth and sustainable development. Stakeholders are consulted widely to set strategic research priorities. Our researchers are actively generating knowledge and making a difference to the water problems the country faces.

It is a great pleasure to report on the year's activities. The year 2009/10 has been a busy and productive one: 284 research projects were supported, 57 projects were finalised and 102 reports published. There has been an increasing trend over the years towards medium- to long-term research projects that are consortia-based and address complex issues, often calling for more than one research discipline.

Relevance

Research projects have had a significant impact on social, health and economic issues as well as the sustainability of the environment as indicated in the highlights section of this report. The WRC strives to measure this impact and therefore specific studies investigated research investment in the following areas; eutrophication, biological nutrient removal, estuaries research, wetland research and irrigation scheduling for efficient water use in food production. Consistent funding has provided the knowledge that is needed to develop policies and strategies to address these issues.

In our water scarce country, water conservation and demand management remains a priority. We need to prevent wastage and provide for people, economic growth and the ecological reserve to protect the environment. Through research, important contributions have been made such as the Water Administration System (WAS) which manages agricultural water resources to prevent wastage and is used at all major irrigation systems throughout South Africa. Excellent research has also been done through the WRC on alternative water sources such as desalination, recycling of wastewater and groundwater resources. Two

serious water quality issues are eutrophication and AMD (acid mine drainage) where research is active.

Other relevant outputs include a comprehensive set of training material to enhance food security through productive homestead gardening. The material has been tested and refined with the assistance of households in rural villages. This research translates to healthy communities and a better and secure water future for all.

WRC initiated the re-launch of the Adopt-a-River programme in collaboration with the Department of Water Affairs (DWA) during Water Week at Eerste River, Western Cape. Our water resources require protection so that they can deliver the goods and services that we are dependent on. This programme encourages citizens to actively participate in their protection and management by 'adopting' rivers near to them. Wetland protection is one step further through the publication of a new set of integrated tools *(WET Management Series)* for wetland monitoring and management.

Innovations

Innovations by researchers were the lightweight VIP (ventilated improved pit latrine), an integrated digital guide for the design and operation of sewerage systems, methods for measuring evapotranspiration through remote sensing and innovative products to assist with the emptying of pit toilets. As South Africans we have the capacity to develop many innovative solutions for the water sector as the Youth Water Prize winners from Prince Mkhombisi High School showed us. They developed an Auto Mechanical Tap that helps rural communities waste less water.

In the year under review WRC acknowledged researchers for innovation excellence. Professor Ed Jacobs (University of Stellenbosch) and Professor Lingam Pillay (Durban University of Technology) were congratulated at a special WRC event for the development of the Capillary Ultra Filtration membrane technology that addresses the challenges of water provision to peri-urban towns, schools, clinics and farms. Also awarded for his innovation was Dr Wade Edwards, who developed the Dual-stage Membrane Bioreactor Process Technology.

Successful new initiatives

A key challenge is to develop future researchers as well as skilled human capital for the water sector and so it is pleasing to note the formation of the Young Water Professionals Network. WISA and the WRC led the *1st Southern African Young Water Professionals Conference* in January 2010. This was well supported with delegates attending from South Africa as well as various African countries.

A large number of research proposals were submitted for possible funding in 2009 indicating a growing research community which requires support. For this reason a one-day course (WRC 101) for aspiring and new project leaders was held which covered the research cycle, project management and administrative requirements of the WRC. The first course was 100% oversubscribed necessitating a repeat event.

Sharing knowledge

Disseminating knowledge and increasing public understanding of water issues remained a priority for the WRC in the past year. There were a number of conferences, exhibitions, open days and technical workshops. An important investment has been the new WRC website which is now content based and searchable. It contains all published documents allowing users to search 40 years of research. This is one step closer to the goal of an Electronic Water Knowledge Hub (EWKH), which will be a world-class digital water information centre.

Knowledge allows for good decision-making and the WRC strives to ensure that research findings are communicated and made visible.

It is pleasing to see the active role that the WRC plays in a number of international initiatives aimed at meeting the world's water challenges. For example there is collaboration with the Global Water Research Coalition (GWRC) in research programmes addressing algal toxins, asset management and energy efficiency in the water industry. The WRC contributed to the South African position paper in preparation for the United Nations Framework Convention on Climate Change. Input was made to the *United Nations Climate Change Conference (COP15)* and negotiations in Copenhagen in December 2009 by providing support on strategic water issues as and when required by the Ministry and the Department.

Organisational goals and objectives

The WRC uses the key performance areas of stakeholder relationships, financial perspectives, learning and innovation, internal processes and organisational transformation to direct the organisation. Indicators are assessed and revised annually and I am pleased to report that the organisation achieved an excellent performance in the year under review.

It is with sadness that WRC said goodbye to some key personnel who through their dedication and hard work have contributed to the success of the WRC over the years.

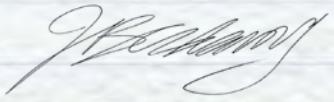
Ms Ingrid Buchan, Science Editor for the WRC's academic journal *Water SA*, retired at the end of 2009. Before this she received the *Aqua Vita Est Award 2009* from the Water Institute of Southern Africa (WISA) for her outstanding contribution to science.

Appreciation

The skills and commitment of the small staff component of the WRC ensure that the organisation is well run, thank-you to all for your hard work.

I thank all Board members for their input and support. In the year under review the Board has provided strategic direction and aligned research activities with Government priorities. The Board received training on co-operate governance issues covered by the *King III* report, thereafter a gap analysis was undertaken to identify new responsibilities.

I would like to thank Minister Buyelwa Sonjica and the DWA for the support provided to the WRC. We look forward to working together to provide the knowledge needed to address challenges in the water sector. Let us harness the positive energy of 2010 to achieve success in our endeavours.



Prof JB Adams

Chairperson of the Board

HIGHLIGHTS

When a baby is born we nurture it and protect it. And as it grows we live with the hope that with our support it will grow and prosper and reach great heights. So it is with every new initiative of the WRC. Some ideas take off quickly, others take longer to grow and develop. In the end all of the Commission's efforts are aimed at growing the armoury of knowledge needed to stave off challenges and ensure a better water future for all citizens.

Whether aimed at developing new technologies for water and wastewater treatment and pollution prevention, discovering better ways to manage our water resources or improving water and sanitation services to our communities, these initiatives are not undertaken in isolation. In all its pursuits, the WRC aspires to grow its partnerships with sector role-players, both locally and across the border, while at the same time growing sector research capacity, leveraging expertise and supplying innovation across South Africa.

One of the most important activities of the WRC is knowledge dissemination, with the Annual Report being one of its most important knowledge-sharing platforms. In this chapter we highlight the best on offer from the WRC research portfolio of 2009/10.

GROWING HEALTHY COMMUNITIES

Enhancing household food security

Food, or the lack of it, is one of the greatest factors affecting the nutritional status of children in South Africa. The role of household food gardens has been recognised as an important weapon against the scourge of malnutrition, especially in rural and peri-urban areas. During 2009 the WRC developed a comprehensive set of training materials to enhance food security through productive homestead gardening. The 800-page resource material for facilitators pays particular attention to the use of agricultural water in homestead gardening systems. The development of the resource material followed a participatory approach and was field tested and refined with the assistance of food secure and insecure households in rural villages. The resource material draws widely from local and international materials and experience. Its usefulness in practice has been substantiated by facilitators who were not part of its development. Universities and agricultural colleges, in particular, have shown significant interest in the material.

Keeping small water treatment plants in good working order

Many rural towns in South Africa are served by small water treatment plants, and millions of people depend on these plants for their daily ration of clean drinking water. Several studies have shown that the selection and implementation of the correct water treatment system is only the first step in ensuring sustainable supply of potable water to small communities. Following the correct operational and maintenance procedures is of even greater importance for sustainability of supply. Many local small water treatment plants experience problems in operating on a sustainable basis due to a number of technical and human factors. To assist these small water treatment plants, the WRC has produced a user-friendly manual that identifies the various technical issues related to operation and maintenance of small water treatment plants, which impact upon the quantity and quality of potable water before distribution. The manual provides technical guidelines for small water treatment plants and can be used as a general reference for everyday, practical operation and maintenance in all categories of small treatment plants found in South Africa.

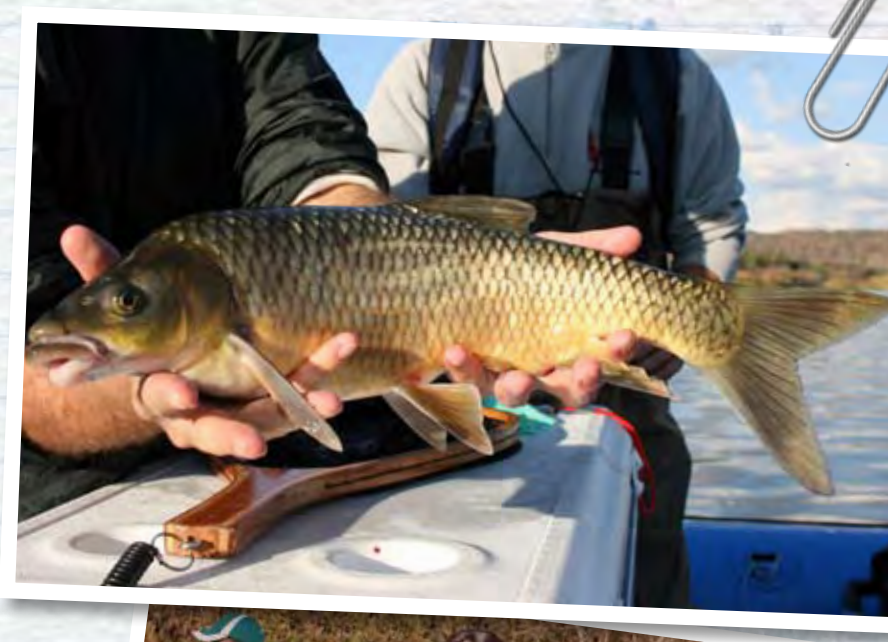
WATCHING OVER THE ENVIRONMENT

Monitoring stress in angled fish

'Catch and release' fishing – where the fish is released almost immediately after capture – has become a popular conservation strategy among recreational anglers across the world, including South Africa. In recent years, however, a global debate has started among fishing circles questioning the benefits of this approach. The WRC funded a study – the first of its kind in South Africa – to determine the sub-lethal effects of catch and release fishing on smallmouth yellowfish (*Labeobarbus aeneus*) in the Vaal River. Results indicated that the fish experience significant stress during angling, which can negatively affect their growth and spawning activities. This means that catch and release could, in fact, be negatively affecting fish populations rather than helping to conserve the species.

Conserving freshwater ecosystems

During the year under review the WRC also led a study that looked at the cross-sector policy objectives for conserving freshwater ecosystems. The study supports the national goal of conserving a sample of the full variety or diversity of inland water ecosystems that occur in South Africa, including all species and habitats, landscapes, rivers and other water bodies in which they occur, together with the ecosystem processes responsible for generating and maintaining this diversity for present and future generations. The WRC study proposed a reflective assessment process that involved a multi-agency workshop in which representatives, both individually and collectively, reflect on and score the factors affecting cooperation. With the use of reflective assessment through this spreadsheet tool, awareness of the issues affecting cooperation is fostered and focused attempts to address problems are achieved.



Tackling wetland degradation

Wetlands are fascinating and dynamic ecosystems that provide indispensable services. Unfortunately up to 60% of South Africa's wetlands have been lost to degradation. To safeguard the remaining wetlands of the country, the WRC has published a new set of integrated tools for wetland monitoring and management. The *WET Management Series* of handbooks stems from the National Wetlands Research Programme, an initiative of the WRC. The series of booklets offer a sound scientific base for planning, implementing and evaluating wetland rehabilitation, providing guidelines to develop an overall planning framework; assessing the condition of catchments and individual wetlands; assessing the functions and value of individual wetlands; evaluating the need for rehabilitation; identifying why wetlands degrade and what rehabilitation interventions are appropriate; guiding the selection and implementation of rehabilitation methods; and monitoring the success of rehabilitation projects.

Taking care of our rivers

Pollution of South Africa's rivers remains one of the country's greatest challenges and very few of the country's rivers remain untouched by pollution from industrial, mining, domestic and/or agricultural sources. The Adopt-A-River Programme has drawn the attention of environmentalists worldwide. The aim of the programme is to create awareness among South Africans about the importance of caring for our scarce water resources and to encourage citizens to actively participate in their protection and management by 'adopting' rivers near their towns or cities. The WRC is one of the custodians of the programme and forms part of the national steering committee. The WRC worked closely with the DWA to re-launch the Adopt-A- River Programme. The launch, by the Deputy Minister of Water and Environmental Affairs, took place during *Water Week 2010* at Eerste River, outside Stellenbosch in the Western Cape. The Eerste River, which is fed by the Kuils and Plankenberg Rivers, is affected by sewage and stormwater runoff from surrounding informal settlements, industries and agricultural practices along its banks. The river was subsequently adopted by the Winelands District Municipality, who vowed to set an example for neighbouring local authorities.

SUPPORTING A SUSTAINABLE ECONOMY

Mitigating impacts from mines

Mining has formed the backbone of the South African economy for more than a century, generating millions of Rand in revenue and providing employment for thousands of people. Unfortunately, the mining sector has also left a legacy of pollution. To mitigate the impact of mining, the WRC has supported research related to mine-water management since 1989. A 2009 study examined the impact of this prolonged research support to the mining sector. The report provides a concise assessment (to date and also future potential impact) of the impact of WRC mine-water related research investments and products on South African society. A number of case studies are reported as examples of the benefits or cost savings that are accruing to the socio-cultural, economic, political, technical and environmental aspects of South African society. All of the impacts identified during the project clearly reflect that WRC research on mine-water management has had a positive impact across economic, environmental, social and health aspects of South African society.

Expanding knowledge on greener fuels

The WRC instigated a study to assess both the potential growing areas for, and water use of, potential biofuel feedstock in South Africa. In particular, the project draws upon information from the *South African Atlas of Hydrology and Agrohydrology*. The study showed that, based on climatological drivers only, Canola, Sugarbeet, Jatropha curcas and possibly Sweet Sorghum have the potential to have expanded production areas. Output from the analysis is presented in a series of maps which show that under dryland conditions only Sweet Sorghum may have the potential to use substantially more water than the reference vegetation. An analysis of the areas of uncertainty is complemented by a review of national and international literature, and provides a summary of key research needs regarding the water use of biofuel feedstock crops in South Africa.

Improving service delivery

Despite the drafting of a Free Basic Sanitation strategy in 2004, the process of approval for this strategy has been slow because of its unforeseen complexity. Municipalities, already faced with the challenge of allocating the financial resources needed to meet the overly ambitious target of eradication, by 2014, of the basic sanitation infrastructure backlog, urgently require assistance in dealing with this complexity. The WRC identified a need to look at innovative and cost-effective ways of implementing subsidies for Free Basic Sanitation services in addition to providing basic sanitation infrastructure. Accordingly, the WRC funded a study to assess the experiences of municipalities in implementing Free Basic Sanitation services, as well as to develop economic and financial models that could provide the basis for recommendations on improving the delivery of these services to poor people. A particular emphasis was placed on subsidisation of Free Basic Sanitation services and innovative strategies and mechanisms to facilitate the implementation of the subsidy.

MEASURING THE LONG TERM IMPACT OF RESEARCH

Utilisation of groundwater

The WRC's long-term investment into groundwater research has made a considerable contribution in moving issues surrounding this 'Cinderella' resource into the spotlight, as a new impact study shows. For more than 35 years, the WRC has invested strategically in groundwater research, playing a significant role in capacity building for the sustainable utilisation and management of this resource in South Africa. Through the academic institutions that have developed and which had the benefit of this research investment, a significant human resource development impact has also been achieved nationally, in the southern African region, and on the continent as a whole.

Managing agricultural water resources

South Africa's commercial agricultural sector has well-developed infrastructure to address water scarcity and distribution challenges. Dams, pipelines and irrigation canals have formed the basis for growth in commercial farming through management and entrepreneurship. Dry conditions in South Africa require that water is carefully measured, managed and correctly allocated to farmers, who collectively account for approximately 60% of total water consumption. Water distribution and allocation systems in the agricultural sector are typically manually operated. These schemes are effective but cannot account for water losses and sometimes result in poor water utilisation with the knock-on effect of low productivity levels. The Water Administration System (WAS) was designed as a management tool for Water User Associations, Catchment Management Agencies and water management offices to effectively measure and manage agricultural water resources. The WRC embarked on this project to portray the benefit of its research investment, made in support of WAS. The WAS programme is currently used at all major irrigation schemes throughout South Africa and manages an irrigated area of more than 142 000 ha, including 9 500 farmers. Among others, the introduction of WAS has greatly reduced incidences of certain farmers exceeding their allocated quotas, has reduced spillages due to excessive water release and, overall has improved the utilisation and management of water for agricultural purposes.

SERVING THE SECTOR THROUGH INNOVATION

Tools for easier pit emptying

Ventilated improved pit (VIP) toilets are a basic form of sanitation serving millions of South Africans. However, the emptying of these pits when full is problematic, mainly due to space constraints and potential risks to people's health and the environment.

The WRC's quest to find solutions for the safe and efficient removal of sludge from full VIPs prompted research into the development of a small vacuum pump, which can be coupled to a separate tank. The 'Nanovac' can be carried to places which other technologies cannot access. Other innovations include the use of developed tanks such as a modified version of the 'Hippo roller', which incorporates a handle and can be rolled from the vicinity of the pit being emptied to a transfer tank or a transporting vehicle. Another WRC-funded study looked at the use of a motorised auger which extracts material from pits. Dubbed the 'Gobbler', this is a chain-based system.

Lightening the load of VIPs

In cases where VIP pit desludging proves difficult, new pits can be dug and the superstructure moved. With conventional brick-and-mortar superstructures this is near impossible; however research funded by the WRC has come up with a viable alternative. The University of Pretoria has developed an innovative light-weight moveable VIP superstructure. The prototype superstructure is constructed from pre-cast high-strength concrete panels. The whole structure, including the slab, weighs less than 500 kg, and uses advanced materials to achieve strength and robustness. The system has been developed as a modular unit which can be assembled in local communities by trained artisans. The product offers many advantages over existing products, most notably cost – it costs half as much as brick-and-mortar VIP structures to construct.

Refining tools for evaporation monitoring

South African water law makes provision for the licensing of those consumptive uses of water that result in streamflow reduction. Implicitly, this requires that such uses, largely due to evapotranspiration, be measured or estimated with an acceptable degree of accuracy. There are also other crucial issues related to water use and conservation in both the water and agricultural sectors, which cannot be addressed effectively in the absence of reliable and representative evaporation data. The latest methods in determining evapotranspiration involve the use of remote sensing. The WRC funded a project to review existing methodologies at national and international levels for estimating evaporation using remote sensing technology, with the ultimate aim of recommending those that have potential for application in South Africa. Aspects reviewed included different remote sensing data sources, models and methods of up-scaling instantaneous evaporation estimates to daily evaporation estimates, potential applications of spatial estimates of evaporation, operational examples of the application of remote sensing based evaporation estimation models and general shortcomings and research opportunities in this field. Four different models were identified and parameterised for seven different land uses and the energy balances and evaporation rates simulated were compared to field data collected with a range of methods, including eddy covariance and scintillometry, as methods suitable for use in South Africa. Stakeholders were also accordingly informed on these tools.

GROOMING FUTURE LEADERS

Nurturing young water professionals

Young water professionals (students and professionals in the water sector and under the age of 35) are the future of the water sector. The WRC led the establishment of a joint IWA-SA/WISA Young Water Professionals Programme. The aim of the Young Water Professionals Programme is to fulfil the present and future needs of the water and wastewater industries, which require the continuous development of a workforce which is both adequate in size, capable in skills and strong in leadership. To fulfil this aim, the South African Young Water Professionals body has the following objectives: provide opportunities for YWPs to meet and communicate, provide career development opportunities for YWPs, support employers with the recruitment and retention of YWPs and ensure the Programme remains relevant to YWPs. The YWP Programme provides a range of activities, services and initiatives to young professionals and students in the water and wastewater sector. As well as engaging with YWPs, the YWP Programme connects with employers, academic institutions and other professional associations to ensure that the future needs of the sector are understood and addressed. The *1st Southern African YWP Conference* was held in January 2010, under the leadership of the WRC Research Manager, Dr Jo Burgess, attracting a record number of delegates.

South African Youth Water Prize

The WRC continues to support the *South African Youth Water Prize*. This initiative has assisted South Africa to develop technological inventions that help in minimising the challenges that the water sector faces. The WRC sponsored laptops for national winners, Mzwakhe Sifundo Xulu and Njabulo Sihle Mbatha, from Prince Mkhombisi High School in Ntambanana Local Municipality, to assist them in their studies. The winners of the South African competition went on to compete for the *Stockholm Junior Water Prize 2009* in Sweden. Mzwakhe and Njabulo developed an Auto Mechanical Tap that helps rural communities waste less water. The two were inspired after they visited community taps and observed the volumes of water wasted. The Auto Mechanical Tap is a practical and inexpensive design that automatically closes when the container is full. It can be distributed where water is not available within households. The WRC Intellectual Property Manager is assisting the Department of Water Affairs in registering a patent for the new technology.

SAICE-DFC Water Schools Competition 2009

The SAICE and DFC Water Schools Competition 2009 was held at the Sci-Bono Discovery Centre in Newtown, Johannesburg, in July. This annual event is sponsored by DFC Water (Pty.) Ltd. and the WRC, and was hosted by the South African Institution for Civil Engineering. By supporting such initiatives, the WRC hopes to attract more young people to take up careers in water and so build much-needed capacity in the sector. The competition aims at creating awareness on water usage in South Africa, Grade 11 learners taking Mathematics and Science as subjects participate in the competition, which involves constructing a water distribution pipe network model. During the competition, participants are also taught about the water cycle, water resources, municipal water operations, and water conservation. The 2009 champions were from Grantleigh High School in Richards Bay, followed by the team from Hoërskool Duineveld in Upington in second place, and the team from Maritzburg College in Pietermaritzburg in third place.

Enhanced competency of researchers

The WRC has initiated a process of guiding emerging researchers, after noting a trend of research groups that are submitting proposals to the WRC for the first time. Established research groups also have new project leaders managing WRC projects. The WRC, like any other research-funding organisation, has project management and administrative requirements which could seem overwhelming. In response, the WRC has developed an informative 1-day course to enable aspiring and new project leaders to understand the WRC research cycle, find the research priorities of the WRC and the fund allocation for each of the priorities, prepare a comprehensive proposal (with tips provided on how to improve the chances of success), manage the technical, administrative and financial aspects of a WRC project, understand the contractual and financial audit requirements, and know what resources are available to enhance the success of the project.

The first 'WRC 101' was hosted in February 2010 in Kempton Park. The event was 100% oversubscribed necessitating a repeat event early in the new financial year. According to the feedback received after the first workshop, this proves to be a much–needed intervention. A second workshop was also held in May at the same venue.

PROMOTING KNOWLEDGE SHARING

Building capacity in Africa

The WRC supports the TIGER Initiative (an initiative by the Department of Environmental Affairs), a UNESCO-IHP supported programme that is aimed at assisting African countries to overcome problems faced in the collection, analysis and dissemination of water-related geo-information, by exploiting the advantages of earth observation technology. The WRC is, with effect from December 2009, hosting the southern Africa regional centre of the TIGER Initiative. The Initiative is aimed at supporting the African continent to access and use earth observation satellite data and information made available by space agencies (such as the

European Space Agency and the Canadian Space Agency) in management of their water resources. An agreement between the WRC and the International Institute for Geo-Information Science and Earth Observation (ITC), of The Netherlands has been entered into in this regard. The WRC is involved in the coordination of TIGER activities including capacity building (i.e. organising training workshops and courses) for aquatic scientists involved in TIGER projects, and also manages the centre.

Leaving a global footprint

While water is a personal, regional and state-wide issue, it is also a global issue, and the WRC recognises the benefits of knowledge sharing on a global platform. The Commission plays an active role in a number of international initiatives aimed at meeting some of the world's water challenges. The WRC is an active member of the Global Water Research Coalition (GWRC). During the year under review the WRC has collaborated with members of the GWRC in research programmes addressing algal toxins and asset management, as well as a programme on energy efficiency in the water industry. The latter will result in the production of a compendium of tools, best practices and case studies with regard to achieving energy efficiency through the optimum design and operation of water sector assets. The WRC has already contributed several case studies in this regard.

Through detailed examination of current best practice and technologies, the study has identified promising developments and future opportunities to help deliver incremental improvements in energy efficiency through optimisation of existing assets and operations and also more substantial improvements in energy efficiency from the adoption of novel (but proven at full-scale) technologies.

Sharing knowledge far and wide

The WRC welcomes any opportunity to share and exchange water knowledge. A delegation on a wetland fact-finding mission from the People's Republic of China visited the WRC in October 2009. The aim of the visit was to learn more about South Africa's wetland protection programmes. The WRC exchanged lessons learnt from its various initiatives. Among others, the visitors learnt more about the WRC's participation in programmes to integrate wetland conservation into catchment management planning.

In the same month, the WRC welcomed another delegation from the Shanxi Environmental Protection Agency of Shanxi Province of China.

The visit entailed exploring small watershed comprehensive management in South Africa. The WRC exchanged knowledge on urban sewage treatment systems and industrial wastewater management.

In February 2010 the WRC hosted an Ethiopian delegation consisting of members from the Ethiopia Ministry of Water Resources Research and Development Directorate. The Ethiopian Government is investigating the possibility of establishing an Ethiopian Water Research Institute using the WRC's institutional model.

Input on climate change negotiations

The WRC contributed to the South African position paper in preparation for the *United Nations Framework Convention on Climate Change*, by providing input at the National Climate Change Committee meetings hosted by the Department of Environmental Affairs in May 2009. These included consideration of technological and funding support requirements by developing countries to enable implementation of water-related adaptation projects that are in line with the Nairobi Work Programme, as well as research, observation and associated uncertainties in model projections. Suggested priorities were institutional capacity development, monitoring information, downscaled modelling and funding for adaptation action.

The WRC also provided water-related research information to the meeting on the *2nd National Information and Consultation Session*, held in Pretoria in August 2009, in preparation for the *United Nations Climate Change Conference (COP15)*. The WRC also participated in the UNFCCC negotiations in Copenhagen in December, 2009, providing support on strategic water issues as and when required by the Ministry and the Department.

Minister Sonjica visits the WRC

The Minister of Water and Environmental Affairs, Buyelwa Sonjica, visited the WRC during 2009. During her visit she highlighted some of the key challenges currently faced by her department, including climate change, water conservation and demand management, water pollution, rainwater harvesting and South Africa's leadership role in the rest of the African continent. The WRC continues to work closely with the Department of Water Affairs in providing research support on various projects.

Finding solutions using Knowledge Cafés

In an effort to encourage innovative thinking that gives birth to creative solutions addressing water-related challenges in South Africa, the Knowledge Cafés have continued. The main target groups for the Cafés are students, municipalities, non-governmental organisations and the water user sector. The Knowledge Café concept provides a framework for sharing knowledge, where participants from different parts of society can take an active part in the discussions. This is a creative facilitation technique that allows for synergistic growth of ideas. The Knowledge Café series aims to build equitable stakeholder relationships for the promotion of Integrated Water Resource Management (IWRM). This initiative is based on an Appreciative Inquiry framework which documents positive experiences and draws on the strengths and opportunities of participants to best further the interests of the water sector. Innovative and exciting knowledge generation workshops were held in August and October 2009 in Johannesburg and Cape Town, sponsored by the WRC and supported by the Universities of Pretoria and the Western Cape.

Making a mark at international events

World Water Week took place in Stockholm, Sweden, during August 2009. The event was characterised by various plenary sessions, workshops and side events addressing different themes and facilitated by water sector experts from various countries and institutions, including South Africa. During the week the WRC, together with the CSIR, Amanz'abantu Services, Irish Aid and the Eastern Cape Department of Education hosted a lunch-time side event focusing on 'Exploring water services operation and maintenance through franchising partnerships'. The event was well attended and resulted in many further discussions and interest from various groups, including the business sector. Attendees were introduced to a current water franchise pilot project being undertaken in the rural areas of the Eastern Cape. Irish Aid is funding the detailed modelling, formulation of training programmes and compilation of procedure manuals required for the pilot.

By invitation from the German MBZ, the WRC CEO participated in the lunchtime 'question and answer' session with Dr. Pathak, *Stockholm Water Award* winner. The discussion was chaired by Mr Franz Marré, Head of Division: Water, Energy, Urban Development, of the Federal Ministry for Economic Cooperation and Development (BMZ), Germany. Dr Arne Panesar from GTZ also participated in the discussion.

AWARDING EXCELLENT RESEARCH

South African Capillary Ultra Filtration membrane technology

The WRC acknowledged the inventors of innovative water technologies at a special event in Pretoria in March 2010. A novel water treatment system arose out of a unique initiative by Professor Ed Jacobs of the University of Stellenbosch, who was the driver of the project which developed the South African Capillary Ultra Filtration Membrane technology. Capillary ultrafiltration membranes are capable of purifying water to very high standards. Professor Jacobs then initiated collaboration with Professor Lingam Pillay, of the ML Sultan Technikon (now Durban University of Technology), to develop the technology into water treatment systems. Professor Jacobs and Professor Pillay were responsible for the engineering development of the technology. With funding from the WRC, researchers were able to develop the ultrafiltration membranes and modules over a period of seven years and test them extensively in various parts of South Africa. The outcome was a robust, inexpensive and sustainable water technology that addresses the challenges of water provision to peri-urban towns, schools, clinics and farms. The membranes are now being manufactured locally on a continuous production basis by Ikusasa Water under licence from the WRC.

Dual-stage membrane bioreactor process technology

Also awarded for his innovation was Dr Wade Edwards, who developed the Dual-stage Membrane Bioreactor Process Technology, which is currently licensed exclusively to Alt-Hydro. The membrane bioreactor process comprises a relatively simple flow configuration and is therefore ideally suited to industries characterised by effluents which are difficult to treat, footprint constraints, and requirements for high-quality treated water.

IMPROVING KNOWLEDGE DISSEMINATION

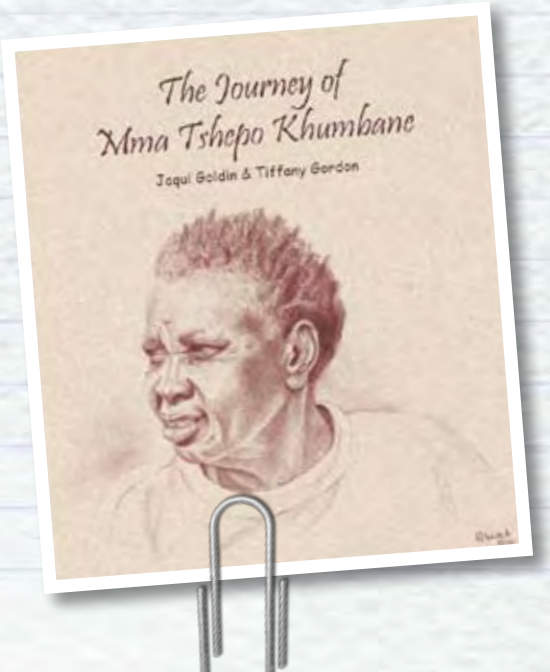
The Electronic Water Knowledge Hub

The WRC's re-engineered website was launched in September 2009. The WRC website is now a fully functional content-based, searchable website containing all WRC documents including Annual Reports, Knowledge Reviews, The Water Wheel, Water SA, technology transfer reports and all other research reports. Users can search 40 years of research in less than 15 seconds. Searches can be refined and expanded according to the user's needs, for example, by using keywords. The new website is part of a larger drive to develop an Electronic Water Knowledge Hub (EWKH), which will be a world-class digital water information centre. The next phase will lead to research and development of the envisioned Phase II of the

EWKH development. The new website has been well received by the sector, with several users, from South Africa, Africa and abroad, commenting on its ease of use.

Celebrating a life dedicated to knowledge dissemination

A new publication celebrating the life and work of grassroots activist Tshepo Khumbane has been published by the WRC. In many poor communities water remains a limiting factor, especially for small-scale agriculture and other productive enterprises. Rainwater harvesting, where rainfall is stored for times of need, has the potential to transform the lives of such communities that experience protracted periods of low rainfall. One person who has recognised the advantages of rainwater harvesting, and has used it successfully to not only enhance people's lives economically but also to uplift their spirits and self-esteem, is Tshepo Khumbane. Mma Tshepo, as she is affectionately known, is well known in rural development and food security circles. As a renowned grassroots activist, she has worked with, mobilised and inspired people on both local and international soil. Her understanding of poverty and the institutional, psychological and technical pathways out of poverty, determine her place as an invaluable resource on any developing, planning and policy formation team. The book, *The Journey of Mma Tshepo Khumbane,* captures her life and work, providing some insight into the history and workings of this stalwart social activist.



Exhibitions

As a way of encouraging the uptake of research, the WRC continues to disseminate outputs to various segments of knowledge users. During the period 2009/10 a number of exhibitions were held, locally, in the rest of Africa and globally.

With the increasing demand from WRC knowledge users for more research outputs, exhibitions have strengthened the WRC's exchange of information around water management issues. The WRC continues to ensure the flow of water-centred knowledge by improving access to external information users and acting as a resource centre to meet the information requirements of the water sector in general.

ACCOLADES

Awarding excellence in science communication

Ms Ingrid Buchan, Science Editor for the WRC's academic journal *Water SA*, was honoured by the Water Institute of Southern Africa (WISA) for her outstanding contribution to science. Ms Buchan, who has since retired from the Commission, received the *Aqua Vita Est Award 2009*, which was presented by WISA President, Dr Kevin Pietersen, at a prestigious event held at the WRC in November 2009. The *Aqua Vita Est Award* is given to people who work diligently behind the scenes to make meaningful research outputs to the water sector.

Contribution to science in South Africa

The WRC's contribution to science has been acknowledged in a book prepared to mark the hosting of the *Academy of Sciences for the Developing World (TWAS)* conference by the Academy of Science of South Africa (ASSAf) in October 2009 in Durban. As cited by ASSAf, the WRC is making a significant contribution towards the state of science in South Africa. The quotations below were taken from different chapters of the book, *The State of Science in South Africa*.

'A key ecophysiological issue has been water use, particularly by plantations of fast-growing trees. Many years of research, now located in the CSIR and funded by the WRC, overturned the prevailing global wisdom that forests increased the quality and quantity of streamflow, leading among other things to an innovative set of water laws and policies that target the elimination of invasive alien trees as a simultaneous water conservation and poverty-relief activity' (Chapter 5, Biological Sciences).

'Modern aquatic sciences in South Africa are largely supported by the WRC, a parastatal body, which in turn is funded by a small levy placed on the sale of water, this remarkably innovative and successful model which seems to be unique to South Africa, is the envy of aquatic scientists in the rest of the world' (Chapter 5, Biological Sciences).

'The WRC plays a very positive role in this field of earth science within the country, acting as a hub of expertise and fostering research through its funding and publications' (Chapter 5, Earth Sciences).

EXECUTIVE REPORT

The Board of the WRC submits this report to the South African Parliament through the Minister of Water and Environmental Affairs. The report was compiled in accordance with the requirements of the Public Finance Management Act (PFMA) and forms part of the audited financial statements of the Water Research Commission (WRC) for the period 01 April 2009 to 31 March 2010. The report addresses corporate governance practices and structures, the mandate and core business of the WRC, the WRC's achievements and progress made against the WRC's key performance areas and targets.

During 2009/10, core changes in government structures that are directly related to the functioning of the water sector followed the election process. Locally and globally, issues of water scarcity have been intensifying in light of challenges such as climate change, energy and food security. Adaptation and mitigation technologies and strategies continue to challenge both scientists and decision-makers. South Africa, being a semi-arid country, is facing a future where the governance and management of the country's scarce water resource and its uses are becoming critical to the country's economic growth and the wellbeing of all its citizens. Knowledge and understanding provides for good decision-making, good planning and appropriate control. Although the country has a rich knowledge base regarding its water resources, disseminating this knowledge, and building capacity to utilise it, is essential for sustainable development.

Capacity building remains a major challenge for South Africa and is affecting both governance and management structures. The need to build and strengthen research capacity is another key challenge as future research will provide the country with the knowledge required to address the problems of the future. The role of the WRC is to provide the country with knowledge, tools and technologies.

During 2009/10, the WRC remained committed to its Mandate and Mission and continued to function as a water-centred knowledge hub, providing South Africa with knowledge in support of decision-making, policy development and implementation, and making available a range

of methodologies, technologies and assessment tools aiming to improve the management of water resources and services. The knowledge developed through the support of the WRC, if appropriately utilised, will allow for the sustainability of South Africa's water resources and will support the building of a country where water is a key driver for economic growth and development. The WRC continues to provide the country with a knowledge framework that can be used to ensure safe drinking water and sanitation for all; sufficient quantity of water for various allocated uses, promoting a healthy environment and economic growth; sustainable infrastructure for water resource management and water and sanitation services; effective water management policies and systems; and adaptive and mitigating

strategies to face the challenges of climate change. Knowledge provided by the WRC during the year under review will further equip South Africa with better understanding, improved competencies and stronger capacity to address future issues regarding water quantity, quality and accessibility. Special emphasis was placed on alignment of the research with the framework of the Department of Water Affairs addressing water for growth and sustainable economic development. During the year, progress was achieved against the organisation's strategic plan, which strongly reflected the key needs and objectives of the Government of South Africa and the water sector, as articulated by the Minister of Water and Environmental Affairs, its shareholder, and the strategic plan of the Department of Water Affairs. The WRC also supported many government core initiatives and strategic policy frameworks. Emphasis was given to both capacity-building through research and to improving knowledge dissemination mechanisms. Functioning as a 'hub' for water-centred knowledge, the WRC links various players within the water sector by working through local and global partnerships. The WRC provides novel (whilst practical) ways of packaging knowledge and creating knowledge-based products which can form the basis for new water resource and water service management practices for the water sector and the community at large. During the year under review, the WRC continued to strengthen water research in the African continent in support of NEPAD, and to strengthen the position of South Africa's water research within a number of global networks and initiatives.

MEMBERS OF THE BOARD

Dr TPE Auf Der Heyde
(Department of Science and Technology)

Ms D Ndaba
(Independent Consultant)

Dr DJ Merrey
(Natural resources and institutions specialist)

Prof JB Adams
(Nelson Mandela Metropolitan University, Chairperson)

Dr S Lushaba
(Simosezwe Investments)

Ms ZB Mathenjwa
(Gabsie's Business Solutions)

MEMBERS OF THE BOARD

Mr P Cross
(Independent consultant)

Dr R Kfir
(ex officio:
Water Research
Commision)

Mr M Sirenya
(Viwe Consulting Services cc)

Mr DP Naidoo
(University of Pretoria)

MANDATE

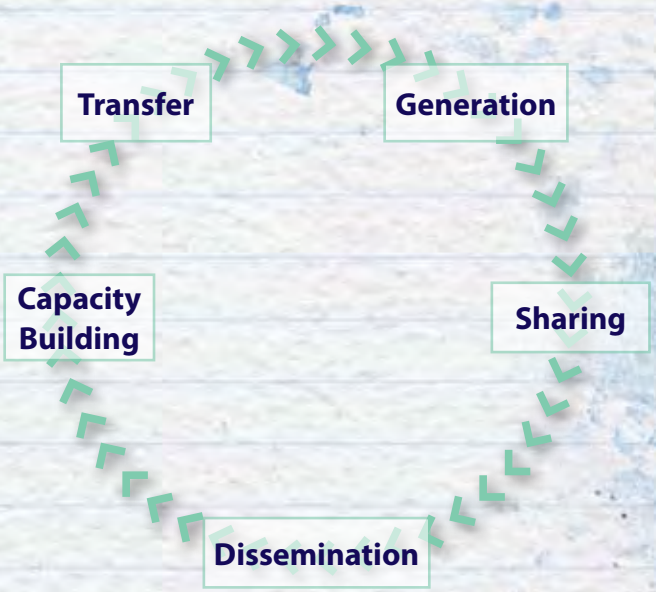
The WRC is listed as a national public entity in Schedule 3A of the PFMA.

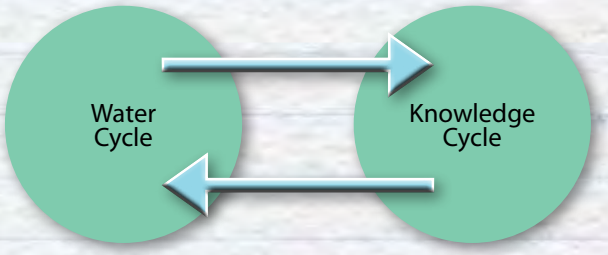
The Mandate of the WRC (Water Research Act, Act No. 34 of 1971) highlights the following functions to be carried out by the organisation:

- Promoting co-ordination, co-operation and communication in the area of water research and development
- Establishing water research needs and priorities
- Stimulating and funding water research according to priority
- Promoting effective transfer of information and technology
- Enhancing knowledge and capacity building within the water sector

The Mandate of the WRC clearly links the organisation to both the water and knowledge cycle as illustrated below. The WRC serves as South Africa's water-centred knowledge hub providing the nation with knowledge for sustaining its most precious resource, i.e. water.

The Mandate states the WRC's role in co-ordinating and leading the five building blocks of the knowledge cycle from knowledge generation to its dissemination and transfer.





GOVERNANCE

Governance framework

The WRC, under the proficient leadership of its shareholder, the Minister of Water and Environmental Affairs, and the strategic direction set by its Board, continued to manage its strategic and operational affairs within a sound corporate governance framework. The WRC complied strictly with both the Water Research Act and the Public Finance Management Act (PFMA), Treasury Regulations and all other relevant legislation. The corporate governance framework provided the organisation and its leadership with integrity, accountability and transparency.

The Board of the WRC led the organisation with a clear governance framework and oversight, ensuring sound management, compliance and control practices. The Board and its various committees provided effective structures for strategically guiding the WRC throughout the year under review.

During 2009/10 the Board was further trained by the Institute of Directors on issues related to Board functions, duties and roles, and all related issues covered by the *King III* report (*King Report on Governance for South Africa and the King Code of Governance Principles*) on corporate governance. The Board committees further refined the respective terms of reference which were approved by the Board. A number of the WRC's operational policies were further improved and a number of new policies were developed during the course of the year. The Board of the WRC adhered to its Board Charter which includes a Board code of ethics.

Risk management

The Board and management of the WRC have re-assessed the organisation's risk environment using a well-established risk management framework. The WRC developed and implemented its strategic and operational plan based on the risk areas identified. The framework informed many risk-mitigating strategies and actions and also set the basis for many of the organisation's performance objectives. The risks identified and the risk management framework were approved by the Board of the WRC and were also used to set the internal audit plans.

During the year under review the Board appointed a new auditing firm, following a clear and structured process. This auditing firm was appointed by the Board to undertake an internal audit of the organisation in terms of an audit plan. The plan was reviewed and recommended for approval by the Audit Committee of the Board, and thereafter approved by the Board of the WRC. The audit addressed financial and other strategic risk areas. The outcomes of the audit indicated significant improvements in many of the WRC's operational practices. One of the key performance objectives of the WRC included providing feedback on the level to which management had addressed the issues identified by the internal audit in the previous year. The audit results and the WRC management's response, as well as a description of the successful and planned actions intended to bring about further improvements, were reviewed and approved by the Audit Committee and the Board.

Values

Service orientation
Care for people, society and the environment
Fairness to all
Dedication to quality
Integrity and ethical behaviour
Respect for human and individual rights
Innovation and learning

Governance structures

During the year under review the WRC operated under the leadership of its Board. During this period the Board was composed of a number of Board members appointed by the Minister of Water and Environmental Affairs for a period of three years, ending on 31 May 2011.

Board Members as from 31 July 2008

Prof JB Adams	Chairperson
Mr M Sirenya	Vice-Chairperson
Dr TPE Auf der Heyde	
Mr P Cross	
Dr DSS Lushaba	
Ms ZB Mathenjwa	
Dr DJ Merrey	
Mr DP Naidoo	
Ms D Ndaba	
Ms P Yako	Director-General: Department of Water Affairs until July 2009
Ms N Ngele	Acting Director-General: Department of Water Affairs, represented by Mr MP Nepfumbada at a number of meetings
Ms P Yako, Director-General (DG) of the Department of Water Affairs, and Dr R Kfir, Chief Executive Officer of the WRC, are ex officio members. Ms N Ngele was appointed by Minister BP Sonjica on 22 July 2009 as Acting DG while Ms Yako was on special leave pending the outcome of a forensic investigation. Ms Jansen and Dr Snyman served as Board Committee Secretaries during the period under review.	

Board meetings held during 2009/10

14 July 2009:	Board
22 September 2009:	Board
02 December 2009:	Board (Strategic)
03 December 2009:	Board (Strategic)
23 March 2010:	Board (training in *King III*)
24 March 2010:	Board

Board Committee Secretaries

14 July 2009:	Ms A Jansen
02 December 2009:	Dr H Snyman
22 September 2009:	Ms A Jansen
03 December 2009:	Dr H Snyman
23 March 2010:	Dr H Snyman
24 March 2010:	Ms A Jansen

Executive Committee of the Board (ExCo)

Members	
Prof JB Adams	Chairperson
Dr DSS Lushaba	
Mr DP Naidoo	
Mr M Sirenya	
Dr R Kfir	CEO: WRC
WRC (in attendance)	
Mr N Patel	Chief Financial Officer: WRC
Ms A Jansen	Committee Secretary: 26 May 2009
Meetings 26 May 2009:	ExCo (together with Audit Committee)
Terms of Reference The main function of the ExCo is to perform specific tasks, at the request of the Board, which need to be addressed as matters of urgency. Meetings of the ExCo are governed by needs and requests by the Board. Current practice calls for a combined meeting of the ExCo and the Audit Committee to approve the financial year-end statements and the Executive Report.	

Audit Committee of the Board

Members	
Mr M Sirenya	Chairperson
Mr P Cross	
Dr DSS Lushaba	
Ms RNM Maphumulo	co-opted from 24 February 2009
Mr DP Naidoo	
Ms D Ndaba	
Dr R Kfir	CEO: WRC
Ms E Karar	representing the WRC CEO on 23 February 2010
WRC (in attendance)	
Mr N Patel	Chief Financial Officer: WRC
Committee Secretary	
26 May 2009:	Ms A Jansen
27 July 2009:	Ms A Jansen
08 September 2009:	Ms A Jansen
23 February 2010:	Ms A Jansen
Auditor-General of SA (AGSA)	
26 May 2009:	Mr M Musasiwa (Manager: Gobodo); Mr D Simpson (Director: Gobodo)
27 July 2009:	Ms J Steyn née Bosch (AGSA); Mr M Musasiwa (Manager: Gobodo); Mr D Simpson (Director: Gobodo)
08 September 2009:	Ms C Simpson (AGSA); Mr JR Aguma (AGSA)
23 February 2010:	Mr D Simpson (Director: Gobodo); Mr D Fouche (Senior Audit Manager: Gobodo); Mr R Gouws (AGSA)
Price Waterhouse Coopers	
26 May 2009:	Mr P Prinsloo; Ms G de Risi (until 31 May 2009)
KPMG	
08 September 2009:	Ms Yvonne Small; Mr Sikkie Kajee
23 February 2010:	Ms Yvonne Small; Mr Sikkie Kajee
Meetings	
26 May 2009:	Audit Committee together with ExCo
27 July 2009:	Audit Committee
08 September 2009:	Audit Committee
23 February 2010:	Audit Committee

Terms of Reference

- Ensure compliance with the PFMA and advise on applications for exemption deemed necessary in the interests of enhancing the WRC's performance
- Monitor and advise on the collection of revenue due to the WRC
- Evaluate short-, medium- and long-term plans and budgets
- Assess requests by management for adjustments in water research rates and charges (levies) and make recommendations to the Board
- Review the external audit process at key stages of planning and execution, in terms of addressing (i) critical risk areas (ii) scope and (iii) effectiveness
- Review external audit results, and make recommendations to the Board on acceptability of financial statements and on addressing significant differences between management and the external auditors
- Review, from time to time, the WRC's financial policies and accounting procedures and controls, inter alia, in the light of external audit results
- Advise on labour dispute strategies
- Monitor the scope and effectiveness of the internal audit function from the financial perspective
- Monitor the ethical conduct of the WRC, its management and senior officials, from a financial perspective
- Report to the Board on an ongoing basis

Human Resources Committee of the Board (HR Committee)

Members	
Dr DSS Lushaba	Chairperson
Dr TPE Auf der Heyde	
Ms ZB Mathenjwa	
Ms D Ndaba	
Dr R Kfir	CEO: WRC
Ms E Karar	representing the WRC CEO on 23 February 2010
WRC (in attendance)	
Ms R Frank	
Committee Secretary	
08 September 2009:	Ms A Jansen
23 February 2010:	Ms A Jansen
Meetings	
08 September 2009:	HR Committee
23 February 2010:	HR Committee

Terms of Reference

The HR Committee of the Board will strive to inform and recommend to the Board on:

- Level of the WRC compliance with all HR-related Acts (legislation) and possible applications for exemption deemed necessary in the interests of enhancing the WRC's performance
- HR policies and practices in the WRC
- HR plans (e.g. training and skill development) and budgets
- Amendments to the conditions of employment and remuneration structure
- The WRC's performance management system
- Job level assessment system, policy and procedures
- The strategic structure and composition of Top Management
- Transformation and employment equity plans
- Internal Climate/Culture Studies with emphasis on leadership issues
- Imaging and branding of the company
- Performance of HR to the strategic execution of the WRC

Remuneration Committee of the Board

Members	
Prof JB Adams	(Chairperson)
Dr DSS Lushaba	
Mr DP Naidoo	
Mr M Sirenya	
WRC (in attendance)	
Ms R Frank	
Committee Secretary	
14 July 2009:	Ms A Jansen
Meetings	
14 July 2009:	Remuneration Committee

Terms of Reference

- Establish a tool for the evaluation of the performance of the organisation and the CEO
- Assess the performance of the organisation and the CEO using the above-mentioned tool
- Determine performance bonuses for the CEO and the organisation based on the outcome of the performance assessment and other criteria.

Research Policy and Strategy Committee of the Board

Members	
Mr DP Naidoo	Chairperson
Prof JB Adams	
Dr TPE Auf der Heyde	
Mr P Cross	
Ms ZB Mathenjwa	
Dr DJ Merrey	
Ms P Yako	until July 2009
Ms N Ngele	
Mr MP Nepfumbada	representing Ms N Ngele
Dr R Kfir	CEO: WRC
Ms E Karar	representing the WRC CEO on 24 February 2010
WRC (in attendance)	
Dr H Snyman	
Dr G Backeberg	
Mr J Bhagwan	
Ms Eiman Karar	
Dr S Liphadzi	
Mr B Madikizela	
Mr L Baloyi	
Prof T Pistorius	Consultant from Unisa
Committee Secretary	
23 July 2009:	Ms A Jansen
09 September 2009:	Ms A Jansen
24 February 2010:	Ms A Jansen
Meetings	
23 July 2009:	RPS Committee
09 September 2009:	RPS Committee
24 February 2010:	RPS Committee

Terms of Reference

The RPS Committee of the Board will:

- Review and advise on the alignment of research goals and plans with national policy and priorities and the mission of the WRC
- Advise the Board on compliance with the Water Research Act and other relevant legislation governing the use of public funds for research and development
- Advise on overall research priorities of the WRC
- Advise on capacity-building initiatives, including the support of students through WRC research projects
- Advise, review and monitor the development and effectiveness of the implementation of the WRC's research management policies, procedures and practices
- Advise on procedures guiding the development of annual business plans for the WRC and each of the KSAs
- Advise on procedures governing research funding allocation and the evaluation of research outcomes
- Advise on policies and procedures regarding knowledge dissemination and application
- Review KSA business plans and provide the Board with a recommendation for approval (with special emphasis on KSA research portfolios)
- Evaluate the outputs, outcomes and impact of WRC-funded research
- Review and monitor the WRC's drive to transform the South African water-centred knowledge base, i.e., research capacity building
- Monitor the scope and effectiveness of the internal audit function and the ethical conduct of the WRC from the research management perspective

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Marumati Building
491 18th Avenue
Rietfontein Pretoria
0084

Postal Address:
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Gezina
0031

ACHIEVEMENTS

During 2009/10 the WRC continued to serve South Africa's Government, reporting through its Board to the Minister of Water and Environmental Affairs, its shareholder, and the Department of Water Affairs. Knowledge created through the WRC funds strongly supports DWA's overarching objective, i.e., water for economic growth and sustainable development.

STRIVING TOWARDS RESEARCH IMPACT

The knowledge created via the WRC's investment in research aimed to create a long-term impact in areas such as water and society, water and the economy, water and the environment, and water and health. These areas are closely linked to the framework for water for economic growth and sustainable development and the Department of Water Affairs' strategic objectives.

In the area of Water and Society the research continued to address social dynamics in the water sector and people's needs for and views of water. During 2009/10, studies led by the WRC sought to have a medium- to long-term impact on people's participation in water management and decisions about water and on ways of using water for transformation and social justice. Research aimed at developing the basis for new approaches which will enable water users at all scales and in different localities to meet the challenges of utilising water as a shared and scarce resource while providing access to water for the poor and disadvantaged members of society. Other studies addressed sustainable ways for the provision of water services which are socially acceptable, affordable and available to all.

As water plays a major role in South Africa's economic development, another area of impact on which research led by the WRC placed emphasis was Water and the Economy. This included research conducted with the view of water being an economic instrument and/or an economic good. Research explored how water could potentially provide an engine for economic growth, and how a situation where water becomes a potential economic burden can be avoided. The research aimed to demonstrate the applicability of economic principles in the water field and to provide sound knowledge and support to water management institutions and implementing authorities. Studies attempted to research the use of economic instruments for improved management of water and to investigate complex water-related economic systems. Research focused on the value of water to different sectors of the economy, the economic advantages and disadvantages of water resource development, the use of economic instruments to effect behavioural change regarding water utilisation, and the use of economic instruments to promote equitable and efficient water allocation and distribution.

Linked to economic and social issues is the issue of health. Diseases due to poor water quality or lack of sanitation and hygiene are known to be costly, often creating both an economic and a social burden. Research carried out by the WRC addressed a variety of issues related to Water and Health. Research aimed at improving water quality and hygiene practices, in order to save lives and reduce the cost and effort in treating diseases and their symptoms. Based on new knowledge on the origin, survival and persistence of microbial, biological and chemical agents that may pollute water and hence affect human health, improved treatment technologies and quality guidelines were suggested. Research focused on the development and utilisation of methodologies to identify and quantify the occurrence of pathogens and contaminants in water, as well as on risk assessment and epidemiological studies. Studies addressed resource protection, sanitation and waste management, drinking water quality and public health and hygiene.

Since water forms a part of the overall environment, it is important that research addresses the links between water, air, soil, biota and other spheres. Issues such as pollution, climate change and biodiversity are all parallel issues

relating to water. Research carried out by the WRC addressed the above issues in an integrated manner aimed at achieving a medium- to long-term impact on Water and the Environment, improving the understanding of linkages between the natural environmental components (atmospheric, marine, terrestrial, aquatic, subterranean) within the hydrological cycle as well as how these link with the anthropogenic environmental components (developed infrastructure and other land uses). The research in this area seeks to establish and apply best practices in mitigation of damage to the water environment. The aim is that research will allow a situation where our governance systems and our understanding of environmental processes within the hydrological cycle are aligned to support sustainable water management that meets the needs of society.

Impact studies

During the year under review the WRC has engaged a number of studies to understand and qualify the impact of the WRC-supported research projects on the water sector. The studies address research programmes, which often represent a number of projects undertaken by various research organisations for a number of years. Some of these studies include the assessment of projects where strong collaboration with practitioners and decision-makers was evident. This is the third year in which the WRC has undertaken such studies and special emphasis was placed on assessing the impact of research on social, health and economic issues as well as the sustainability of the environment.

Examples of such studies are:

Eutrophication research

This impact study aimed to quantify and qualify the current and potential impacts of eutrophication-related research done since 1984. Emphasis has been given to economic, environmental, social and health impacts.
The study highlights the economic impact of knowledge-based solutions, including treatment measures, the seeking of alternative non-eutrophic water sources, as well as various agricultural impacts of eutrophication. The study addresses the potential threat to biodiversity by the phenomenon of eutrophication and highlights the fact that changes in species can indicate poor water quality and other problems. A clear need for the measurement of toxicity levels, in order to prevent animal fatalities, was established. The impact study also indicated that eutrophication has resulted in social impact as it is affecting both the aesthetic and recreational value of the country's water bodies. South Africa has an excellent reputation as a tourism destination, with many water-based recreational activities available, and the losses incurred from cancelling or closing such events may be substantial. The health impacts discussed revolve around the prevention of illness and fatalities as a result of exposure to toxic, eutrophic water. The research details all possible illnesses, their precise causes, and measures for minimising the incidence of illness and potential fatalities in South Africa.
In conclusion, all of the impacts identified and analysed during the impact study reflect that WRC research on eutrophication has made

positive steps towards improvement of the situation. Consistent research, supported by the targeted application by industry of the results and more efforts to increase public awareness, will do a great deal towards eradicating the problem of eutrophication and ensuring a safer, more sustainable future for people, animals and ecosystems alike.

Biological nutrient removal (BNR)

This study assesses the process of biological nitrogen and phosphate removal from domestic and industrial wastewater. The process was developed in 1974 by Dr James Barnard, who observed phosphorus reduction from 8 mg/ℓ to less than 0.2 mg/ℓ in periods lasting up to six weeks, in a pilot plant where the experiments into the BNR process were undertaken. Ever since Barnard's first discovery, major breakthroughs in the BNR process have taken place, which have resulted in the development of various BNR configurations, such as the University of Cape Town and the Johannesburg processes. The WRC has been undertaking research into the BNR process and most of these studies have focused on investigating ways of optimising the process and gaining an idea of the complex population dynamics in the systems. The BNR process is currently utilised extensively throughout the world. The successful implementation of the BNR process at local works such as the Northern Works and various other treatment plants have benefits that may be classified under economic, environmental, social and health impacts.

contributed to the organisational aims of the WRC. Only preliminary analysis is available at this stage. The results of this analysis suggest that the WRC funding for research on estuaries has had very significant positive impacts. For example, the relevance of the WRC funded research is rated highly and the WRC funding has facilitated knowledge sharing among and between research providers and research users. Also, research providers, particularly those based at universities, indicated that the WRC funding has enabled them to strive for and gain research excellence. Less positive is the observation that generally research users do not readily connect information that they use in management with research funded by the WRC.

Wetlands research

An impact assessment study has shown that the WRC has invested nearly R50 m. (99% of which has occurred between 2002 and the present) in 66 research studies on wetland-related research, confirming stakeholder perceptions that the WRC plays a critical role in funding and guiding of wetland research. The WRC has made a valuable socio-economic contribution through this research, by supporting the service providers who carried out this research and growing capacity to conduct research by supporting postgraduate student training through these studies. This approach, combined with WRC's complementary activities, has increased institutional strength by contributing to the development of a larger, more co-ordinated and informed wetland community of practice. Preliminary results indicate that the wetland research funded by the WRC is directly relevant to matters of policy and integrated water resource management, and to national and international environmental, economic and social (including public health and capacity) matters of global importance. Research products include useful tools for end-users, are accessible

through the WRC publications and website, and are disseminated in various user-friendly forms. Initial indications are that research products are being used to guide policy and management models, make decisions regarding water-use licence and development applications, inform management of public health issues such as wastewater treatment, and inform ecological Reserve determination and the planning and monitoring of wetland rehabilitation. Incidental reports indicate that wetland rehabilitation is in some instances resulting in improved flows and return of biodiversity. On the whole, preliminary results indicate that there are some areas that need attention but that, within its sphere of influence as a knowledge organisation, the WRC is having a significant institutional, social, environmental and economic impact and is playing its role in realising the value of the investment into wetland research.

Irrigation scheduling for efficient water use in food production

The framework on Water for Growth and Development by the Department of Water Affairs contains high-level recommendations which target agriculture. This includes increasing growth through savings, by reducing inefficient water use for irrigation, and specific mention is made of the importance of correct irrigation scheduling. Research outputs are available for the application of models, guidelines, manuals and tools for efficient water management and effective reduction of water losses through irrigation scheduling on a field and crop level. Irrigation scheduling involves decision-making on the timing and volume of water which must be applied for crop production. The technologies and procedures already practically applied and proven as useful are, amongst others, the soil water balance (SWB) model, irrigation water management (BEWAB) model, the MyCanesim model for real-time irrigation scheduling, and the SAPWAT procedure for estimating irrigation requirements of crops. The impact assessment on irrigation scheduling for efficient water use in food production was initiated during 2009 and is due for completion during 2010. The focus is on WRC-funded scheduling methods and tools such as BEWAB, SWB and MyCaneSim. It questions whether these technologies and methods have been consciously applied by farmers, managers, extension officers or advisors, in view of competing influences of alternative approaches, to successfully improve irrigation scheduling of crops.

INVESTING IN THE CREATION OF WATER-CENTRED KNOWLEDGE

During 2009/10, the WRC continued to support the water sector and all its relevant institutions and partners. This was achieved by providing them with knowledge aimed at informing their decision-making processes, improving their monitoring and assessment tools, and making available a range of new and improved technologies related to water resource management and the provision of water and sanitation services. The WRC continued to address the issue of climate change and the linked phenomena of extreme events. Research funded by the WRC will support the development of adaptive and mitigating strategies which will ensure the future sustainability of the country's water resources and services.

As the WRC aims to provide appropriate knowledge to further improve South Africa's ability and capacity to govern and manage its water resources, its research portfolio has to continue to incorporate various water uses in relation to applied land uses, with emphasis on issues of water quality, quantity and accessibility. Research projects will also focus on resource protection and its sustainability.

The research portfolio for 2009/10 was set on the basis of the WRC's strategic plan. The schematic presentation above provided the frame for the research addressed during the year under review. The WRC continued to invest in the creation of knowledge via its four main key strategic areas (KSAs). These areas include **Water Resource Management, Water-Linked Ecosystems, Water Use and Waste Management**, and **Water Utilisation in Agriculture**. In general, the portfolio as planned for the year under review was well-received by the various stakeholders. These research KSAs are supported by the **Water-Centred Knowledge** KSA. This structure continued to form the core operating framework for WRC-funded R&D and was further consolidated during the year.

Water Resource Management	• Water Resource Assessment • Integrated Water Resource Development • Management of Natural and Human induced Impacts on Water Resources • Policy Development and Institutional Arrangements for Water Resource Management
Water-Linked Ecosystems	• Water Resource Management • Ecosystem Processes • Ecosystem Management and Utilisation • Ecosystem Rehabilitation
Water Use and Waste Management	• Water Services Institutional and Management Issues • Water Supply and Treatment Technology • Sustainable Municipal Wastewater and Sanitation • Industrial and Mine Water Management • Sanitation, Health and Hygiene Education • WaterSmart Fund
Water Utilisation in Agriculture	• Water Use and Waste Management • Water Utilisation for Food and Fibre Production • Water Utilisation for Fuelwood and Timber Production • Water Utilisation for Poverty Reduction and Wealth Creation in Agriculture • Water Resource Protection and Reclamation in Agriculture

Water Resource Management – During the year under review, research led by this KSA shifted focus from supporting policy-making to providing guidance for policy implementation and the development of policy instruments. The research carried out was done with the aim of providing the necessary information systems, guidelines, decision-support systems, prediction tools and technologies/methodologies that support planning, development and protection of water resources in practical ways. Climate change has received considerable focus in this past year making sure that a number of studies have started to support the country in facing the imminent impacts of climate change. The decentralisation of the management of water resources, which is still in its infancy, has been supported by information systems mainly supporting local decision-making, and a number of research projects have addressed this specific need. The strong emphasis of the National Water Act (NWA) on stakeholder participation in water resource management has resulted in a number of studies supporting mainly the decentralisation governance arrangements. Ground-breaking research on pricing, value chain and service delivery in the water resource management arena has been initiated to support the above at a national level. Research in this KSA has highlighted the emerging trends and reflections from the implementation of the NWA to date: what has worked and what has not. This was addressed by exploring scenarios and by making future projections for policy review and bench-marking. During the year under review, internationally shared rivers and their role in regional co-operation and stability resulted in the initiation of research defining the suitable pathways for engaging local management institutions in such international agreements.

Water-Linked Ecosystems – Research in this KSA put strong emphasis on the creation of knowledge aimed at protection and ensuring the utilisation and sustainable management of water-linked ecosystems in our water-scarce country during a time of demographic and climate change. Research portfolios within this KSA promote relevant and critical issues about conservation of aquatic ecosystems in order to provide the knowledge for their sustainable functioning in terms of the national legislation, commitments to international conventions, and the ongoing provision of goods and services which ecosystems deliver. This research develops the understanding of the ecological processes underlying the delivery of goods and services and provides the knowledge to sustainably manage, protect and utilise aquatic ecosystems. Three main research areas were addressed during 2009/10, including research on ecosystem processes, i.e., the biophysical processes, form and function of ecosystems; ecosystem management and utilisation, including issues such as the ecological Reserve; and ecosystem health and ecosystem rehabilitation (estuaries, rivers and wetlands).

Water Use and Waste Management – During the year under review, this KSA focused mainly on research for the domestic, industrial and mining water sectors. The aim was to proactively and effectively lead and support the advancement of technology, science, management and policy relevant to water supply, waste and effluent management, for these sectors. The KSA continued to support studies on appropriate technologies for improving the quality and quantity of our water supplies for domestic use, with a focus on water supply and treatment technology serving urban, rural, large and small systems. Greater emphasis has been put on aspects related to energy efficiency and generation in the supply of services, reuse and beneficiation from water supply and wastewater treatment, as well as adaptation and mitigation strategies at a water services level to deal with future challenges associated with climate change. Waste and effluent, as well as reuse technologies that can support and improve management in the municipal, mining and industrial sectors, were also addressed, and innovative as well as integrated solutions for water and waste management in the industrial and mining sectors were studied. The research areas included water services (institutional and management issues); water supply and treatment technology; sustainable municipal wastewater and sanitation, industrial and mine-water management; and sanitation and hygiene education.

Water Utilisation in Agriculture – Research carried out in this KSA aimed at increasing household food security and improving the livelihoods of people at farming, community and regional levels, through efficient and sustainable utilisation and development of water resources in agriculture. More specifically, this research focused on increased biological, technical and economic efficiency of water use, the reduction of poverty through water-based agricultural activities, increases in profitability of water-based farming systems, and the sustainable use of water resources through protection and restoration practices. All agricultural sub-sectors are addressed including irrigated and dry-land agriculture; woodlands and forestry; grasslands and livestock watering; fisheries and aquaculture. During 2009/10 emphasis was placed, through new projects, on the water use of trees/crops and on what areas are suitable for biofuel production, based on bio-climatic criteria; impacts of micro-organisms found in irrigation water on food safety; modelling of water use, biomass production and economic value of indigenous trees under plantation conditions; incentives and organisational structures for empowerment of women and including emerging farmers in rain-fed and irrigated agriculture in the mainstream of the economy; GIS-based methods to monitor the extent of salinisation; precautionary measures for wastewater use; and adaptive practices to reduce vulnerability of farming systems to climate change.

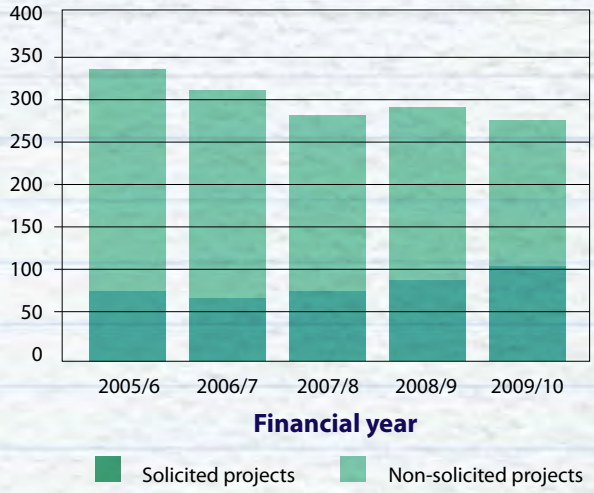
This research output will support development and application of approaches, models, techniques and guidelines for efficient and beneficial agricultural water management.

Supporting research projects

During the year under review, the WRC supported 284 research projects, of which about 80% (227 projects) were active projects (ongoing and new) and about 20% (57 projects) were finalised. The active projects comprised 165 ongoing projects and 62 newly-initiated projects that commenced during 2009/10. The various mechanisms of funding included both non-solicited projects, accommodating projects within the broad research strategy of each KSA, and solicited projects, where research projects are developed in accordance with clear terms of reference, aimed at solving specific problems. The WRC supported 105 solicited projects, which translates to about 46% of active projects. During the year 20% of the projects (57 projects) were finalised.

Financial year	2009/10	2008/09
Total no. of projects	284	294
No. of active projects	227	230
No. of new projects	62	62
No. of finalised projects	57	64
No. of solicited projects	105	81

The figure below provides a schematic representation of the total number of research projects per annum for the past five years. As shown, a reduction of the total number was evident during 2005/06 until 2007/08 and thereafter a stable figure of about 300 projects per financial year has been reported. Over the past four financial years there is a clear trend of an increase in solicited projects, reaching about 100 projects for the year under review, i.e. about a third of all research projects. The increase in number of solicited projects is due to both a strategic drive by the various KSAs and the multi-year nature of such projects. Solicited research projects are medium- to long-term, consortia-based, and address complex issues, often calling for more than one research discipline and a substantial budget.



During the past five years the WRC has finalised 353 research projects (see figure below) indicating a significant contribution to knowledge in the water sector. The decrease in total number of projects over the past few years correlates with the trend of a reduction in the number of projects finalised, since most of the overdue projects were finalised, as discussed above. Over the same five-year period 317 new projects (see figure below) were initiated, ensuring the continuous contribution of new knowledge to the sector. In the year under review as well as in the previous financial year the number of finalised projects reported on was very similar to the number of new projects started in these specific years, indicating a stable number of active projects of about 227-230 which can be effectively managed by the organisation.

During the year under review the WRC has invested special effort in improving its fund management practice and in further developing and improving its fund management system in order to allow the online participation of the research provider. The WRC therefore developed a training course on project management and piloted it with great success during February 2010. This course serves both the established research providers as well as new providers entering the area of water research. The informative one-day course/workshop aspires to enable established and new project leaders to understand the WRC research cycle, identify the research priorities of the WRC and understand the fund allocation for each of the priorities. Researchers learn how to prepare a comprehensive proposal, with tips offered on how to improve the chances of success, manage the technical, administrative and financial aspects of a WRC project, understand the contractual and financial audit requirements and know what resources are available to enhance the success of the project. The first WRC 101 course was hosted on 17 February 2010 at the OR Tambo Southern Sun in Kempton Park. The event was 100% oversubscribed necessitating a repeat early in the new financial year.

Utilisation of funds by the various KSAs

The percentage utilisation of research project funds by the KSAs during 2009/10 indicates that about 46% (in comparison to about 47% for 2008/09) was invested in projects that focused on water resources (including water-linked ecosystems) and about 54% (compared to 53% for 2008/09) on projects that focused on water utilisation (including effluent treatment and management, as well as agriculture). This is based on the actual amount paid out as well as accrued for research projects during the financial year under review. The allocation of about 50% of the fund to issues related to resource management and 50% to water utilisation is a strategic allocation based on the medium- to long-term needs for research.

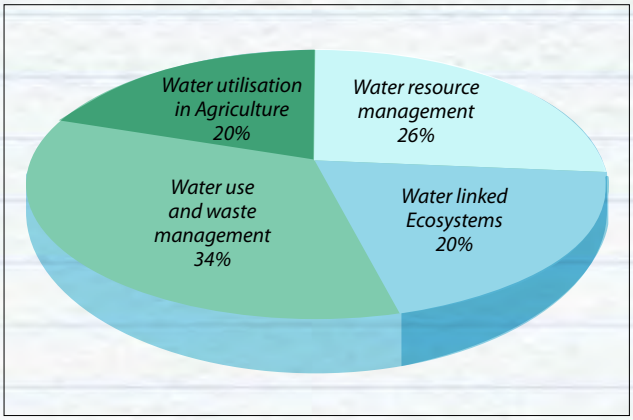
Distribution of research project funds among KSAs – planned vs. utilised funds (2008/09 data in brackets)

KSA	Planned percentage allocation of funds	Percentage of funds utilised for research projects
Water Resource Management	27 (27)	26 (31)
Water-Linked Ecosystems	15 (15)	20 (16)
Water Use and Waste Management	37 (37)	34 (34)
Water Utilisation in Agriculture	21 (21)	20 (19)

The actual utilisation (as a percentage of total funds) of funds by the KSAs agrees almost fully with the planned allocation, and the deviations

observed do not exceed 5%. The overall investment in research projects (knowledge creation) was about R86.7 m. This amount reflects a 2% decrease from the previous year (R88.7 m. during 2008/09).

Total investment in the support of knowledge creation, sharing and dissemination amounted to R115.8 m. This represents a slight increase of less than 1% from the previous year (R115.7 m. total investment was reported in 2008/09). This investment includes about R2.0 m. for the Water Information Network (WIN-SA), R6.2 m. for the Framework for Education and Training in Water (FETWater), and other income leveraged for research projects during the year under review.



Both the investments in research projects and in research support, expressed as a percentage of total expenditure, were close to the set budgeted ratios and almost identical to that of previous years. The ratio addressing funding of the creation of new knowledge (research projects only) is 62%, compared to 65% in 2008/09 and is 1% lower than the planned ratio of 63%. The ratio for research support is 74%, compared to 75% in 2008/09 and is equal to the planned ratio of 74%.

Research funding - Business efficiency indicators (budgeted and actual)

	09/10 budgeted*	09/10 actual	08/09 actual
Research project funding as percentage of total expenditure**	63%	62%	65%
Research support (research projects and support and technology transfer) as percentage of total expenditure	74%	74%	75%

**Not including transfer of unutilised research funds*
***Expenditure does not include provisions for bad debts and leave, bad debt write-offs, pension valuations and non-cash amounts*

Leveraging income for the creation, sharing and dissemination of water-centred knowledge

During the year under review the WRC continued to leverage levy income by striving to obtain funds from other sources to support water research. During 2009/10 this drive has been highly successful. The WRC income originating from sources other than the levy for 2009/10 amounted to R19.7 m. Leveraged income included funds allocated to a number of KSAs for direct support of research projects and funds provided for capacity building, knowledge sharing and dissemination (e.g. WIN-SA and FETWater). Leveraged income was obtained from both local and international sources, where the main source of income was due to support by various government departments for specific research and other knowledge-sharing projects. Sources of income other than the levy for 2009/10 amount to about 17% of the total income.

Income indicators

Indicator	09/10 Budget	09/10 Year-end (actual)
Levies as percentage of total income	84%	83%
Other sources of income as percentage of total income	16%	17%
Leveraged income as a percentage of other income*	76%	80%

**Leveraged income includes all other income with the exception of interest received*

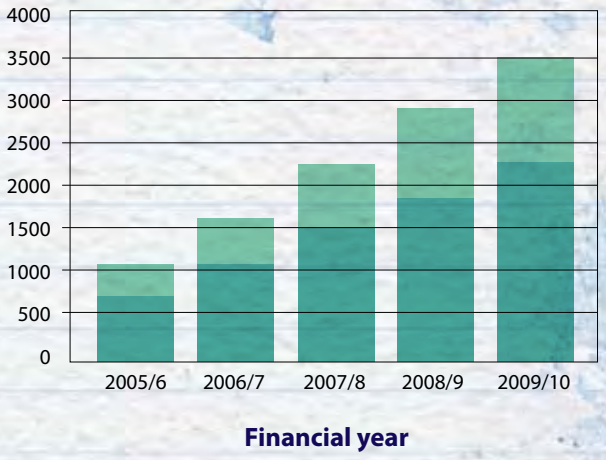
BUILDING CAPACITY

The WRC aims at providing South Africa with future researchers as well as a source of skilled human capital for other institutions within the water sector. This is done by accommodating students conducting water research through the various projects supported by the WRC. During the year under review, the WRC continued to place strong emphasis on building research capacity in South Africa as well as supporting a number of related capacity-building initiatives in Africa. In many areas of research supported by the WRC, it is evident that students who participated in earlier WRC projects are currently leading WRC-funded research projects and are serving as members of steering committees as well as reviewers of new proposals.

Capacity building trends

As indicated below, the number of students and the percentage of disadvantaged students for the past five financial years, i.e. from 2005/06 to 2009/10, reflect a clear pattern of increase although numbers have varied from year to year. The number of students ranged from 465 to 664 per annum while the number of historically disadvantaged (HD) students ranged between 346 and 434 per annum.

The figure below indicates the cumulative number of students trained with the support of the WRC over the past five years, using the 2004/05 figure as the baseline figure (the 2005/06 figures include the 2004/05 student numbers). As indicated in the figure just under 3 500 students, of which 2 200 were historically disadvantaged, were trained in the past five years.



Capacity building in 2009/10

During the current year (2009/10) the WRC continued to excel in its support to students, with special emphasis on historically disadvantaged students. Currently 562 students are supported by WRC projects, of whom 346 or 62% are from disadvantaged backgrounds.

Number of students involved in WRC projects

The table below reflects the number of students reported by the lead organisations contracted by the WRC in the 2009/10 financial year.

Contract lead organisation	No. of disadvantaged students	Total no. of students
African Centre for Water Research	4	4
Agricultural Research Council	10	14
Althydro	3	3
Aquagreen Consulting	2	5
Arcus Gibb (Pty.) Ltd.	2	4
ASSET Research	3	13
Association for Water and Rural Development (AWARD)	0	3
Biostream	2	3
Bunker Hills Investment	1	3
Cape Peninsula University of Technology	9	10
Council for Scientific and Industrial Research	21	34
CPH Water	0	1
DH Environmental Consulting CC	3	9
Digby Wells and Associates	4	5
Emanti Management	1	1
GEOSS (Geohydrological and Spatial Solutions)	0	2
Golder Associates Africa (Pty.) Ltd.	4	6
Groundwater Africa	0	1
Institute of Natural Resources	3	5
Jeffares & Green (Pty.) Ltd.	1	3
Maluti Water and Community Engineering Services	1	1
Nelson Mandela Metropolitan University	4	14
Nemai Consulting	1	1
Ninham Shand Consulting Engineers	1	1
North-West University, Potchefstroom Campus	0	3
Onderstepoort Veterinary Institute	1	1
Partners in Development (PID)	4	6
Pegasys Strategy and Development (Pty.) Ltd.	1	2
Pegram and Associates (Pty.) Ltd.	2	3
Prime Africa Consultants (previously CIC International)	1	2
Process Optimisation and Resource Management	2	2
Proxa (Pty.) Ltd.	1	3
Pulles, Howard and de Lange Inc.	3	3
Rhodes University	6	9
Rural Integrated Engineering (Pty.) Ltd.	10	12
SASRI	1	2

Contract lead organisation	No. of disadvantaged students	Total no. of students
Sigma Beta	6	10
Sinelwati Scientific Research & Management	1	1
South African National Biodiversity Institute (SANBI)	2	2
Sustento Development Services	0	1
The Council for Geoscience	1	1
The Impact-Free Water Group	1	2
The Mvula Trust	1	1
Tshwane University of Technology	12	12
Umgeni Water	5	5
Umvoto Africa	0	1
University of Cape Town	24	45
University of Fort Hare	17	17
University of Johannesburg	1	1
University of KwaZulu-Natal (all campuses)	40	72
University of Limpopo	5	6
University of Pretoria	37	52
University of Stellenbosch	22	50
University of the Free State	11	27
University of the Western Cape	30	31
University of the Witwatersrand	6	14
University of Venda	9	10
Water for Africa	3	6
Zitholele Consultants (Pty.) Ltd.	0	1
TOTAL	**346**	**562**

Capacity building initiatives

In addition to its support for the training of students the WRC has initiated and supported a number of national capacity building initiatives. These include support to national and local government as well as the development of new training material for different levels of learners and for academic institutions. Examples of such initiatives are given below.

Supporting skills development in the sector

The WRC serves on the Skills Development Strategic Task Team of the Water Sector Leadership Group. The task team consists of representatives of the LG and E-SETAs (Sector Education and Training Authorities), Department of Cooperative Governance and Traditional Affairs, Development Bank of Southern Africa (DBSA), South African Local Government Association (SALGA), National Treasury, key consultants, the WRC and the Department of Water Affairs. Draft terms of reference were developed to be presented to the Department of Water Affairs Executive and tabled at the next Water Sector Leadership meeting. Since the inaugural meeting the WRC assisted with research to understand the skills gaps and to recommend interventions initiated by the Department. The draft reports were presented at the *WISA Conference on Sector Capacity and Skills: Addressing Challenges on the Ground,* held on 18 and 19 February 2010 at the Feather Market Centre, Port Elizabeth, where the WRC was also actively involved.

Technical Assistance Centre

The WRC continues to lead the establishment of a Technical Assistance Centre (TAC) to assist rural water service providers. The establishment and piloting of the first national TAC for small wastewater treatment works arose from a need to provide technical expertise and management assistance to small- to medium-sized water treatment plants which experience serious challenges with compliance and sustainability. Pilot projects are currently being undertaken in the Eastern Cape Province (where major challenges exist) and the Western Cape Province (as parallel best practice support) to help build an understanding of the frameworks and mechanisms required for a sustainable large-scale national rollout of such a centre.

Water Administration System

A national drive was undertaken to support the implementation of the Water Administration System (WAS) for effective water loss control and increased water savings on irrigation schemes. This involved formal discussions with, and sending letters to, amongst others, officials of DWA and AgriSA; funding a consultancy to develop training material for presenting courses on WAS to water control officers; finalising and publishing the report on the impact assessment of the research for development of WAS; and publishing articles in *The Water Wheel* (November/December 2009), *SABI Magazine* (February/March 2010) and the magazine *Agri* (April/May 2010), to demonstrate the practical relevance of WAS.

The Framework for Education and Training in Water (FETWater)

During the year under review, the WRC continued to act as the DWA implementing agent for FETWater. This is a key national capacity-building initiative aimed at the development of competencies and capacity regarding water resource management. FETWater is a joint UNESCO, Belgian and South African programme which is currently in its second phase. Phase II of this programme has progressed well under the custodianship of the WRC. The annual conference took place in February 2010 at Magoebaskloof Hotel in Limpopo, where all seven networks presented their reports and business plans. During the 2009/10 financial year a total of 497 people were trained by FETWater; 311 of these were previously disadvantaged individuals and 227 were women. During 2010, an assessment study on the impact of the FETWater programme was conducted. The study assessed the impact of the programme (particularly its networks and products) on South Africa's water sector. Both Phases 1 and 2 were considered in this assessment while stronger emphasis was put on Phase II. The assessment showed that the FETWater programme was well managed by the WRC and that the programme realised outstanding achievements (output and outcome) under the guidance of the WRC.

Water Information Network – WIN-SA

The WRC continued to serve as the implementing agent for DWA for the Water Information Network (WIN-SA). This is in response to the recognition that competence at local government level is critical. WIN-SA is aimed at knowledge sharing and capacity building for local government. The 2009/10 financial year was a difficult year for WIN-SA due to unclear funding sustainability. However, even against the sudden shock of lack of funding commitment for the year, WIN-SA continued to generate knowledge targeted at local government. The activities of WIN-SA were reduced in light of the situation. The group continued to develop lesson plans and delivered several other knowledge-sharing products on:

- Water conservation and demand management
- Asset management

- HIV/AIDS, sector collaboration and water quality
- Free basic water
- Mine-water reclamation within the national benchmarking initiative
- Wastewater treatment plants and capacity building
- Collaboration, partnership, leveraging in infrastructure development

WIN-SA has also launched a social network (http://waterinformationnetworkning.com) which continues to grow. Since its establishment in July 2009, there are 193 members. Members of the network are taking ownership of the platform and use it to raise issues and facilitate discussions.

Outreach to schools

The Water Research Commission exhibited at the *Sasol Techno X 2009*, 17-21 August 2009 in Sasolburg. The objective of this event was to stimulate an interest in science, technology and maths amongst learners, teachers and the public in general. Approximately 15 000 learners attended. The exhibits aimed to excite visitors through user-friendly, hands-on, interactive and stimulating experiences with the focus on Gr. 7-12 learners and students. Forty copies of the WRC School Lesson Plans have been distributed to Ekurhuleni Metro as part of their community water awareness and education programme.

The WRC published a special edition of *The Water Wheel* called the Water Kidz edition, a collection of articles aimed at high-school learners covering a variety of water-related topics. Among others, the special edition was distributed at Sci-Bono's Water Week celebrations, attended by about 10 000 learners.

Two staff members of the WRC served as adjudicators of the *SAICE-DFC Water Schools Water Competition* which was held at Sci-Bono Discovery Centre, 24 July 2009.

IWA-SA/WISA Young Water Professional Forum

The WRC continued to support the joint International Water Association (South Africa) and Water Institute of Southern Africa (IWA-SA/WISA) Young Water Professionals Forum established in 2009 through the dedicated activities of one of the WRC's research managers, Dr Burgess. This forum addresses the needs of the young water professional in terms of professional growth and building their track record and is used to attract and enhance the role of young water scientists. The aim of the Young Water Professionals programme is to fulfil the present and future needs of the water and wastewater industries, which requires the continuous development of a workforce which is both adequate in size, capable in skills and strong in leadership. Young water professionals (students and professionals

in the water sector and under the age of 35) are the future of the water sector, and therefore the future of IWA and WISA. To fulfil this aim, the South African Young Water Professionals body has the following objectives: provide opportunities for YWPs to meet and communicate, provide career development opportunities for YWPs, support employers with the recruitment and retention of YWPs and ensure the Programme remains relevant to YWPs. The YWP Programme provides a range of activities, services and initiatives to young professionals and students in the water and wastewater sector. As well as engaging with YWPs, the YWP Programme connects with employers, academic institutions and other professional associations to ensure that the future needs of the sector are understood and addressed.

Dr Burgess was elected as the first President of the Southern African Young Water Professionals. The first newsletter of the SAYWPs was published and the *1st Southern African YWP Conference* was held in January 2010.

South African Youth Water Prize

A WRC staff member serves as an adjudicator on the national competition of the *South African Youth Water Prize* (SAYWP). The WRC also sponsored the SAYWP National Competition by issuing laptops to the finalists. The prizes were handed over during the Aqua Enduro Summit which was held on 2 July 2009 in Johannesburg.

Recognising the research community

The WRC strives to continuously improve on efforts to recognise the contributions of the water research community. Ongoing initiatives such as articles featuring the researchers and their work in *The Water Wheel*, personalised certificates of appreciation for *Water SA* reviewers and gifts for the reviewers of project proposals took place in 2009/10 and will continue in future. All *Water SA* reviewers who reviewed articles published or rejected in the 2009 publication/calendar year were recognised by being listed in the Index for Volume 35 (2009) which was published with the January 2010 issue, and were also awarded certificates.

ENHANCING KNOWLEDGE DISSEMINATION

The WRC is continuously searching for, improving and testing new mechanisms and tools that support effective knowledge sharing, dissemination and transfer. In addition to research and technology transfer reports, many workshops and open days were held. During the year under review the WRC focused on improving its electronic dissemination tools and further improved on current mechanisms for knowledge dissemination and sharing.

During 2009/10 the WRC finalised 57 research projects and published 102 research reports which were distributed widely within the water sector. In addition to publishing research reports, the WRC also published about 30 research briefs.

Open days, practical field visits and technical workshops

The WRC held a number of open days aimed at enhancing knowledge transfer. These open days were either subject-specific or of a general nature.

Examples are:
During September 2009 the WRC hosted an event to launch the *2008/09 Knowledge Review* and newly improved WRC website. The event, which was well attended by the research community and many other stakeholders, was held at the Bytes Conference Centre in Midrand. The Chairperson of the WRC Board, Dr Janine Adams, opened the event.

The WRC held an open day at Kosovo Township in Cape Town, to show the newly-constructed vacuum sewerage option that was built to provide better sanitation services to the community. The open day concentrated on the engineering, logistical and social difficulties of implementing technologies in informal settlements. Seventeen people participated in the WRC Open Day on 17 June 2009.

Technical workshops

A number of technical workshops were held by the various key strategic areas of the WRC. Some of the workshops aimed at knowledge sharing and transfer (training), while other workshops were aimed at developing terms of reference (ToRs) for future solicited research projects. The following are examples:

- A workshop on the Industrial Implementation of Toxicity Testing was held on 2 April 2009, Pretoria.
- Emergency Disinfection of Drinking Water. The workshop was held at the *WISA Drinking Water Quality Conference*, Port Elizabeth, 12 May 2009.
- A workshop on Optimised Monitoring of Groundwater – Surface Water – Atmospheric Parameters for Enhanced Decision-Making at a Local Scale was held on 15 May 2009, Stellenbosch.
- A Shared Rivers Initiative strategic workshop was held at Skukuza, 28 May 2009.
- A workshop on Reducing Uncertainties of Evapotranspiration and Preferential Flow in the Estimation of Groundwater Recharge was held on 19 June 2009, Stellenbosch.
- The WRC held a workshop in collaboration with the International Water Management Institute (IWMI) on Agrarian Reforms. The workshop addressed international experiences and was held on 24 June 2009, Pretoria.
- A workshop on Urine Separation was co-hosted with the CSIR, Stellenbosch, on 28 July 2009. The workshop addressed the application of source separation at various types of human dwellings, e.g. large complexes, new estates and office buildings, for improved functioning of wastewater treatment plants.
- The WRC hosted a workshop on Water Billing and Challenges on 30 July 2009 at the WRC, Pretoria. The event was attended by approximately 30 municipal officials.
- Sustainability and Appropriate Technologies workshop addressing the need for beneficiation from waste was co-hosted with DBSA and Mvula Trust, 5 August 2009, Midrand.
- Advanced Soil Survey Techniques and Predictive Mapping addressed a procedure for an improved soil survey technique for delineating land suitable for rainwater harvesting. This workshop was held at the University of the Free State, 5-6 August 2009.
- Review and Update of Resource Directed Measures (RDM) Methods for Estuaries. The workshop was held at the University of Cape Town on 12 August 2009.
- The WRC hosted a Legal Reform workshop, which was attended by the top legal practitioners in the water sector, on 3 September 2009 at the WRC, Pretoria. The subject of discussion was the draft report on the water law cases from 1998 to date.
- The WRC hosted a Water Resources Institutional Reform workshop on 10 September 2009 at the WRC, Pretoria, which resulted in the development of a robust discussion document.
- Free Basic Water Think Tank – this workshop was hosted by the WRC in partnership with the Department of Water Affairs (DWA) Directorate: Water Services Policy and Strategy Coordination, 29 September 2009, Pretoria.
- The WRC hosted a workshop on Groundwater Resource Directed Measures to assist with the updating of the current manual, 8 October 2009, Pretoria.
- Innovative Strategies for Brine Reduction and Brine Management, the product of a WRC project by Proxa (Pty.) Ltd. on brine handling, 19 October 2009, Pretoria.

- Regulatory Approval of Proposals for Metalliferous Tailings: Disposal Facilities, Development, Alteration and Closure – a Decision Support System, 19 October 2009, Pretoria.
- Impact of Water and Sanitation Provision over the Past Ten Years. The WRC co-hosted the workshop in partnership with TUT on 25 November 2009, Pretoria.
- A workshop was held for practitioners of Ecological Water Assessments, which brought together practitioners for rivers, wetlands, estuaries, water quality and groundwater with DWA senior water managers to streamline methods nationally, 26-27 November 2009, Pretoria.
- A Water Accounting workshop was hosted by the WRC in partnership with Rhodes University, 9 December 2009, at the WRC, Pretoria.
- The WRC hosted a workshop on Allocation Reform, the Bridge between Science and Implementation, on 1 February 2010 at the WRC, Pretoria.
- The WRC hosted a workshop on Research and Knowledge Flow on 8 February 2010.
- The WRC conducted a workshop on Renewable Energy on 22 February 2010, during the Water Utility Week, Durban. The workshop addressed the integration of renewable energy into the energy mix taking account of climate-related impacts.
- A Framework for the Classification of Drainage Networks in Savanna Landscapes, Skukuza, 1-5 March 2010.

In addition, the WRC organised, presented, chaired and recorded discussions as input towards identification of future research needs and the development of terms of reference for new solicited research projects. Workshops were attended by a range of stakeholders from universities, science councils, government departments and non-governmental organisations.

The Key Strategic Area addressing Water Utilisation in Agriculture organised workshops on the topics of five proposed projects:

- Technical and Financial Standards for Drainage of Irrigated Land, 15 April 2009, Pretoria
- Water Use and Nutritional Value of Economically Important Food Crops in the Diets of the Rural Poor, 24 April 2009, Pretoria
- Determining the Magnitude of Pollution by Agricultural Chemicals and Potential Risk for the Environment, 29 April 2009, Pretoria
- Developing Guidelines for Reclamation of Overgrazed Natural Grasslands through Rainwater Harvesting for Livestock Production and Biogas Generation, 5 May 2009, Pretoria
- Assessment of the Potential of Inland Fisheries to Produce Fish for Food Security in Rural Areas, 12 May 2009, Pretoria

The Key Strategic Area addressing Water Resource Management organised the following workshops:

- Developing Water Related Climate Change Adaptation Options to Support Implementation of Policy and Strategies for Water for Growth and Development, 15 June 2009, WRC, Pretoria
- Investigation of Effects of Climate Change on Eutrophication and Related Water Quality and Secondary Impacts on the Aquatic Ecosystem, 15 June 2009, WRC, Pretoria
- The Role of Local Community Institutions in the Adaptation of Rural and Urban Communities to the Impact of Climate Change on Water Access and Use,15 June 2009, WRC, Pretoria
- Modelling Daily Rain Gauge Network Measurement Responses under Changing Climate Scenarios,
- 15 June 2009, WRC, Pretoria Development of Decision Support Guidelines for Vulnerability Assessments and Adaptation Requirements among Rural Economies and Communities, including Gender Issues (Phase 1), 15 June 2009, WRC, Pretoria.

New and improved knowledge-dissemination mechanisms

Improved knowledge dissemination calls for the WRC to continuously search for innovative mechanisms in addition to established dissemination channels such as open days, workshops, research reports, technology transfer reports, publications such as *The Water Wheel*, *Water SA* and the *Knowledge Review*, and the media. During the 2009/10 financial year such new mechanisms included:

New WRC website

A new content-based and searchable WRC website was developed in the 2009/10 financial year. The WRC website was re-engineered and launched on 17 September 2009. The WRC website is now a fully functional content-based, searchable website containing all WRC documents including annual reports, knowledge reviews, *The Water Wheel, Water SA*, technology transfer reports and all other research reports. In addition, these are all searchable and contained in the knowledge hub. Searches can be refined and expanded according to the user's needs. The new website is part of a larger drive to develop an electronic water knowledge hub (EWKH) which will be a world-class digital water information centre.

Briefing notes

This mechanism attempts to communicate, in a clear and brief format, the outcome of various research studies to the water sector, with special emphasis on non-technical professionals and policy and decision-makers. To this end, a few years ago the WRC initiated the production of 1-2 page briefing notes – short communiqués highlighting research outcomes and sharing poignant messages and recommendations. Another 30 technical and policy briefs were produced during the year under review:

Technical briefs:

- Aquifer vulnerability to contamination
- Guide to catchment-scale assessments for surface water
- Review of indigenous rainwater harvesting and conservation practices
- Tools for effective management and rehabilitation of wetlands
- Assessing the impact of water-related membrane research
- Market risk, water management and the economy
- Water law of SA
- Best management practices on selected irrigation schemes
- Improved inspection of wastewater treatment works
- Cyanobacteria – detecting toxin-producing strains
- EDCs health risk assessment framework
- Process design manual for small wastewater
- treatment works
- Aligning SA's water and trade policies
- Impact of irrigation usage on groundwater resources
- Enhancing crop irrigation demand estimation
- Assessing River Health Programme research
- Climate change and water
- Sustainable sanitation through algal ponds
- Downstream influences of spills and releases from dams
- Impact of gender in the rural water sector
- Non-potable water use in SA
- Agricultural water management

- EDCs in drinking water – the concern
- Fluoride in drinking water
- On-site training of operators of small rural water treatment plants

Policy briefs:

- Climate change and water
- Water law of SA
- Impact of gender in the rural water sector
- Non-potable water use in SA
- EDCs in drinking water – the concern

Topic-based brochures

The WRC continues to advance its knowledge dissemination initiatives with a series of brochures advertising relevant research reports related to a series of topics. The following brochures were published during the 2009/10 financial year: drinking water (Version 2), sanitation (Version 2), membranes, environment and mine-water.

Knowledge Cafés

During 2009/10 the WRC continued to organise knowledge dissemination drives in the format of Knowledge Cafés. The main target groups of these Cafés are students, municipalities, NGOs and the water user sector. The Knowledge Café concept provides a framework for sharing knowledge, where participants from different parts of society can take an active part in the discussions. This is a creative facilitation technique that allows for synergistic growth of ideas. A Knowledge Café was held on 4 August 2009 in Johannesburg, with the title *Interlogue 09*, providing yet another innovative and exciting knowledge space.

A sector initiative on improving national water information and data management

The WRC, in collaboration with WIN-SA and DWA's Directorate addressing Water Resources Information Management, started an initiative to improve information and data management in the sector. An initial workshop was held at Irene on 2 September 2009, which started a sector-wide discussion on improving knowledge, information and data sharing; creating closer links between knowledge-rich institutions; centralising or enhancing access to data for further 'mining' and interpretation; and developing mechanisms to enhance the flow of information in and between institutions. A presentation was thereafter made to the Water Sector Leadership group titled: 'Improving national water information and data management: A sector initiative'. The initiative was well supported and a core group consisting of members from WRC, DWA, BUSA (Business Unity South Africa) and WIN-SA was established to develop an action plan which has been fed into the Water Sector Leadership Group. The action plan will be finalised in the 2010/11 financial year.

Conferences and seminars

During the year under review, the WRC organised and contributed to numerous local, regional, continental and international conferences. The wide scope of participation is illustrated in the following examples:

- The WRC supported Rand Water in successfully hosting the *IWA International Conference on Water Loss Management,* April 2009, Cape Town. As a key member of the planning team the WRC contributed towards the development of the programme and ensuring that South African and WRC knowledge on this subject was showcased. The event had a very high standard of papers, attracting many international participants, who were very

impressed with the hospitality and standard of organisation shown.

- The WRC hosted the international conference *Stakeholder Involvement in Transboundary River Basin Management*, 5-6 August 2009, at the Birchwood Hotel and Conference Centre, Boksburg, South Africa. The conference was attended by presenters from Uruguay, Argentina, Zambia, Botswana, Mozambique, Pakistan, Swaziland, Zimbabwe, Namibia and South Africa.
- The WRC was invited to a seminar titled *Monitoring and Evaluating the Implementation of IWRM* which was held in Tunis, 25-29 May 2009. The seminar was organised by the Joint Africa Institute in partnership with the African Development Bank. The WRC facilitated a presentation which was delivered by a member of staff from the University of the Western Cape.
- A research manager, who serves as the Chairperson of the Southern African Regional Irrigation Association (SARIA), organised a Symposium for members of SARIA, 16-18 February 2010, at the Bloem Spa Lodge and Conference Centre outside Bloemfontein. The theme of the Symposium was 'Best management practices for sustainable smallholder irrigation development', and the event was funded by the Department of Agriculture, Forestry and Fisheries (DAFF) through leverage funding to the WRC. The convener of the Organising Committee was Dr Sebolelo Molete of the National University of Lesotho. Papers were presented by SARIA members from the Democratic Republic of Congo, Malawi, Zimbabwe, Madagascar, Zimbabwe, Lesotho, Botswana, Swaziland, Mozambique and South Africa. Members from Tanzania, Angola, Namibia and Mauritius were also invited but unable to attend. A site visit to the Lesotho Highlands Scheme was undertaken and the annual meeting of SARIA members was held on the two days following the Symposium.
- The WRC supported DWA in the preparation towards the *2nd Africa Water Week*, which was held at Gallagher Estate, Midrand, 9-13 November 2009. The WRC assisted DWA with the technical programme and led and participated in a number of technical sessions and side events. The WRC developed the session entitled: 'Mitigating and adapting to the impact of climate change'. A WRC research manager gave a presentation on the impact of climate change on water resources in Southern Africa and the Indian Ocean island states. A side event on the 'Evaluation of freshwater goods and services' was held on 11 November 2009. The WRC, in partnership with the Stockholm Environment Institute (SEI) and GTZ, also hosted a workshop ahead of the Africa Water Week. The objectives were to access the voices and positions of regional players on issues of sustainable sanitation and to feed these inputs into the Water Week process.

Other conference presentations by WRC staff included:

- A presentation addressing the 'WRC's role in supporting water demand management interventions in South Africa' was given during the *IWA Water Losses Conference*, Cape Town, 26-30 April 2009.
- An opening address was delivered at the *Water Institute of Southern Africa 2nd Drinking Water Quality Conference*, 11-13 May 2009, Feather Market Centre, Port Elizabeth. The conference was attended by 540 delegates.
- An opening address was delivered at the *Water Institute of Southern Africa International Membrane Technology Conference*, 13-15 May 2009, Spier Hotel, Stellenbosch, South Africa. Over 200 delegates and 24 international speakers participated in the conference.
- Two platform papers at the *8th International Conference on Acid Rock Drainage (ICARD)* in Skellefteå, Sweden, 21-26 June, 2009. The papers, entitled 'Research that underpinned the development of a regional mine closure strategy in South Africa' and 'Progress report

on South African mining-related water research and other activities' were well received.

- Keynote address at the *12th IWA Sludge Conference – Sustainable Management of Water and Wastewater Sludges*, Harbin, Heilongjiang Province, China, 8-10 August 2009. The paper was entitled 'The economic, social, environmental and health impact of implementing sludge guidelines in a developing country: South Africa'.
- Keynote address entitled 'Grasslands and biodiversity as natural water infrastructure' at the *Grassland Partnership Symposium*, SANBI, Pretoria, 11 November 2009.
- A presentation on 'Rainwater harvesting to improve rural livelihoods' was given during the annual *Orange River Basin Symposium* which was organised by the University of the Free State and held on 11 and 12 November 2009.
- A opening address was given at the *Bi-annual Groundwater Division Conference*, 16-18 November 2009, Somerset West.
- Presentations during the *1st IWA Development Conference: Emerging Solutions to Water and Sanitation Challenges*, 15-19 November 2009, Mexico City, Mexico. The WRC presented two papers:
  - 'Innovative approaches to sludge management in South Africa – Technological development to advanced guidelines'
  - 'Releasing the energy potential of wastewaters: Key challenges to implementation in South Africa'
- The WRC contributed a paper on 'Institutional reform and modernisation of irrigation systems in South Africa' to the *5th Asian Regional Conference of ICID*, 9 December 2009.
- A paper entitled 'Linking knowledge and human resources in the water sector' was presented at the *WISA Water Sector Capacity and Skills Conference*, 18-19 February 2010, Port Elizabeth.

Exhibitions

As part of its knowledge sharing and dissemination activities the WRC participated in a number of exhibitions at conferences, symposia and workshops, using these to disseminate information in the form of reports and other publications. Exhibitions in which the WRC participated included:

- Parliamentary Portfolio Committee on Water and Environmental Affairs, Parliament, 13-14 July 2009, Cape Town
- The Budget Vote, 24 June 2009, Old Assembly Chambers, Parliament, Cape Town
- *Agricultural Alumni Association of the University of Venda,* 6-7 August 2009, Khoroni Hotel, Thohoyandou
- *Water Loss 2009 Conference,* 26-30 April 2009, Cape Town
- *Drinking Water Conference,* 11-13 May 2009, Port Elizabeth
- *Sasol Techno X 2009,* 17-21 August 2009, Sasolburg
- *International Mine-Water Conference,* 19-23 October 2009, Pretoria
- *IMESA,* 28-30 October 2009, Cape Town
- *2nd Africa Water Week,* 9-13 November 2009, Midrand
- *Groundwater Conference,* 15-18 November 2009, Somerset West
- *North-West University Symposium,* 20 November 2009, North-West University, Vanderbijlpark
- *Provincial Water Indabas on* 23-24 November 2009, Cape Town and 7 December 2009, Bloemfontein
- *Southern African Young Water Professionals Conference 2010,* 19-20 January 2010, Pretoria

Publications

The journal *Water International* (Volume 34, No. 3 (September 2009): 313-324) published an article by Andrew Pott, Jason Hallowes, Gerhard Backeberg and Max Döckel on 'The challenge of water conservation and water demand management for irrigated agriculture in South Africa'.

An extended abstract of a paper on 'Institutional reform and modernisation of irrigation systems in South Africa', by Gerhard Backeberg, was published in the *Proceedings of the 5th Asian Regional Conference of ICID* and the full paper was included in a CD which was distributed to about 700 delegates from member countries of ICID who attended the *5th Asian Regional Conference*.

A paper was published in the journal *Bioremediation, Biodiversity and Bioavailability* (Volume 3, No. 3: 36-42) by Mmbofheni Stanley Liphadzi (South Africa) and Mary Beth Kirkham (USA) entitled 'Partitioning and accumulation of heavy metals in sunflower grown at Biosolids Farm in EDTA-facilitated phytoremediation'.

Books and special editions of *Water SA*

Special book publication

- The book *Incentives and Instruments for Sustainable Irrigation*, published in January 2010 by The Wessex Institute of Technology (WITPress.Com) includes in 'Part II: Case Studies' a chapter entitled 'Application of economic instruments, tradable licences and good governance for sustainable irrigation water conservation in South Africa' authored by WL Nieuwoudt (University of KwaZulu-Natal, Pietermaritzburg) and GR Backeberg (WRC). The chapter explains how available research knowledge based mainly on WRC reports can be used to support implementation of the 2004 National Water Resource Strategy, with particular reference to irrigated agriculture.
- JN Bhagwan compiled and edited a book entitled *A Compendium of Best Practice in Asset Management* on behalf of the Global Water Research Coalition (GWRC). The book was launched in January 2010 and covers 25 case studies on innovative processes and interventions in asset management.

Special editions of Water SA

During the year under review *Water SA* has published a special edition on the *2010 Southern African Young Water Professionals Conference*, organised by the Southern African Young Water Professionals Programme under the auspices of the International Water Association and the Water Institute of Southern Africa. Selected papers from the Conference, held in Pretoria, 19-20 January 2010, were published in *Water SA* Volume 36, No. 2, which was issued in March 2010. The guest editor for the special edition was Dr Jo Burgess, WRC research manager and then President of the WISA/IWA Southern African Young Water Professionals.

INNOVATIONS AND KNOWLEDGE APPLICATION

The WRC supports the protection and transfer of innovative methods and technologies that may result from WRC-funded research, where and if required. Some technologies, processes and products require commercial involvement in order to make them publicly available and some academic organisations have required WRC support in this regard.

During 2009, the WRC filed three patent applications, two of which are national phase applications i.e. patent rights were applied for in South Africa and Australia based on the PCT (Patent Cooperation Treaty) applied for during the previous financial year, for the technology entitled 'Treatment of wastewaters using dual stage membrane bioreactors'. A third patent was only filed in South Africa and is entitled 'Reverse flow microfiltration'. This technology emanates from an innovation from a recently completed WRC project undertaken by the Durban University of Technology. The main aim of this project was to develop a robust, inexpensive and sustainable

water treatment unit for rural areas, based on the woven fibre microfiltration fabric. The treatment unit is being piloted in the northern part of the Eastern Cape and has been demonstrated to approximately 30 local and district municipalities in a WRC workshop held at one of the villages undertaking the pilot trials. It is envisaged that all three patent applications will be granted by June 2010.

In addition, the WRC has a number of patented innovations that are already licensed out. Currently, the WRC has licence agreements with 13 reputable South African companies. These include one royalty-earning innovation, i.e. ***The Secondary Metabolites***, a cluster of 13 patents, currently licensed to Synexa-Life Sciences; the WRC has been receiving royalties since 2006. Two other licensed innovations are currently undergoing further development: the ***BioSURE™ Process,*** a cluster of 36 patents which is licensed to ERWAT, and the ***Ambient Temperature Ferrite Process (ATFP)*** for removing iron from acid mine drainage, which is currently licensed to Environmental Technology Agencies (ETA). The newly patented technology ***Treatment of waste water using dual-stage membrane bioreactors*** is being piloted. This technology was licensed to AtHydro in March 2010. The ***Olive Wastewater Treatment Technology*** was assigned to the University of Cape Town (UCT) and a benefit-sharing agreement was concluded.

Large-scale manufacturing and commercialisation of one of the WRC's licensed technologies, namely the ***Capillary Ultra Filtration (CUF)***, is progressing well. On 29 October 2009, Ikusasa Water launched the Ultrafiltration Capillary Membrane Technology manufacturing plant in Somerset West. The ultra-filtration membrane technology produces high quality water by conventional treatment without the use of chemicals. Most membranes used in South Africa are imported at great cost. This innovation provides suitable and cost-effective, locally-produced, ultra-filtration membranes and filtration systems for use in water treatment and industrial water management.

Alignment with the IP Act

In complying with the new Intellectual Property Rights from Publicly Financed Research and Development Act (Act No. 51 of 2008) (IPR Act), the WRC has developed an interim IP Guiding Principles document, which was approved by the WRC Board Committee for Research Policy and Strategy (RPS). A new IP and Benefit sharing policy will be developed once the IPR Act Regulations are finalised.

Awarding innovation

The WRC acknowledged inventors of unique water technologies on 1 March 2010 at The Elegant Lodge in Pretoria. Two innovations were recognised, including the South African ***Capillary Ultra Filtration*** membrane technology, a water treatment system which was developed

through fruitful collaboration between Professor Ed Jacobs of the University of Stellenbosch and Professor Lingam Pillay, of the ML Sultan Technikon (now Durban University of Technology). The capillary ultrafiltration membranes are capable of purifying water to very high standards. The other innovation which received an award was the ***Dual-stage Membrane Bioreactor Process Technology*** developed by Dr Wade Edwards. This technology, while being highly innovative and considered as Best Available Technology (BAT) in international terms, consists of a relatively simple flow configuration and is therefore ideally suited to treat industrial effluent which is difficult to treat and where requirements for high quality treated water exist.

Innovations

Lightweight VIP structures

Conventionally built Ventilated Improved Pit latrines (VIP) have numerous problems associated with their structure, especially with regard to the accessibly of the pit and the mobility of the structure as well as its long-term sustainability. The University of Pretoria has developed a very innovative light-weight VIP superstructure. The whole structure, including the slab, weighs less than 500 kg, and uses advanced materials to achieve the required strength and robustness. The system has been developed as a modular unit which can be built locally by trained artisans. In addition the cost of construction is only half as much of the cost needed to build a brick VIP.

First integrated digital South African Guide for the Design and Operation of Sewerage Systems

South Africa has never had an integrated and comprehensive guide on the design and operation of sewerage systems. The information is scattered over a number of publications from the Red Book, SABS codes and engineering textbooks. The new digital guide includes both pictures and videos and may also serve as a capacity building and training tool, especially with the new recruits entering the water services industry.

Nanovac and the Gobbler

Since many peri-urban areas in South Africa are served by pit structures, applicable and innovative developments that will improve emptying the pit through safe and efficient removal of sludge are of key importance. In many areas the only possible way to access the sludge is by manual labour. However, two innovative products have been developed that are light and simple to handle, i.e. the Nanovac and the Gobbler, and provide a safer solution. The two are still in a development/testing stage but have shown great potential. The Nanovac comprises a small vacuum pump, which can be coupled to a separate tank. It can be carried to places which no other machinery can access. The collection tank is a modified 'Hippo roller', which incorporates a handle and can be rolled from the vicinity of the pit to a transfer tank or a transporting vehicle. The Gobbler is a simple chain-based motorised auger system which extracts material from pits and gobbles up, in addition to sludge, many other obstructing materials which have found their way into the pit.

LEADING WATER-CENTRED KNOWLEDGE

The WRC serves South Africa as its water-centred knowledge hub. This requires the WRC's staff members to lead, facilitate and contribute to various national, African and global initiatives, networks and other activities that contribute to both knowledge generation and its dissemination and transfer.

National initiatives

Strategic membership in key national networks

The WRC is a patron member of WISA, a member of the Water Sector Leadership Group, a member of the National Science and Technology Forum (NSTF) and a member of the Committee of Heads of Organisations of Research and Technology (COHORT) and IWA-SA.

Local leadership positions

Staff members continue to undertake various leadership positions. These positions include positions such as:

The first President of the WISA/IWA Southern African Young Water Professionals; President of the Water Institute of Southern Africa (WISA) (until 27 May 2009); Chairperson of the Southern African Regional Irrigation Association (SARIA); member of the Executive Committee of the South African National Committee on Irrigation and Drainage (SANCID); Treasurer of SANCID; member of the Board of the Agricultural Research Council (ARC) (until November 2009); member of the Board and Council of WISA, member of the WISA Education, Training and Youth Development Portfolio Committee Board; member of the Board of the Institute of Water Research (IWR) (Rhodes University); member of the Academy of Science of South Africa (ASSAF); member of South Africa

Committee for the International Association of Hydrological Sciences; member of the Executive Committee of the Committee of Heads of Organisations of Research and Technology (COHORT); member of the Executive Committee of the National Science and Technology Forum (NSTF) and a representative of the Science Councils; member of the Executive of the International Water Association (South Africa) (IWA-SA); member of WISA's Mine Water Group Management Committee; member the Environmental Committee of Coaltech 2020 Surface Environment Committee; member of the South African Power Utility Research Advisory Board (Eskom); member of Ecolink (an NGO); member of the Advisory Committee of the Groot Marico Catchment Agency; Member of the Advisory Board of the International Centre for Water Economics and Governance in Africa (IWEGA); Member of National Outbreak Response Team (NORT), Member of the National Implementation Plan for Stockholm Convention (NIP), member of the HIV and AIDS Core Group on mainstreaming HIV and AIDS in the water services; Chairperson of the Groundwater Division of the Geological Society of South Africa; member of the Board of Directors of Sci-Bono Discovery Centre; member of the national and international UN Climate Change Committee; member of the Integrated Water Resources Planning National Steering Committee; member of the Board of Monash University; Chair of TIGER Initiative on the use of earth observation satellite tools; member of the South African Mercury Association (SAMA); member of the Sanitation Technical Advisory Group of the Department of Science and Technology (DST) and member of the Advisory Board of the DST's Nanotechnology Innovation Centre; member of the Government Task Team convened by the Department of Minerals and Recources (DMR) to develop an overarching strategy for mine closure; member of the Chamber of Mines' Steering Committee to develop Guidelines for the Vegetation of Residue Deposits against Water and Wind Erosion; member of the National Multi-sectoral Committee on Cholera and Influenza a (N1H1) of the Department of Health (DoH); a task group member of Eskom Demand Side Management which forms part of response strategy; member of the Consortium for the Restoration of the Olifants Catchment (CROC).

Membership in national task groups and steering committees led by the Department of Water Affairs (DWA)

Member of the:

- Steering Committee of the National Groundwater Strategy
- Strategic Advisory Committee on Asset Management
- National Water Resources Planning Systems User Forum
- Technical Steering Committee of the Working for Water Hydrology Review Panel
- Working for Wetlands Steering Committee
- Wetland Inventory Advisory Committee – Working for Wetlands
- Executive Committee of the Adopt-a-River programme
- Free Basic Water Services Task Team
- Water Demand Management and Conservation Task Team
- Water Services Regulation Task Team
- Project Steering Committee for the Development of a Comprehensive Framework for Integrated Water Resource Management in the Mining Industry
- Project Steering Committee for the Development of Best Practice Guidelines for the Mining Industry
- Water Allocation Reform Advisory Group
- Water Pricing Strategy review national team and chair of the Pricing Strategy Working Group on Water Management Issues.

Leading and strategically contributing to the success of national initiatives

- The WRC continues to lead the Network on Irrigation Research and Extension for Smallholder Agriculture (NIRESA). During the year under review, the WRC organised a workshop for members of the Network during October 2009 at Taung in the Northern Cape Province. Participation was from national and provincial government departments, the ARC, universities, private consultants and farmers. The topics which were discussed centred mainly on smallholder irrigation development by means of joint ventures.
- The WRC continues to lead WIN-SA (in its position as an implementing agent). WIN-SA has progressed well, achieving its objectives while facing a situation of uncertain and limited future financial support. For more details regarding WIN-SA achievements during the year under review please see section on 'Building Capacity'.
- The WRC led the activities of the Framework for Education and Training in Water (FETWater), a joint UNESCO, Belgian and South African programme aimed at building more capacity in integrated water resource management. Please see the section on 'Building Capacity' for further details.
- The WRC continues its support to the River Health Programme (RHP). The RHP is an ongoing partnership between DWA, CSIR and the WRC. The RHP, which was initiated in 1994, has now become the basis of a national monitoring programme. The RHP has an operational database which is accessible to all users. The WRC initiated the re-launch of Adopt-A-River Programme and is working closely in collaboration with DWA officials. The launch took place during Water Week, 2010 at Eerste River, Western Cape. The Adopt-A-River Programme is a voluntary monitoring initiative aimed at public awareness and participation in water resource management across the country. It is a non-technical sub-programme of the River Health Programme.
- The WRC continues to co-ordinate the research collaboration between France and South Africa under the auspices of the Department of Science and Technology (DST) .
- The WRC continues to play a key role in supporting DST's nanotechnology platform, whereby the Water Nanotechnology Strategy and Centre was established through a collaborative effort of MINTEK, WRC and DST.
- The WRC and Sci-Bono continue to work together developing and supporting various mechanisms of transfer of water-related knowledge to school learners.
- The WRC led the organisation of the *1st Southern African YWP Conference* at the CSIR International Convention Centre, Pretoria, on 19 and 20 January 2010. The Conference was very successful, with 330 delegates in attendance, including delegates from Ghana, Malawi, Uganda, Mozambique, Namibia, Zimbabwe and Swaziland. For further details see the section on Building Capacity.
- The WRC, together with WIN-SA, DWA, and DBSA, established an Infrastructure Asset Management (IAM) Reference Group. The first aim of the Group is to build capacity for IAM in the Northern Cape, as pilot, with the intention to roll out IAM capacity building to other smaller district municipalities and local authorities. The group aims to build decision and systems capacity in the Northern Cape through workshops, and the use of WRC-created IAM knowledge tools and eWISA resources.
- The WRC participated and contributed to the South African position paper in preparation for *the United Nations Framework Convention on Climate Change*, by providing input at the National Climate Change Committee meetings hosted by the Department of Environmental Affairs (previously DEAT) on 4 and 20 May 2009. The WRC also provided water-related research information to the

meeting on the 2nd National Information and Consultation Session, held in Pretoria on 4 August 2009, in preparation for the *United Nations Climate Change Conference* in Copenhagen (COP15), December 2009.

Strategic positioning

Ministerial visit

The Minister of Water and Environmental Affairs, Minister Sonjica, visited the WRC on 30 September 2009. She highlighted some of the key challenges facing the South African water sector, including climate change, water conservation and demand management, water pollution, rainwater harvesting and the role of South Africa in the rest of the African continent.

Stakeholder meeting

In September 2009 the WRC consulted its key stakeholders during a specially-designed stakeholder session. The session included presentations by stakeholders followed by a facilitated discussion. Stakeholders represented the Department of Water Affairs, SALGA, water professionals (WISA), local government, industry, the global water sector, and research organisations. Stakeholders presented and discussed their views on the challenges facing the South African water sector and the role that research and the WRC should play in addressing these challenges.

Portfolio committee

The WRC participated in a number of meetings of the Portfolio Committee for Water and Environmental Affairs as well as a joint meeting of this Portfolio Committee with other Portfolio Committees including:

- The Joint Meeting of the Portfolio Committee on Water and Environment Affairs and the Portfolio Committee on Agriculture, Forestry and Fisheries for the departmental briefing on the budget and strategic priorities for 2009/11, 10 June 2009.
- The Parliamentary Budget Vote debate, 24 June 2009, delivered by the Minister of Water and Environmental Affairs.
- The orientation workshop for the Portfolio Committee on Water and Environmental Affairs in Cape Town on 13 July 2009. During the workshop the WRC gave the Portfolio Committee in-depth presentations on key issues regarding the global, African and national water sector, water research, climate change vulnerability, management of water resources, and water-linked ecosystems.
- The WRC briefed the Portfolio Committee on the *WRC Annual Report 2008/09*, 20 October 2009.
- The Public Hearings on Climate Change, 17-18 November 2010.

The WRC is providing the Portfolio Committee members with lists of the latest WRC reports on an ongoing basis.

Strengthening strategic relationships

- The WRC is strengthening relationships with key stakeholders in the sector by formalising its working relationships with these organisations. During the year under review, a memorandum of understanding (MoU) was concluded with WISA, and the WRC are in the final stages of negotiation of a MoU with ESKOM. The WRC has also initiated strategic discussions regarding future collaboration with SASOL.
- The WRC held discussions with the Department of Agriculture, Forestry and Fisheries (DAFF) on the extension of the current Collaboration Agreement between the DAFF and the WRC into the future.
- The WRC signed a MoU with the CSIR, Irish Aid, Amanz'abantu and DoE, Eastern Cape for the pilot programme for the franchising of water and sanitation facilities at schools in the

Butterworth Educational District. This MoU establishes the commitments of all parties to make this project realisable.
- The WRC has renewed its MoU with the Working for Water group.
- The WRC has continued to support the Department of Agriculture, Forestry and Fisheries under the current MoU.

Supporting water research in Africa

In Africa, the WRC supports and leads activities that are aimed at building water-centred knowledge. Key leadership positions and initiatives include:

Leadership positions

WRC staff members are serving as members of the:
- African Network of Basin Organisations (ANBO)
- Advisory Board of the newly established Institute for Water Economics and Governance in Africa (IWEGA)
- Water Research Fund of Southern Africa (WARFSA)
- African Groundwater Commission's (AGWC) Technical Task Team. The AGWC was established under the auspices of the African Ministers' Council on Water (AMCOW)
- RAMSAR Scientific and Review Panel on Wetland Issues in Africa (see below)
- IWMI Wetlands Steering Committee for the Limpopo Basin, (where the focus is on the GaMampa Wetlands and community) and for the Southern Africa Region.

Other key initiatives

The WRC and the Stockholm Environment Institute (SEI) signed an agreement in July 2009 to collaborate on issues of common interest. During the year under review the WRC, in collaboration with SEI, initiated the development of a regional Sanitation Knowledge Node. The node will act as a point of sharing and disseminating of sanitation knowledge in the African region (also see section on 'Global initiatives'.

The WRC continues to support the NEPAD programme on the African Network of Centres of Excellence in Water Science and Technology. The WRC facilitated a two-day consultative workshop – 'The Consultative Workshop on Establishing the Southern Africa Network of Centres of Excellence in Water Science and Technology' held at the Birchwood Hotel and OR Tambo Conference Centre, Johannesburg, on 2 and 3 April 2009. The deliberations were informed by the draft report on the institutional evaluations developed by IRD and WRC as well as by key stakeholders such as NEPAD, SADC Science Desk, AUC – HRST, AMCOST Bureau, Representatives of the various Ministries and institutional representatives. The delegation decided that Stellenbosch University will take the role of Administrative Co-ordinator for the NEPAD Southern Africa Network of Centres of Excellence in Water Science and Technology. All other partners are co-equals and Centres of Excellence in their own right with a leadership structure that is equal, and represent the Southern African region. The participants agreed on a generic administration and governance structure and agreed on principles and values for the Southern Africa Network of Centres of Excellence in Water Science and Technology. The establishment of the West African Network of Centres of Excellence in Water Science and Technology has started. A member of the IRD, Dr Jean-Marie Fritsch and a WRC Director visited the Kwame Nkrumah University of Science and Technology in Kumasi, Ghana, 27-30 July 2009, to evaluate this institution for its suitability for inclusion into the West African node.

The WRC supports the TIGER Initiative (led by the Department of Environmental Affairs), a UNESCO-IHP supported programme that is aimed at assisting African countries to overcome problems

faced in the collection, analysis and dissemination of water-related geo-information, by exploiting the advantages of earth observation technology. The WRC is, with effect from December 2009, hosting the Southern Africa Regional Centre of the TIGER Initiative. The Initiative is aimed at supporting the African continent to access and use earth observation satellite data and information made available by space agencies (such as the European Space Agency and the Canadian Space Agency) in management of their water resources. An agreement between the WRC and the International Institute for Geo-Information Science and Earth Observation (ITC), of The Netherlands, has been entered into in this regard. A WRC research manager, who co-ordinates TIGER activities including capacity building (i.e. organising training workshops and courses) for aquatic scientists involved in TIGER projects, also manages the centre.

A WRC research manager is participating in the project 'Groundwater knowledge sharing and cooperation in SADC' led by the British Geological Survey. A WRC research manager will serve as an advisor on the project.

The WRC collaboration with the United Nations Environmental Programme is ongoing. The publication *Freshwater Under Threat: Vulnerability Assessment of Freshwater Resources to Environmental Change – Africa* was produced by the WRC on an agency basis for the UNEP, Division of Early Warning and Assessment. The report was launched at *the Africa Water Week* in November 2009. A follow-on study was carried out in partnership with UNEP entitled *Assessment of African Transboundary Water Vulnerability*. The draft report was widely discussed and 'workshopped' together with participants from all regions of Africa. The final report is available electronically from the WRC or UNEP websites.

The *2nd Africa Water Week* held at Gallagher Estate, Midrand, 9-13 November 2009, was hosted under the aegis of the African Ministers' Council on Water (AMCOW) and the strategic direction of the African Union Commission, and in partnership with the United Nations entities, African Development Bank, African Network of Basin Organisations (ANBO), African Network of Civil Society Organisations on Water and Sanitation (ANEW), development co-operation partners and their agencies, the EU and G-8 countries, and the Government of South Africa. The WRC assisted DWA with the technical programme and led and participated in a number of technical sessions and side events (for further details see the section 'Conferences').

The WRC hosted an Ethiopian Delegation consisting of members from the Ethiopian Ministry of Water Resources, Water Resources Research and Development Directorate, 14-19 February 2010. The Ethiopian government are investigating the possibility of duplicating the institutional model of the WRC in Ethiopia.

The WRC has a bi-lateral agreement with the Kenya Water Institute (KEWI) of the Republic of Kenya. The agreement, which specifically includes a section on information exchange, is ongoing. It was signed on 12 August 2008 and is valid until 12 August 2013, with the option of renewal.

A WRC director, who is a member of RAMSAR's Science and Technical Review Panel (STRP), is representing the African Region. This has given the WRC a platform to influence wetland research

and technology throughout the African continent. Through collaboration the WRC with RAMSAR will be able to engage national focal points in each Africa member state. The Director attended an annual general meeting and workshop in Gland, Switzerland, 22-27 February 2010, in which he worked with several wetland experts to develop wetland guidelines that will be distributed all over the world.

Global initiatives

The WRC continues to strengthen global partnerships and alliances and to develop new partnerships with the aim of linking South Africa's research community and the water sector to international water-centre knowledge. While many of the global leadership positions are ongoing, a number of new positions and initiatives were created in 2009/10.

Members of staff of the WRC continue to serve in leadership positions as follows:

- The CEO serves as a Board Member of the Global Water Research Coalition (GWRC)
- The CEO serves as the Chairperson of Streams of Knowledge, a global coalition of resource centres
- The CEO serves on the Governing Council and the Programme Committee of the International Water Association (IWA)
- The CEO is an invited member of the organising team for the Inter Academy Council project on the Global Status of Water (see below)
- The CEO is a member of the Advisory Committee on Water Scarcity to the Food and Agriculture Organisation (FAO)
- A research manager serves on the management committee of the IWA Specialist Group on Nanoparticles
- A director serves on the IWA Specialist Group on Sludge Management Governing Board
- A director serves as a member of the International Commission for Irrigation and Drainage (ICID) Working Group for the Use of Poor Quality Water for Irrigation
- A director serves as the Advisory Committee of the IWA Global Development Agency
- A director is the country's representative and a member of the International Association of Agricultural Economists (IAAE)
- A director served on the Scientific Programme Committee for the 1st IWA Development Congress on Emerging Solutions to Water and Sanitation Challenges, 6-9 September 2009, Mexico
- A research manager serves as the Chairperson of the TIGER Initiative, led by the European Space Agency in Rome (see above)
- A director serves as a Chairperson for the River Basin Group on the GEF Programme on International Waters
- The WRC is the Secretariat for the UNESCO International Hydrological Programme National South Africa Committee

Global networks and partnerships

- Inter-Academy Programme for Water (IAP)
  The WRC continues to represent the South African Academy of Science (ASSAf) in discussions addressing the development of capacity for managing water resources by the Inter-Academy Programme (IAP) for Water. An African Academy-led programme on Water has been initiated within NASAC, the network of African Academies.

- The Global Water Research Coalition (GWRC)
  The WRC continues to be an active member of the GWRC. The WRC is currently collaborating with members of the GWRC in research programmes addressing algal toxins and asset management, as well as the programme on

'Energy efficiency in the water industry'. The WRC has contributed several case studies to the GWRC project Energy Efficiency in the Water Industry: A Compendium of Best Practices and Case Studies. The objective of this research study is to develop a compendium of best practice in the energy-efficient design and operation of water industry assets.

- Cap-Net
  The WRC continues to host Cap-Net, a global network addressing training for Integrated Water Resource Management (IWRM), under UNDP. The network focuses on training of trainers, and has assisted dissemination and replication of new initiatives by supporting network members to strengthen their knowledge in a particular subject.

- Inter Academy Council (see above)
  The WRC participates in a study initiated by the Inter Academy Council (IAC). The IAC is an association of the world's academies of sciences, located in Amsterdam, The Netherlands, and governed by a Board of 15 Academy Presidents (chosen by 100 academies of sciences), representing countries of all regions and levels of development, and three representatives of international scientific organisations. The IAC has undertaken an independent, evidence-based study which will result in recommendations to decision-makers for ensuring sustainable water systems and water resources globally. The study will be conducted by a Study Panel of international experts, with consultation and input from scientific academies from over 100 nations.

- World Water Council
  The WRC is a member of the World Water Council (WWC) from June 2009. The WWC is an international multi-stakeholder platform established in 1996 on the initiative of renowned water specialists and international organisations, in response to an increasing concern about world water issues from the global community.

- Global Alliance of Research Organisations of International Network for Acid Prevention (INAP)
  The WRC is a member of the Global Alliance of Research Organisations of INAP, an international grouping of mining companies that was created to help meet the challenge of effectively dealing with the acid rock drainage (ARD) problem. This network was founded in 1998 and has since become a leader in mobilising international information and experience in research, technology transfer and networking. A recently completed major initiative of INAP was to develop a Global Guide for the Management of ARD.

- The Netherlands – South Africa co-operation
  The CEO, by invitation, facilitated a one-day seminar on Improving Service Delivery in the Water Sector by Public Institutions. The day was organised by the Dutch Embassy and the CSIR. The seminar attracted nearly 200 participants. The seminar aimed at seeking water service delivery solutions through partnerships amongst public institutions, the private sector and researchers. The Dutch Minister for Foreign Trade, Mr Frank Heemskerk, head of the Dutch business team, and other Dutch delegates shared their partnership experiences with the South African team. This seminar was followed by a number of other co-operative meetings which were attended by a WRC director and research manager.

- A memorandum of agreement with the Water Engineering and Development Centre (UK)
  The agreement with the Water, Engineering and Development Centre (WEDC), Loughborough University, UK, related to co-operation in water, sanitation and wastewater management, is ongoing. During the year under review the WRC was involved

in submission of an international research proposal in collaboration with WEDC. The agreement was signed on 30 September 2005 and is valid until either one of the parties terminate.

- Participation in the 2009 *Stockholm World Water Week*

  The WRC played a prominent role in the *World Water Week* held in Stockholm, Sweden (16-22 August 2009). By invitation the CEO chaired a side event organised by Sustainable Sanitation Alliance (SuSanA) on 16 August 2009. The side event was convened by SuSanA – GTZ in association with SEI-EcoSanRes, Eawag-Sandec, WB-WSP and UN-Habitat. The WRC is a member of the alliance. The Learning Network side-event showcased the current and future activities of the alliance. During this session partners introduced the network, discussed its roadmap and highlighted results from several thematic working groups. In addition the CEO also co-chaired the 19th meeting of SuSanA i.e., the Plenary Meeting, on 18 August 2009. The meeting discussed the SuSanA Vision document and provided an overview on working groups' progress.

  By invitation from the German MBZ, the CEO participated in a lunchtime question and answer session with Dr Pathak, Stockholm Water Award winner. The discussion was chaired by Mr Franz Marré, Head of Division: Water, Energy, Urban Development, Federal Ministry for Economic Cooperation and Development (BMZ), Germany. Dr Arne Panesarfrom, GTZ, also participated in the discussion.

  The WRC, CSIR and its partners hosted a special workshop at the Stockholm *Water Week* with the objective of promoting the concept of franchising of water services for operation and maintenance (O&M).The session was well attended and received good attention, especially since the WRC has made significant progress with the pilot to date. International interest has been expressed in becoming partners in this pilot project.

- Sanitation policies and regulatory frameworks (also see section on 'Africa')

  The WRC participated in a four-day programme organised by SEI EcoSanRes group on Sanitation Policies and Regulatory Frameworks for Reuse of Nutrients in Wastewater and Human Excreta and hosted by the Stockholm Environment Institute. This included a trip to an ecological village and a sanitation policy workshop. During the workshop they presented a paper on South Africa's national legislation and targets on sanitation in relation to local implementation.

- Climate change

  During the *United Nations Framework Convention on Climate Change (UNFCCC)* meeting, 1-12 June 2009, Bonn, the WRC participated in the negotiation process, as a South African team member dealing with Research and Observation Systems as well as the Nairobi Work Programme.

  A WRC research manager was invited by the Director-General of Environment for the European Union in Denmark to make a presentation on the artificial recharge of groundwater as an adaptation option for climate change impacts, 23-24 November 2009.

ORGANISATIONAL GOALS AND OBJECTIVES (KEY PERFORMANCE AREAS)

The WRC has identified five key performance areas:

- Stakeholder relationships
- Financial perspectives
- Learning and innovation
- Internal processes
- Organisational transformation

The WRC continued to use these key performance areas (KPAs), which were developed with the aim of continuously directing the organisation toward excellent performance. The areas include input and output indicators which are assessed and revised annually.

Customer/stakeholder relationships

This KPA addresses the WRC leadership and positioning activities and provides feedback regarding relevance. One of the objectives of this KPA is to enhance the standing of the WRC nationally, in Africa and globally.

GOAL/OBJECTIVES	INDICATORS	EXCELLENCE TARGET	PERFORMANCE
Leadership in local affairs: • National initiatives • Public appreciation	National initiatives of key importance to the water, S&T and other related national sectors where the WRC plays a significant role Strategic positioning initiatives aimed to position the WRC for future sustainability and growth	8 national initiatives (80% ongoing, 20% new) 3 meetings with new Portfolio Committees	'Excellence' target met 'Excellence' target met
	Feedback regarding the relevance of the WRC to South Africa	Positive outcomes of 4 impact studies 5 citations	5 impact studies were conducted and preliminary results are positive Positive feedback was received via citations
Leadership in external affairs: • Regional (Africa) • Global	African leadership (key strategic activities in Africa where the WRC plays a significant role)	5 African initiatives (90% ongoing, 10% new)	'Excellence' target met
	International player (activities such as global partnerships, participation in global projects, etc.)	8 global initiatives (80% ongoing, 20% new)	'Excellence' target met

Financial perspectives

The objective of this KPA is to improve the financial practices, management and performance of the WRC. This is translated into a number of quantitative indicators addressing growth and sustainability and effective management of funds.

GOALS/OBJECTIVES	INDICATORS	EXCELLENCE TARGET	PERFORMANCE
Improved financial performance	Income growth (income growth is measured as meeting the budgetary target of R18.3m.)	Meet budget target in full	Target met. Leverage income amounts to R19.7 m.
	Research ratio (measured as research funding and support as percentage of total income)	75% (revised budget)	Revised budget indicated a ratio of 74% and actual budget met 74%
	Cash flow management (measured against availability of cash for effective operation)	R25 m.	Target fully met at monthly basis and year end
Effective financial management	High-quality budget planning and reporting (measured as the percentage deviation between actual and budget at year-end)	10%	Target met
	Audit results (measured as a percentage of the previous year's internal audit queries fully addressed and an unqualified vs. qualified external audit)	70% (internal audit) Unqualified report (external audit)	73% of the 2008/09 findings were fully addressed and the remaining 27% partially addressed
	Efficiency of recoveries (measured as the percentage of projects older than three years fully finalised)	100%	Met 84%. Above the 'very good' target of 80%.
	Rollover of research funds (measured as the deviation from the budgetary figure for roll-over of research project funds)	20%	'Excellence' target met

Learning and innovation

This KPA aimed to further improve the level of innovation and support the commercialisation of IP, enhance the WRC's contribution towards building the water-centred knowledge base in South Africa (emphasising capacity building), and improve various knowledge-sharing activities. The issue of building the knowledge base (capacity building) and the application, transfer, sharing and dissemination of water-centred knowledge continued to be of great importance to the relevance of the WRC.

GOALS/OBJECTIVES	INDICATORS	EXCELLENCE TARGET	PERFORMANCE
Improved commercialisation of IP	Number of innovations The number of new patents	3 new innovations 2 new patents	Target met 'Excellence' target met
Improved contribution towards capacity building (knowledge base)	Number of students supported by the WRC research portfolio as well as the percentage of the total made up of historically disadvantaged students A tool for analysing demographics of students involved in WRC projects during any specific year Effective leading of capacity-building/ knowledge-sharing initiatives	400 students, 60% of whom are from historically disadvantaged (HD) backgrounds A tool addressing race, gender and country of origin fully developed and tested Implementing agent of 2 national initiatives	The WRC supported 562 students of whom 62% were from HD backgrounds Target met Target met
Knowledge sharing and scientific leadership	The number of knowledge-sharing events organised by the WRC New dissemination and sharing mechanisms for knowledge supporting policy development and implementation	2 events 20 workshops 2 new knowledge dissemination mechanisms	The 'excellence' target was met for events and workshops Target met

Internal processes

During 2008/09 the WRC continued to develop business processes and systems to support its core operation. Functional operation, management practices and performance management were addressed.

GOALS/OBJECTIVES	INDICATORS	EXCELLENCE TARGET	PERFORMANCE
Functional excellence	Improved financial system – level of implementation	Procurement module of Pastel system fully implemented	A performance target of 'excellence' was achieved
	Fund management system – links to financial system	The link is developed and tested	Target met
Management excellence	Implementation of a 'business excellence' drive (improved internal and external processes)	3 completed improvement projects	Target met
	Organisation's compliance – extent of compliance as reported by internal and external audits	80% compliance (100% compliance to PFMA)	Target met
Performance management	Effective use of KPIs	100% of staff evaluated against quantitative KPIs	Target met

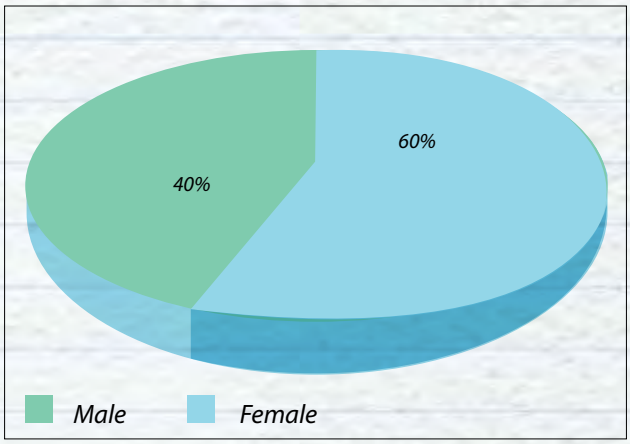
Organisational transformation

This KPA addresses organisational transformation and was focused on the enhancement of effective leadership and culture, an improved level of staff competence and accelerated equity and redress.

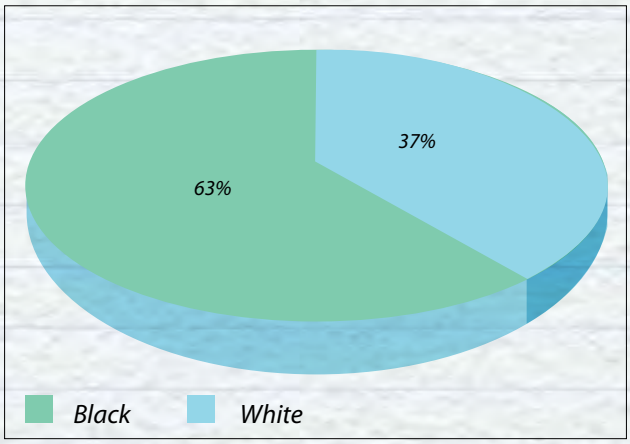
GOALS/OBJECTIVES	INDICATORS	EXCELLENCE TARGET	PERFORMANCE
Effective leadership and culture	The gap between vision and current reality (culture survey) Improved CoE and benefits	20% deviation New CoE submitted to the Minister	The 'good' target of 30% was not met Target not met. Negotiations with the Union are about 90% finalised
Improved competence levels	Training and HR plan updated and implemented	Detailed training and HR plans developed and fully met	Achieved
Accelerated equity and redress	Meeting targets of EE plan measured against percentage of new appointments	90% of new appointments meet EE requirements	Fully met
	Improved ratio of BBEEE suppliers	80% of BBEEE suppliers	The 'very good' target was met

In the 2009/10, the WRC's organisational structure (see organogram) did not undergo any significant change. The current structure, in making allowance for core and direct support functions, provides for 51 permanent staff. In terms of composition by race, there was a significant increase in the appointment of Black staff during the year under review. In the previous financial year, i.e. the 2008/09 year, the staff members of the WRC comprised 56% Black staff and 44% White staff. In the 2009/10 year the percentage of Black staff increased to 63 (37% White staff). Female staff members still represent the majority; the WRC has 60% female and 40% male employees.

Staff composition by race



Staff composition by gender



Improved levels of staff competence

The skills development plan for the 2009/10 financial year was well-implemented with the WRC receiving a refund from the SETA. The WRC held in-house training for the WRC Board and Directors, with a course held on the *King III* report.

Accelerated equity and redress

Meeting employment equity plan targets

The report measuring progress against the employment equity plan indicates that the WRC has not only met but even exceeded the set employment equity targets for the year under review. During 2009/10 the WRC appointed a number of new employees, against relevant vacancies. The vacancies resulted from resignations of staff as well as staff movement within the organisational structure. For 2009/10 the WRC filled the following positions: Knowledge Dissemination Officer, Printing and Publication Officer, Printing and Distribution Officer, Group Assistant, IT Assistant, Cleaner, Administrative Assistant – Office of the CEO, Administrative Support Assistant, and two Research Managers.

WRC support for staff education and training

Investment in excellence and effective leadership culture

The commitment to performance excellence continued into 2009/10.

The Pacific Institute conducted a full organisational and cultural survey (OCI). The OCI is a detailed study of the behavioural and attitudinal styles that characterise the organisation at all business levels.

This survey:

- Measured the self-image of the organisation
- Monitored the growth of the team

- Identified tangible changes in the organisational growth
- Contrasts the Current Reality and Vision of the culture as viewed by management and the whole organisation

Vision achievement and organisation alignment process

The Executive of the WRC continued through the process which will enable them to understand recurring organisational issues at their fundamental, root-cause level. Part of this process is the Executive team's development of their WOW (ways of working). The WOW is a short but powerful description of the ways in which the Executive team wants to work together. Before specific Executive meetings, the team has an open and honest session were they rate the specific WOW out of five, five being the ideal, and assess where the team is in terms of achieving their desired 'ways of working'.

Golden Threads

Employees who have completed the Investment in Excellence course attended the Golden Threads course. This course addresses the need to constantly dialogue the key concepts of Investment in Excellence and is an essential ingredient in co-creating and collaboration around a desired way of working together that will result in a 'Constructive Culture'. These sessions were for all WRC employees and took place during the month of June.

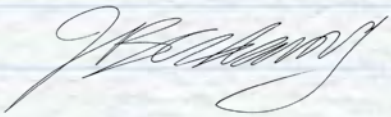
Most new employees attended the Investment in Excellence course.

WRC supported two staff members in their studies, i.e., in Public Relations and Masters in Business Administration.

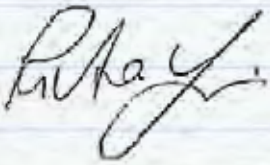
BOARD APPROVAL

The Annual financial statements of the WRC and wholly-owned company for the year ended 31 March 2010, which appear on pages 89 to 136 of this report, were approved by the WRC Board at its meeting held on 30 July 2010. The Board is of the opinion that the WRC is financially sound and operates as a going concern.

These statements are signed on behalf of the WRC by:



Prof JB Adams
WRC Board Chairperson



Dr R Kfir
WRC Chief Executive Officer

WATER RESEARCH COMMISSION CONSOLIDATED ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2010

Contents

REPORT OF THE AUDITOR-GENERAL TO PARLIAMENT ON THE GROUP FINANCIAL STATEMENTS OF THE WATER RESEARCH COMMISSION FOR THE YEAR ENDED 31 MARCH 2010

REPORT ON THE CONSOLIDATED FINANCIAL STATEMENTS

Introduction

I have audited the accompanying consolidated financial statements and financial statements of the Water Research Commission which comprise the consolidated and separate statement of financial position as at 31 March 2010, consolidated and separate statement of financial performance, statement of changes in net assets and cash flow statement for the year then ended and a summary of significant accounting policies and other explanatory notes, as set out on pages 79 to 124.

Accounting Authority's responsibility for the consolidated financial statements

The accounting officer is responsible for the preparation and fair presentation of these financial statements in accordance with South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and in the manner required by the Public Finance Management Act of South Africa and the Companies Act of South Africa. This responsibility includes: designing, implementfng and maintaining internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; policies; and making accounting 'estimates that are reasonable in the circumstances.

Auditor-General's responsibility

As required by section 188 of the Constitution of South Africa and section 4 of the Public Audit Act of South Africa and section 14 of the Water Research Act of South Africa, my responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with International Standards on Auditing and General Notice 1570 of 2009 issued in Government Gazette 32758 of 27 November 2009.Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

Opinion

In my opinion the financial statements present fairly, in all material respects, the consolidated and separate financial position of the Water Research Commission as at 31 March 2010 and its consolidated and separate financial performance and consolidated and separate cash flows for the year then ended, in accordance with South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and in the manner required by the Public Finance Management Act of South Africa and the Companies Act of South Africa.

Emphasis of matter

I draw attention to the matters below. My opinion is not modified in respect of these matters:

Restatement of corresponding figures

As disclosed in note 27 to the financial statements, the corresponding figures for 31 March 2009 have been restated as a result of an error discovered during 2010 in the financial statements of the Water Research Commission at, and for the year ended, 31 March 2010

REPORT ON OTHER LEGAL AND REGULATORY REQUIREMENTS

In terms of the PAA of South Africa and General notice 1570 of 2009, issued in Government Gazette No. 32758 of 27 November 2009 I include below my findings on the report on predetermined objectives, compliance with the Public Audit Act of South Africa and the Water Research Act of South Africa and financial management (internal control).

Findings

Predetermined objectives

No matters to report.

Compliance with laws and regulations

No matters to report.

Internal control

I have considered internal control relevant to our audit of the financial statements and the report on predetermined objectives and compliance with the PFMA, but not for the purposes of expressing an opinion on the effectiveness of internal control.

No matters to report.

Auditor-General

Pretoria
30 July 2010

AUDITOR-GENERAL
SOUTH AFRICA

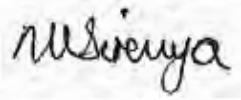
Auditing to build public confidence

REPORT OF THE AUDIT COMMITTEE

REPORT OF THE AUDIT COMMITTEE REQUIRED BY TREASURY REGULATIONS 27.1.7 AND 27.1.10 OF THE PUBLIC FINANCE MANAGEMENT ACT, ACT 1 OF 1999, AS AMENDED BY ACT 29 OF 1999

The Audit Committee reports that it has adopted formal terms of reference as its Audit Committee Charter and that it has discharged all of its responsibilities for the year, in compliance with the charter.
The Audit Committee is satisfied that an adequate system of internal control is in place to reduce significant risks faced by the organisation to an acceptable level, and that these controls have been effective during the period under review. The system is designed to manage, rather that eliminate the risk of failure and to maximise opportunities to achieve business objectives. This can provide only reasonable but not absolute assurance.

The Audit Committee has evaluated the Annual Financial Statements of the WRC group for the year ended 31 March 2010 and based on the information provided to the Audit Committee considers that it complies, in all material respects with the requirements of the various Acts governing disclosure and reporting on the Annual Financial Statements. The Audit Committee therefore recommends the adoption of the Annual Financial Statements by the Board of the WRC.



Mr M Sirenya
Chairperson

STATEMENT OF FINANCIAL POSITION

Water Research Commission Consolidated Annual Financial Statements for the year ended 31 March 2010

		Group		WRC	
Figures in Rand	**Notes**	**2010**	**2009**	**2010**	**2009**
Assets					
Non-Current Assets					
Property, plant and equipment	3	11,917,199	11,755,924	3,225,677	3,064,402
Intangible assets	4	2,606,094	1,692,829	2,606,094	1,692,829
Investments in subsidiary	5	-	-	755,939	755,939
Loans to group company	6	-	-	5,090,892	5,835,646
Other financial assets	7	48,742,815	47,923,813	48,742,815	47,923,813
		63,266,108	**61,372,566**	**60,421,417**	**59,272,629**
Current Assets					
Trade and other receivables - non-exchange transactions	10	37,759,193	31,927,798	38,132,372	32,189,313
Trade and other receivables - exchange transactions	10	24,835	5,697	-	-
Cash and cash equivalents	11	68,944,252	63,580,968	67,410,029	62,368,319
		106,728,280	95,514,463	105,542,401	94,557,632
Total Assets		**169,994,388**	**156,887,029**	**165,963,818**	**153,830,261**
Net Assets and Liabilities					
Capital and reserves					
Other reserves		22,349,339	21,237,357	22,349,339	21,237,357
Accumulated surplus		76,412,841	77,907,340	72,506,162	74,946,513
		98,762,180	**99,144,697**	**94,855,501**	**96,183,870**
Liabilities					
Non-Current Liabilities					
Finance lease obligation	12	814,474	437,416	814,474	437,416
Retirement benefit obligation	9	32,793,530	28,469,981	32,793,530	28,469,981
		33,608,004	**28,907,397**	**33,608,004**	**28,907,397**
Current Liabilities					
Finance lease obligation	12	421,847	645,439	421,847	645,439
Trade and other payables - exchange transactions	14	34,568,007	25,646,535	34,468,028	25,570,318
Trade and other payables - non-exchange transactions	14	23,912	19,724	-	-
Accruals - leave and bonus	13	2,610,438	2,523,237	2,610,438	2,523,237
		37,624,204	**28,834,935**	**37,500,313**	**28,738,994**
Total Liabilities		**71,232,208**	**57,742,332**	**71,108,317**	**57,646,391**
Total Net Assets and Liabilities		**169,994,388**	**156,887,029**	**165,963,818**	**153,830,261**

STATEMENT OF FINANCIAL PERFORMANCE

Water Research Commission Consolidated Annual Financial Statements for the year ended 31 March 2010

		Group		WRC	
Figures in Rand	**Notes**	**2010**	**2009**	**2010**	**2009**
Revenue	16	152,080,536	143,381,502	151,743,565	143,132,744
Other income		1,946,855	1,180,716	2,254,151	1,375,133
Operating expenses		(158,710,157)	(154,020,802)	(160,429,948)	(155,487,002)
Operating deficit	**17**	**(4,682,766)**	**(9,458,584)**	**(6,432,232)**	**(10,979,125)**
Investment revenue	18	4,353,175	7,422,974	5,156,789	8,394,772
Finance costs	19	(1,164,908)	(1,492,279)	(1,164,908)	(1,492,279)
Deficit for the period		**(1,494,499)**	**(3,527,889)**	**(2,440,351)**	**(4,076,632)**

STATEMENT OF CHANGES IN NET ASSETS

Water Research Commission Consolidated Annual Financial Statements for the year ended 31 March 2010

Figures in Rand	Other reserves	Accumulated surplus	Total capital and reserves
Group			
Opening balance as previously reported	20,667,136	75,851,919	96,519,055
Adjustments			
Prior year adjustments	-	5,583,310	5,583,310
Balance at 01 April 2008 as restated	**20,667,136**	**81,435,229**	**102,102,365**
Changes in net assets			
Fair value of available-for-sale financial assets	570,221	-	570,221
Net income recognised directly in capital and reserves	570,221	-	570,221
Deficit for the period	-	(3,527,889)	(3,527,889)
Total recognised income and expenses for the period	570,221	(3,527,889)	(2,957,668)
Total changes	570,221	(3,527,889)	(2,957,668)
Opening balance as previously reported	21,237,357	78,064,449	99,301,806
Adjustments			
Prior year adjustments	-	(157,109)	(157,109)
Balance at 01 April 2009 as restated	**21,237,357**	**77,907,340**	**99,144,697**
Changes in net assets			
Fair value of available-for-sale financial assets	1,111,982	-	1,111,982
Net income recognised directly in capital and reserves	1,111,982	-	1,111,982
Deficit for the period	-	(1,494,499)	(1,494,499)
Total recognised income and expenses for the period	1,111,982	(1,494,499)	(382,517)
Total changes	1,111,982	(1,494,499)	(382,517)
Balance at 31 March 2010	**22,349,339**	**76,412,841**	**98,762,180**
Company			
Opening balance as previously reported	20,667,136	77,676,751	98,343,887
Adjustments			
Prior period adjustments	-	1,346,394	1,346,394
Balance at 01 April 2008 as restated	**20,667,136**	**79,023,145**	**99,690,281**
Changes in capital and reserves			
Fair value of available-for-sale financial assets	570,221	-	570,221
Net income recognised directly in capital and reserves	570,221	-	570,221
Deficit for the period	-	(4,076,632)	(4,076,632)
Total recognised income and expenses for the period	570,221	(4,076,632)	(3,506,411)
Total changes	570,221	(4,076,632)	(3,506,411)
Balance at 01 April 2009	**21,237,357**	**74,946,513**	**96,183,870**
Changes in capital and reserves			
Fair value of available-for-sale financial assets	1,111,982	-	1,111,982
Net income recognised directly in capital and reserves	1,111,982	-	1,111,982
Deficit for the period	-	(2,440,351)	(2,440,351)
Total recognised income and expenses for the period	1,111,982	(2,440,351)	(1,328,369)
Total changes	1,111,982	(2,440,351)	(1,328,369)
Balance at 31 March 2010	**22,349,339**	**72,506,162**	**94,855,501**

STATEMENT OF CASH FLOWS

Water Research Commission Consolidated Annual Financial Statements for the year ended 31 March 2010

		Group		WRC	
Figures in Rand	**Notes**	**2010**	**2009**	**2010**	**2009**
Cash flows from operating activities					
Cash receipts from customers		154,510,964	134,299,669	151,881,174	131,875,028
Cash paid to suppliers and employees		(150,539,882)	(164,215,508)	(149,270,353)	(163,028,116)
Cash generated from (used in) operations	22	3,971,082	(29,915,839)	2,610,821	(31,153,088)
Interest income		4,353,175	7,422,974	5,156,789	8,394,772
Finance costs		(1,027,120)	(1,328,836)	(1,027,120)	(1,328,836)
Net cash from operating activities		**7,297,137**	**(23,821,701)**	**6,740,490**	**(24,087,152)**
Cash flows from investing activities					
Purchase of property, plant and equipment	3	(1,056,824)	(1,370,018)	(1,056,824)	(1,370,018)
Purchase of other intangible assets	4	(1,166,547)	(348,195)	(1,166,547)	(348,195)
Loans to group companies		-	-	215,935	45,362
Sale of financial assets		292,978	230,835	292,978	230,835
Purchase of retirement benefits		(19,138)	-	-	-
Net cash from investing activities		**(1,949,531)**	**(1,487,378)**	**(1,714,458)**	**(1,442,016)**
Cash flows from financing activities					
Finance lease movement - payments		(856,115)	(795,895)	(856,115)	(795,895)
Finance lease liability increase		871,793	1,150,328	871,793	1,150,328
Net cash from financing activities		**15,678**	**354,433**	**15,678**	**354,433**
Total cash movement for the period		**5,363,284**	**(24,954,646)**	**5,041,710**	**(25,174,735)**
Cash at the beginning of the period		63,580,968	88,535,614	62,368,319	87,543,054
Total cash at end of the period	**11**	**68,944,252**	**63,580,968**	**67,410,029**	**62,368,319**

ACCOUNTING POLICIES

1. Basis of Preparation

The Annual Financial Statements have been prepared in accordance with Statements of Generally Recognised Accounting Practice (GRAP) issued by the Accounting Standards Board in accordance with Section 55 of the Public Finance Management Act (Act no. 29 of 1999). The Annual Financial Statements have been prepared on the historical cost basis, and incorporate the principal accounting policies set out below.

Accounting policies for material transactions, events or conditions not covered by the GRAP reporting framework, have been developed in accordance with paragraphs 7, 11 and 12 of GRAP 3 and the hierarchy approved in Directive 5 issued by the Accounting Standards Board.

Assets, liabilities, revenues and expenses have not been offset except where offsetting is required or permitted by a Standard of GRAP.

These accounting policies are consistent with the previous period, unless explicitly stated. The details of any changes in accounting policies are explained in the relevant policy.

The following standards of GRAP have been adopted during the period under review:

GRAP 4 Effects of changes in foreign exchange rates
GRAP 5 Borrowing costs
GRAP 6 Consolidated and separate financial statements
GRAP 7 Investments in associates
GRAP 8 Interest in joint ventures
GRAP 9 Revenue from exchange transactions
GRAP 10 Financial reporting in hyperinflationary economies
GRAP 11 Construction contracts
GRAP 12 Inventories
GRAP 13 Leases
GRAP 14 Events after reporting dates
GRAP 16 Investment property
GRAP 17 Property, plant and equipment
GRAP 19 Provisions, contingent liabilities and contingent assets
GRAP 100 Non-current assets held for sale and discontinued operations GRAP 101 Agriculture
GRAP 102 Intangible assets
The effect as a result of the adoption of the above GRAP standards had no material impact on the financial statements. The principal accounting policies adopted in the preparation of these Financial Statements are set out below.

Presentation currency

The financial statements are presented in South African Rand, which is the functional currency of the entity. Unless stated otherwise, all figures have been rounded off to the nearest Rand.

Going concern assumption

These Annual Financial Statements have been prepared on the assumption that the entity will continue to operate as a going concern for at least the next 12 months.

Comparative information

When the presentation or classification of items in the Annual Financial Statements is amended, prior period comparative amounts are restated. The nature and reason for the reclassification is disclosed. Where accounting errors have been identified in the current year, the correction is made retrospectively as far as is practicable, and the prior year comparatives are restated accordingly. Where there has been a change in accounting policy in the current year, the adjustment is made retrospectively as far as is practicable, and the prior year comparatives are restated accordingly.

1.1 Significant judgements

In preparing the annual financial statements, management is required to make estimates and assumptions that affect the amounts represented in the annual financial statements and related disclosures. Use of available information and the application of judgement is inherent in the formation of estimates. Actual results in the future could differ from these estimates which may be material to the annual financial statements. Significant judgements include:

Loans and Receivables

The entity assesses its loans and receivables for impairment at each reporting date. In determining whether an impairment loss should be recorded in the Statement of Financial Performance, the entity makes judgements as to whether there is observable data indicating a measurable decrease in the estimated future cash flows from a financial asset.

The impairment for loans and receivables is calculated on a portfolio basis after removing individually impaired items, based on historical loss ratios, adjusted for national and industry-specific economic conditions and other indicators present at the reporting date that correlate with defaults on the portfolio. These annual loss ratios are applied to loan balances in the portfolio and scaled to the estimated loss emergence period.

Available-for-sale financial assets

The entity follows the guidance of IAS 39 to determine when an available-for-sale financial asset is impaired. This determination requires significant judgment. In making this judgment, the entity evaluates, among other factors, the duration and extent to which the fair value of an investment is less than its cost; and the financial health of and near-term business outlook for the investee, including factors such as industry and sector performance, changes in technology and operational and financing cash flow.

Fair value estimation

Unquoted financial assets are measured at fair value using valuation techniques. Inherent to these techniques are certain uncertainties like time of cash flows and interest rates used for discounting.
The carrying value less impairment provision of trade receivables and payables are assumed to approximate their fair values. The fair value of financial liabilities for disclosure purposes is estimated by discounting the future contractual cash flows at the current market interest rate that is available to the group for similar financial instruments.

Impairment testing

The recoverable amounts of cash-generating units and individual assets have been determined based on the higher of value-in-use calculations and fair values. These calculations require the use of estimates and assumptions.

The entity reviews and tests the carrying value of assets when events or changes in circumstances suggest that the carrying amount may not be recoverable. If there are indications that impairment may have occurred, estimates are prepared of expected future cash flows for each group of assets.

Post employment benefits

The present value of the post employment obligation depends on a number of factors that are determined on an actuarial basis using a number of assumptions. The assumptions used in determining the net cost (income) include the discount rate. Any changes in these assumptions will impact on the carrying amount of post employment obligations.

The entity determines the appropriate discount rate at the end of each year. This is the interest rate that should be used to determine the present value of estimated future cash outflows expected to be required to settle the pension obligations. In determining the appropriate discount rate, the entity considers the interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating the terms of the related pension liability.

Other key assumptions for pension obligations are based on current market conditions. Additional information is disclosed in note 9.

Useful lives and residual values

The entity re-assess the useful lives and residual values of property, plant and equipment on an annual basis. In re-assessing the useful lives and residual values of property, plant and equipment management considers the condition and use of the individual assets, to determine the remaining period over which the asset can and will be used.

Effective interest rates and deferred payment terms

The entity uses an appropriate interest rate, taking into account guidance provided in the accounting standards, and applying professional judgement to the specific circumstances, to discount future cash flows.

Appropriate adjustments have been made to compensate for the effect of deferred settlement terms that materially impact on the fair value of financial instruments, revenue and expenses at initial recognition. The adjustments require a degree of estimation around the discount rates and periods used.

1.2 Property, plant and equipment

Property, plant and equipment are tangible non-current assets (including infrastructure assets) that are held for use in the production or supply of goods or services, rental to others, or for administrative purposes, and are expected to be used during more than one year. Items of property, plant and equipment are initially recognised as assets on acquisition date and are initially recorded at cost. The cost of an item of property, plant and equipment is the purchase price and other costs attributable to bring the asset to the location and condition necessary for it to be capable of operating in the manner intended by the entity. Trade discounts and rebates are deducted in arriving at the cost. The cost, if any, also includes the necessary costs of dismantling and removing the asset and restoring the site on which it is located.

The cost of an item of property, plant and equipment is recognised as an asset when:

- it is probable that future economic benefits associated with the item will flow to the entity; and
- the cost of the item can be measured reliably.

Where an asset is acquired by the entity for no or nominal consideration (i.e. a non-exchange transaction), the cost is deemed to be equal to the fair value of that asset on the date acquired.

Major spare parts and servicing equipment qualify as property, plant and equipment when the entity expects to use them during more than one period. Similarly, if the major spare parts and servicing equipment can be used only in connection with an item of property, plant and equipment, they are accounted for as property, plant and equipment.

Property, plant and equipment is carried at cost less accumulated depreciation and any impairment losses.

Where the entity replaces parts of an asset, it derecognises the part of the asset being replaced and capitalises the new component. Subsequent expenditure incurred on an asset is capitalised when it increases the capacity or future economic benefits associated with the asset.

Depreciation is calculated on the depreciable amount, using the straight-line method over the estimated useful lives of the assets. Assets held under finance leases are depreciated over their expected useful lives on the same basis as owned assets or, where shorter, the term of the relevant lease. Components of assets that are significant in relation to the whole asset and that have different useful lives are depreciated separately. Depreciation commences when the asset is ready for its intended use. The annual depreciation rates are based on the following estimated average asset lives:

Item	**Minimum and maximum useful life in years**
Furniture and fixtures	12 - 37 years
Office equipment	4 - 37 years
IT equipment	5 - 16 years
Finance lease assets	Years according to the lease term

Motor vehicles are depreciated on a pro rata basis calculated on the basis of kilometres travelled annually as a proportion of the expected useful life of the vehicle.

The residual value, useful life and the depreciation method of each asset are reviewed at each financial period-end and any changes are recognised as a change in accounting estimate in the Statement of Financial Performance.

The entity tests for impairment where there is an indication that an asset may be impaired. An assessment of whether there is an indication of possible impairment is done at each reporting date. Where the carrying amount of an item of property, plant and equipment is greater than the estimated recoverable amount (or recoverable service amount), it is written down immediately to its recoverable amount (or recoverable service amount) and an impairment loss is charged to the Statement of Financial Performance.

A previously recognised impairment loss is reversed when there is an indication that it may no longer exist or may have decreased, however not to an amount higher than the carrying amount that would have been determined (net of depreciation) had no impairment been recognised in prior years.

An item of property, plant and equipment is derecognised when the asset is disposed of or when there are no further economic benefits or service potential expected from the use of the asset. The gain or loss arising on the disposal or retirement of an item of property, plant and equipment is determined as the difference between the sales proceeds and the carrying value and is included in surplus or deficit when the item is derecognised.

Buildings are not currently depreciated as the residual value is estimated to be higher than the carrying value. The depreciation charge is zero when the residual value is estimated to be higher than the carrying amount. The residual value and the useful life of each asset is reviewed at each financial period.

1.3 Intangible assets

An intangible asset is an identifiable non-monetary asset without physical substance. Examples include computer software, licenses and development costs.

Intangible assets are initially recognised at cost.

An intangible asset is recognised when:

- it is probable that the expected future economic benefits that are attributable to the asset will flow to the entity; and
- the cost of the asset can be measured reliably.

Where an intangible asset is acquired by the entity for no or nominal consideration (i.e. a non-exchange transaction), the cost is deemed to be equal to the fair value of that asset on the date acquired.

Expenditure on research (or on the research phase of an internal project) is recognised as an expense when it is incurred.

An intangible asset arising from development (or from the development phase of an internal project) is recognised when:

- it is technically feasible to complete the asset so that it will be available for use or sale;
- there is an intention to complete and use or sell it;
- there is an ability to use or sell it;
- it will generate probable future economic benefits;
- there are available technical, financial and other resources to complete the development and to use or sell the asset;
- the expenditure attributable to the asset during its development can be measured reliably.

Intangible assets are carried at cost less any accumulated amortisation and any impairment losses.

An intangible asset is regarded as having an indefinite useful life when, based on all relevant factors, there is no foreseeable limit to the period over which the asset is expected to generate net cash inflows. Amortisation is not provided for these intangible assets. For all other intangible assets amortisation is provided on a straight line basis over their useful life.

Reassessing the useful life of an intangible asset with a finite useful life after it was classified as indefinite is an indicator that the asset may be impaired. As a result the asset is tested for impairment and the remaining carrying amount is amortised over its useful life.

Internally generated brands, mastheads, publishing titles, customer lists and items similar in substance are not recognised as intangible assets.

Amortisation is provided to write down the intangible assets, on a straight line basis, to their residual values. Amortisation commences when the asset is ready for its intended use. The annual amortisation rates are based on the following estimated average asset lives:

Item	Useful life
Computer software	10 years

The amortisation period and the amortisation method for an intangible asset with a finite useful life are reviewed at each reporting date and any changes are recognised as a change in accounting estimate in the Statement of Financial Performance.

The entity tests intangible assets with finite useful lives for impairment where there is an indication that an asset may be impaired. An assessment of whether there is an indication of possible impairment is done at each reporting date. Where the carrying amount of an intangible asset is greater than the estimated recoverable amount (or recoverable service amount), it is written down immediately to its recoverable amount (or recoverable service amount) and an impairment loss is charged to the Statement of Financial Performance.

A previously recognised impairment loss is reversed when there is an indication that it may no longer exist or may have decreased, however not to an amount higher than the carrying amount that would have been determined (net of amortisation) had no impairment been recognised in prior years.

An intangible asset is derecognised when the asset is disposed of or when there are no further economic benefits or service potential expected from the use of the asset. The gain or loss arising on the disposal or retirement of an intangible asset is determined as the difference between the sales proceeds and the carrying value and is included in surplus or deficit when the item is derecognised.

1.4 Investments in subsidiary

Group annual financial statements

The group annual financial statements include those of the holding company and its subsidiaries. The results of the subsidiaries are included from the effective date of acquisition.

On acquisition the group recognises the subsidiary's identifiable assets, liabilities and contingent liabilities at fair value, except for assets classified as held-for-sale, which are recognised at fair value less costs to sell.

Consolidated annual financial statements:

The consolidated financial statements incorporate the financial statements of the Water Research Commission and its wholly owned subsidiary. The results of the subsidiary are included from the effective date of acquisition.

Entity annual financial statements

Investments in subsidiaries are carried at cost less any accumulated impairment.

The cost of an investment in a subsidiary is the aggregate of:

- the fair value, at the date of exchange, of assets given, liabilities incurred or assumed, and equity instruments
- issued by the entity; plus
- any costs directly attributable to the purchase of the subsidiary.

An adjustment to the cost of a business combination contingent on future events is included in the cost of the combination if the adjustment is probable and can be measured reliably.

1.5 Financial instruments

Initial recognition and measurement

The entity classifies financial instruments, or their component parts, on initial recognition as a financial asset, a financial liability or an residual interest instrument in accordance with the substance of the contractual arrangement.

Financial assets and financial liabilities are recognised on the entity's Statement of Financial Position when the entity becomes party to the contractual provisions of the instrument.

Subsequent measurement

Financial assets are categorised according to their nature as either financial assets at fair value through surplus or deficit, held-to-maturity, loans and receivables, or available-for-sale. Financial liabilities are categorised as either at fair value through surplus or deficit or financial liabilities carried at amortised cost ("other"). The subsequent measurement of financial assets and liabilities depends on this categorisation in accordance with IAS 39.

Fair value determination

Fair value information for trade and other receivables is determined as the present value of estimated future cash flows discounted at the effective interest rate computed at initial recognition.

The fair values of quoted investments are based on current bid prices. If the market for a financial asset is not active (and for unlisted securities), the entity establishes fair value by using valuation techniques. These include the use of recent arm's length transactions, reference to other instruments that are substantially the same, discounted cash flow analysis, and option pricing models making maximum use of market inputs and relying as little as possible on entity-specific inputs.

Impairment

At reporting date, the entity determines whether there is any objective evidence that a financial asset or group of financial assets is impaired.

The credit quality of a financial asset or group of financial assets that is neither past due nor impaired is assessed / monitored by reference to historical information about counterparty default rates. The following are the criteria and indicators that are applied to assess whether or not the financial asset or group of financial assets may be impaired:

- counterparty has evidenced a trend of defaults that indicates that the recoverability of the outstanding balance of the financial asset or group of financial assets is doubtful; and
- financial difficulties identified from an analysis of the counterparty's financial position that would indicate that the recoverability of the outstanding balance of financial asset or group of financial assets is doubtful.

Derecognition

A financial asset is derecognised only when:

- the right to receive cash flows from the asset have expired;
- the entity retains the right to receive cash flows from the asset, but has assumed an obligation to pay them in full without delay to a third party under a 'pass through' arrangement; or
- the entity has transferred its rights to receive cash flows from the asset and either (a) has transferred substantially all the risks and rewards of the asset or (b) has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

A financial liability is derecognised when the obligation under the liability is discharged or cancelled or expires. Where an existing financial liability is replaced by another from the same customer on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability, and the difference in the respective carrying amounts is recognised in the Statement of Financial Performance.

Loans to group entities

These include loans to subsidiaries and are recognised initially at fair value plus direct transaction costs.

Subsequently these loans are measured at amortised cost using the effective interest rate method, less any impairment loss recognised to reflect irrecoverable amounts.

On loans receivable an impairment loss is recognised in surplus or deficit when there is objective evidence that it is impaired. The impairment is measured as the difference between the investment's carrying amount and the present value of estimated future cash flows discounted at the effective interest rate computed at initial recognition.

Impairment losses are reversed in subsequent periods when an increase in the investment's recoverable amount can be related objectively to an event occurring after the impairment was recognised, subject to the restriction that the carrying amount of the investment at the date the impairment is reversed shall not exceed what the amortised cost would have been had the impairment not been recognised.

Loans to group entities are categorised as loans and receivables.

Trade and other receivables

Trade and other receivables are categorised as loans and receivables and are initially recognised at fair value plus direct transaction costs and subsequently carried at amortised cost using the effective interest rate method, less any impairment loss recognised to reflect irrecoverable amounts. Amortised cost refers to the initial carrying amount, plus interest, less repayments and impairments.

Appropriate allowances for estimated irrecoverable amounts are recognised in surplus or deficit when there is objective evidence that the asset is impaired. Significant financial difficulties of the debtor, probability that the debtor will enter bankruptcy or financial reorganisation, and default or delinquency in payments (more than 30 days overdue) are considered indicators that the trade receivable is impaired. The allowance recognised is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the effective interest rate computed at initial recognition.

An impairment of trade receivables is accounted for by reducing the carrying amount of trade receivables through the use of an allowance account, and the amount of the loss is recognised in the statement of financial performance within operating expenses. When a trade receivable is uncollectible, it is written off against the allowance account for trade receivables. Subsequent recoveries of amounts previously written off are credited against operating expenses in the Statement of Financial Performance.

Trade and other payables and borrowings

Financial liabilities consist of trade payables and borrowings. They are categorised as financial liabilities at amortised cost and are initially recognised at fair value and subsequently measured at amortised cost which is the initial carrying amount, less repayments, plus interest.

Cash and cash equivalents

Cash includes cash on hand (including petty cash) and cash with banks (including call deposits). Cash equivalents are short-term highly liquid investments, readily convertible into known amounts of cash, that are held with registered banking institutions with maturities of three months or less and are subject to an insignificant risk of change in value. For the purposes of the Statement of Cash Flows, cash and cash equivalents comprise cash on hand, deposits held on call with banks, net of bank overdrafts. The entity categorises cash and cash equivalents as loans and receivables.

Available for sale financial assets

These financial assets are non-derivatives that are either designated in this category or not classified elsewhere. These other financial assets includes investments made by the Water research commission invested in Old Mutual and Momentum Wealth.

Investments are recognised and derecognised on a trade date basis where the purchase or sale of an investment is under a contract whose terms require delivery of the investment within the timeframe established by the market concerned.

These investments are measured initially and subsequently at fair value. Gains and losses arising from changes in fair value are recognised directly in net assets until the security is disposed of or is determined to be impaired.

1.6 Leases

A lease is classified as a finance lease if it transfers substantially all the risks and rewards incidental to ownership. A lease is classified as an operating lease if it does not transfer substantially all the risks and rewards incidental to ownership.

Finance leases - lessee

The following situations would normally individually or in combination lead to a lease being classified as a finance lease and have been considered by the entity:

- lease transfers ownership of the asset to the lessee by the end to the lease term;
- the lessee has the option to purchase the asset at a price that is expected to be sufficiently lower than the fair valueat the date the option becomes exercisable for it to be reasonably certain, at the inception of the lease, that theoption will be exercised;
- the lease term is for the major part of the economic life of the asset even if title is not transferred;
- at the inception of the lease the present value of the minimum lease payments amounts to at least substantially allof the fair value of the asset;
- the leased asset is of such a specialised nature that only the lessee can use them without major modifications;
- if the lessee can cancel the lease, the lessor's deficits associated with the cancellation are born by the lessee;
- gains or deficits from the fluctuation in the fair value of the residual accrue to the lessee; and the
- lessee has the ability to continue the lease for a secondary period at a rent that is substantially lower than market rent.

Finance leases are recognised as assets and liabilities in the Statement of Financial Position at amounts equal to the fair value of the leased property or, if lower, the present value of the minimum lease payments. The corresponding liability to the lessor is included in the Statement of Financial Position as a finance lease obligation.

The discount rate used in calculating the present value of the minimum lease payments is the entity's incremental borrowing rate.

The lease payments are apportioned between the finance charge and reduction of the outstanding liability. The finance charge is allocated to each period during the lease term so as to produce a constant periodic rate of interest on the remaining balance of the liability.

Assets held under finance leases are depreciated over their expected useful lives on the same basis as owned assets, or where shorter, the term of the relevant lease.

Contingent rentals are recognised as expenses in the period in which they are incurred and are not included in the straightline lease expense.

The determination of whether an arrangement is, or contains a lease is based on the substance of the arrangement at inception date of whether the fulfilment of the arrangement is dependent on the use of a specific asset or assets or the arrangement conveys a right to use the asset. The classification of the lease is determined using GRAP 13 Leases.

Operating leases - lessee

Operating lease payments are recognised as an expense on a straight-line basis over the lease term. The difference between the amounts recognised as an expense and the contractual payments are recognised as an operating lease asset/liability. This asset/liability is not discounted.

Contingent rentals are recognised as expenses in the period in which they are incurred and are not included in the straightline lease expense.

1.7 Impairment of assets

The group assesses at each reporting date whether there is any indication that an asset may be impaired. If any such indication exists, the group estimates the recoverable amount of the asset.

Irrespective of whether there is any indication of impairment, the group also:

- tests intangible assets with an indefinite useful life or intangible assets not yet available for use for impairment annually by comparing its carrying amount with its recoverable amount. This impairment test is performed during the annual period and at the same time every period.
- tests goodwill acquired in a business combination for impairment annually.

If there is any indication that an asset may be impaired, the recoverable amount is estimated for the individual asset. If it is not possible to estimate the recoverable amount of the individual asset, the recoverable amount of the cash-generating unit to which the asset belongs is determined.

The recoverable amount of an asset or a cash-generating unit is the higher of its fair value less costs to sell and its value in use.

If the recoverable amount of an asset is less than its carrying amount, the carrying amount of the asset is reduced to its recoverable amount. That reduction is an impairment loss.

An impairment loss of assets carried at cost less any accumulated depreciation or amortisation is recognised immediately in surplus or deficit. Any impairment loss of a revalued asset is treated as a revaluation decrease.

An impairment loss is recognised for cash-generating units if the recoverable amount of the unit is less than the carrying amount of the units. The impairment loss is allocated to reduce the carrying amount of the assets of the unit in the following order:

- first, to reduce the carrying amount of any goodwill allocated to the cash-generating unit and
- then, to the other assets of the unit, pro rata on the basis of the carrying amount of each asset in the unit.

An entity assesses at each reporting date whether there is any indication that an impairment loss recognised in prior periods for assets other than goodwill may no longer exist or may have decreased. If any such indication exists, the recoverable amounts of those assets are estimated.

The increased carrying amount of an asset other than goodwill attributable to a reversal of an impairment loss does not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset in prior periods.

A reversal of an impairment loss of assets carried at cost less accumulated depreciation or amortisation other than goodwill is recognised immediately in surplus or deficit. Any reversal of an impairment loss of a revalued asset is treated as a revaluation increase.

1.8 Employee benefits

Short-term employee benefits

The cost of short-term employee benefits, (those payable within 12 months after the service is rendered, such as paid vacation leave and sick leave, bonuses, and non-monetary benefits such as medical care), are recognised in the period in which the service is rendered and are not discounted.

The expected cost of compensated absences is recognised as an expense as the employees render services that increase their entitlement or, in the case of non-accumulating absences, when the absence occurs.

The expected cost of profit sharing and bonus payments is recognised as an expense when there is a legal or constructive obligation to make such payments as a result of past performance.

Defined contribution plans

Payments to defined contribution retirement benefit plans are charged as an expense as they fall due.

Payments made to industry-managed (or state plans) retirement benefit schemes are dealt with as defined contribution plans where the group's obligation under the schemes is equivalent to those arising in a defined contribution retirement benefit plan.

A multi-employer plan is classified as either a defined benefit plan or a defined contribution plan. If the plan is a defined benefit plan, an actuarial valuation should be obtained. Normal defined benefit accounting would be applied to the proportionate share of the obligation and assets relating to the entity. If actuaries are unable to provide the entity with an actuarial valuation, the entity accounts for the plan as if it were a defined contribution plan.

Defined benefit plans

For defined benefit plans the cost of providing the benefits is determined using the projected credit method.

Actuarial valuations are conducted on an annual basis by independent actuaries separately for each plan.

Consideration is given to any event that could impact the funds up to reporting date where the interim valuation is performed at an earlier date.

Past service costs are recognised immediately to the extent that the benefits are already vested, and are otherwise amortised on a straight line basis over the average period until the amended benefits become vested.

To the extent that, at the beginning of the financial period, any cumulative unrecognised actuarial gain or loss exceeds ten percent of the greater of the present value of the projected benefit obligation and the fair value of the plan assets (the corridor), that portion is recognised in the statement of financial performance over the expected average remaining service lives of participating employees. Actuarial gains or losses within the corridor are not recognised.

Gains or losses on the curtailment or settlement of a defined benefit plan is recognised when the entity is demonstrably commited to curtailment or settlement.

When it is virtually certain that another party will reimburse some or all of the expenditure required to settle a defined benefit obligation, the right to reimbursement is recognised as a separate asset. The asset is measured at fair value. In all other respects, the asset is treated in the same way as plan assets. In the statement of financial performance, the expense relating to a defined benefit plan is presented as the net of the amount recognised for a reimbursement.

The amount recognised in the statement of financial position represents the present value of the defined benefit obligation as adjusted for unrecognised actuarial gains and losses and unrecognised past service costs, and reduces by the fair value of plan assets.

Any asset is limited to unrecognised actuarial losses, plus the present value of available refunds and reduction in future contributions to the plan.

1.9 Provisions and contingencies

Provisions are recognised when:

- the group has a present obligation as a result of a past event;
- it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation; and
- a reliable estimate can be made of the obligation.

The amount of a provision is the present value of the expenditure expected to be required to settle the obligation.

Provisions are reviewed at reporting date and adjusted to reflect the current best estimate. Where the effect of time value of money is material, the amount of a provision shall be the present value of the future cash flows or expenditures expected to be required to settle the obligation.

The entity uses a pre-tax rate that reflects current market assessments of the time value of money and the risks for which future cash flow estimates have been adjusted.

Where some or all of the expenditure required to settle a provision is expected to be reimbursed by another party, the reimbursement shall be recognised when, and only when, it is virtually certain that reimbursement will be received if the entity settles the obligation. The reimbursement shall be treated as a separate asset. The amount recognised for the reimbursement shall not exceed the amount of the provision.

Provisions are not recognised for future operating losses.

If an entity has a contract that is onerous, the present obligation under the contract shall be recognised and measured as a provision.

A constructive obligation to restructure arises only when an entity:

- has a detailed formal plan for the restructuring, identifying at least:
  - the business or part of a business concerned;
  - the principal locations affected;
  - the location, function, and approximate number of employees who will be compensated for terminating their services;
  - the expenditures that will be undertaken; and
  - when the plan will be implemented; and
- has raised a valid expectation in those affected that it will carry out the restructuring by starting to implement that plan or announcing its main features to those affected by it.

After their initial recognition contingent liabilities recognised in business combinations that are recognised separately aresubsequently measured at the higher of:

- the amount that would be recognised as a provision; and
- the amount initially recognised less cumulative amortisation.

Contingent assets and contingent liabilities are not recognised. Contingencies are disclosed in note 24 unless the possibility of an inflow/outflow of resources embodying economic benefits is remote.

1.10 Revenue

Revenue from exchange transactions

Revenue from the sale of goods is recognised when all the following conditions have been satisfied:

- the group has transferred to the buyer the significant risks and rewards of ownership of the goods;
- the group retains neither continuing managerial involvement to the degree usually associated with ownership nor
- effective control over the goods sold;
- the amount of revenue can be measured reliably;
- it is probable that the economic benefits associated with the transaction will flow to the group; and
- the costs incurred or to be incurred in respect of the transaction can be measured reliably.

When the outcome of a transaction involving the rendering of services can be estimated reliably, revenue associated withthe transaction is recognised by reference to the stage of completion of the transaction at the balance sheet date. The outcome of a transaction can be estimated reliably when all the following conditions are satisfied:

- the amount of revenue can be measured reliably;
- it is probable that the economic benefits associated with the transaction will flow to the group;
- the stage of completion of the transaction at the balance sheet date can be measured reliably; and
- the costs incurred for the transaction and the costs to complete the transaction can be measured reliably.

When the outcome of the transaction involving the rendering of services cannot be estimated reliably, revenue shall be recognised only to the extent of the expenses recognised that are recoverable.

Revenue from exchange transactions refers to revenue that accrued to the entity directly in return for services rendered / goods sold, the value of which approximates the consideration received or receivable.

Revenue is measured at the fair value of the consideration received or receivable and represents the amounts receivable for goods and services provided in the normal course of business, net of trade discounts and volume rebates, and value added tax.

Revenue from non-exchange transactions

Revenue from non-exchange transactions refers to transactions where the entity received revenue from another entity without directly giving approximately equal value in exchange. Revenue from non-exchange transactions is generally recognised to the extent that the related receipt or receivable qualifies for recognition as an asset and there is no liability to repay the amount.

The Department of Water Affairs, Rand Water and Umgeni Water Boards collect levy income. The rate of the levy is approved by the Minister of Water Affairs on an annual basis. Revenue recognition of levy income represents amounts received and receivable from the Department of Water Affairs, Rand Water and Umgeni Water Boards. Provision is made for estimated uncollectable levies by way of an impairment charge.

The Water Research Commission received leverage income from various sources which is provided for research. This revenue is recognised in the accounting period in which the research expenditure is incurred.

Interest is recognised, in surplus or deficit, using the effective interest rate method.

Revenue from the recovery of unauthorised, irregular, fruitless and wasteful expenditure is based on legislated procedures, including those set out in the Public Finance Management Act (Act No. 29 of 1999) and is recognised when the recovery thereof from the responsible board members or officials is virtually certain.

1.11 Budget information

Comparision of budget and actual amounts are presented in a separate additional financial statement: Statement of Comparison of Budget and Actual Amounts.

The entity only presents the final budget amounts.

Differences (variances) between the actual amounts and budget amounts are presented.

The financial statements and budget are not presented on the same basis as the financial statements are prepared on accrual basis and the budget on cash basis of accounting. A reconciliation between the surplus/(deficit) for the period as per Statement of Financial Performance and budgeted surplus/(deficit) is included in the Statement of Comparison of Budget and Actual Amounts.

1.12 Related Parties

The entity operates in an economic sector currently dominated by entities directly or indirectly owned or controlled by the South African Government. As a consequence of the constitutional independence of the three spheres of government in South Africa, only entities within the national sphere of government are considered to be related parties.

Key management is defined as being individuals with the authority and responsibility for planning, directing and controlling the activities of the entity. We regard all individuals from the level of Executive Director and Council Members as key management per the definition of the financial reporting standard.

Close family members of key management personnel are considered to be those family members who may be expected to influence, or to be influenced by key management individuals, in their dealings with the entity.

Related party disclosures for transactions between government entities that took place on terms and conditions that are considered 'at arms-length' and 'in the ordinary course of business' are not disclosed in accordance with IPSAS 20 'Related Party Disclosures'.

1.13 Borrowing costs

Borrowing costs are recognised as an expense in the period in which they are incurred, unless they are incurred on the construction or acquisition of a qualifying asset in which case they are capitalised to the cost of the asset.

1.14 Translation of foreign currencies

Foreign currency transactions

A foreign currency transaction is recorded, on initial recognition in Rands, by applying to the foreign currency amount the spot exchange rate between the functional currency and the foreign currency at the date of the transaction.

At each reporing date:

- foreign currency monetary items are translated using the closing rate;
- non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the transaction; and
- non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined.

Exchange differences arising on the settlement of monetary items or on translating monetary items at rates different from those at which they were translated on initial recognition during the period or in previous annual financial statements are recognised in surplus or deficit in the period in which they arise.

When a gain or loss on a non-monetary item is recognised directly in net assets, any exchange component of that gain or loss is recognised directly in net assets. When a gain or loss on a non-monetary item is recognised in surplus or deficit, any exchange component of that gain or loss is recognised in surplus or deficit.

Cash flows arising from transactions in a foreign currency are recorded in Rands by applying to the foreign currency amount the exchange rate between the Rand and the foreign currency at the date of the cash flow.

1.15 Research projects and research support services

It is the policy of the Water Research Commission that its management may allow overspending on a project budget in a given year, only if acceptable reasons are given, provided the total contract amount is not exceeded.

1.16 Unauthorised, fruitless and wasteful and irregular expenditure

Unauthorised expenditure is expenditure that has not been budgeted, expenditure that is not in terms of the conditions of an allocation received from another sphere of government, entity or organ of state and expenditure in the form of a grant that is not permitted in terms of the Public Finance Management Act (Act No. 29 of 1999). Unauthorised expenditure is accounted for as an expense in the Statement of Financial Performance and where recovered, it is subsequently accounted for as revenue in the Statement of Financial Performance.

Fruitless and wasteful expenditure is expenditure that was made in vain and would have been avoided had reasonable care been exercised. Fruitless and wasteful expenditure is accounted for as expenditure in the Statement of Financial Performance and where recovered, it is subsequently accounted for as revenue in the Statement of Financial Performance.

Irregular expenditure is expenditure that is contrary to the Public Finance Management Act (Act No. 29 of 1999), the State Tender Board Act (Act No. 86 of 1968) or is in contravention of the entity's supply chain management policy. Irregular expenditure excludes unauthorised expenditure. Irregular expenditure is accounted for as expenditure in the Statement of Financial Performance and where recovered, it is subsequently accounted for as revenue in the Statement of Financial Performance.

2. Statements issued not yet effective

The following standards, amendments to standards and interpretations, with their estimated effect on the Financial Statements, have been issued but are not yet effective as at 31 March 2010:

Amendment to
IFRS 3(AC 140) Business Combinations
APB Issue date: February 2008
Effective date: 1 July 2009
Amendments to accounting for business combinations. This standard is expected to be implemented by the entity in the 2011 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

Revised
**IFRS 3(AC 140) Business Combinations
IASB Issue date: August 2009
APB Issue date: N/A
Effective date: 1 July 2010
- Transition requirements for contingent consideration from a business combination that occurred before the effective date of the revised IFRS
- Measurement of non-controlling interests
- Un-replaced and voluntarily replaced share-based payment awards.
This standard is expected to be implemented by the entity in the 2012 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

Revised
**IFRS 7(AC 144) Financial Instruments: Disclosures
IASB Issue date: August 2009
APB Issue date: N/A
Effective date: 1 January 2011
Clarifications of disclosures. This standard is expected to be implemented by the entity in the 2012 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

IFRS 9(AC 146) Financial Instruments
APB Issue date: January 2010
Effective date: 1 January 2013
New standard issued relating to the classification and measurement of financial assets, which will replace the relevant portions of IAS 39. The standard requires all financial assets to be:
- classified on the basis of the entity's business model for managing the financial assets and the contractual cash flow characteristics of the financial asset
- subsequently measured at amortised cost or fair value.
This standard is expected to be implemented by the entity in the 2014 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

Amendment to
IAS 32(AC 125) Financial Instruments: Presentation
APB Issue date: January 2010
Effective date: 1 February 2010
Rights issues (rights, options or warrants) to acquire a fixed number of the entity's own equity instruments for a fixed amount, which is denominated in a currency other than the functional currency of the issuer will be accounted for as equity instruments.
This standard is expected to be implemented by the entity in the 2011 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

Amendment to
IAS 39(AC 133) Financial Instruments: Recognition and Measurement
APB Issue date: March 2009
Effective date: 1 July 2009
Clarifies two hedge accounting issues:
- Inflation in a financial hedged item
- A one-sided risk in a hedged item.
This standard is expected to be implemented by the entity in the 2011 financial year in accordance with its effective date.
The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

Amendment to
IAS 39(AC 133) Financial Instruments: Recognition and Measurement
APB Issue date: April 2009
Effective date: 1 July 2009
Amendments for embedded derivatives when reclassifying financial instruments
This standard is expected to be implemented by the entity in the 2011 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

Revised
*IAS 39(AC 133) Financial Instruments: Recognition and Measurement
APB Issue date: May 2009
Effective date: 1 January 2010
- Treating loan prepayment penalties as closely related embedded derivatives - Scope exemption for business combination contracts
- Cash flow hedge accounting.
This standard is expected to be implemented by the entity in the 2011 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

*IFRIC 9(AC 442) Reassessment of Embedded Derivatives
APB Issue date: May 2009
Effective date: 1 July 2009
This standard is expected to be implemented by the entity in the 2011 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

**IFRIC 13(AC 446) Customer Loyalty Programmes (Fair value of award credit)
IASB Issue date: August 2009
APB Issue date: N/A
Effective date: 1 January 2011
This standard is expected to be implemented by the entity in the 2012 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

IFRIC 14(AC 447) The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction (Prepayments of a minimum funding requirement)
APB Issue date: January 2010
Effective date: 1 January 2011
This standard is expected to be implemented by the entity in the 2012 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

*IFRIC 16(AC 449) Hedges of a Net Investment in a Foreign Operation
APB Issue date: May 2009
Effective date: 1 July 2009
This standard is expected to be implemented by the entity in the 2011 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

*Standards and interpretations affected by the Improvements to IFRS
**Standards and interpretations affected by the Improvements to IFRS issued in an exposure draft as ED 272 Improvements to IFRSs: Proposed amendments to International Financial Reporting Standards

The following GRAP standards have been approved but are not yet effective:

GRAP 18 - Segment Reporting
ASB Issue date: March 2005
Effective date: To be determined by the Minister
New standard of GRAP: Establishes principles for reporting financial information by segments. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

GRAP 21 - Impairment of Non-cash-generating Assets
ASB Issue date: March 2009
Effective date: To be determined by the Minister
New standard of GRAP: Prescribes the procedures that an entity applies to determine whether a non-cash-generating asset is impaired and to ensure that impairment losses are recognised. The standard also specifies when an entity would reverse an impairment loss and prescribes disclosures. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

GRAP 23 - Revenue from Non-exchange Transactions (Taxes and Transfers)
ASB Issue date: February 2008
Effective date: To be determined by the Minister
New standard of GRAP: Prescribes requirements for the financial reporting of revenue arising from non-exchange transactions, other than non-exchange transactions that give rise to an entity combination. The standard deals with issues that need to be considered in recognising and measuring revenue from non-exchange transactions, including the identification of contributions from owners. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

GRAP 24 - Presentation of Budget Information in Financial Statements
ASB Issue date: November 2007
Effective date: To be determined by the Minister
New standard of GRAP dealing with the presentation and disclosure of budget information as required by GRAP 1. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

GRAP 25 - Employee Benefits
ASB Issue date: November 2009
Effective date: To be determined by the Minister
New standard of GRAP dealing with the requirements around accounting and disclosure of employee benefits including short term, long term and post retirement employee benefits. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

GRAP 26 - Impairment of Cash-generating Assets
ASB Issue date: March 2009
Effective date: To be determined by the Minister
New standard of GRAP: Prescribes the procedures that an entity applies to determine whether a cash-generating asset is impaired and to ensure that impairment losses are recognised. The standard also specifies when an entity would reverse an impairment loss and prescribes disclosures. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

GRAP 103 - Heritage Assets
APB Issue date: July 2008
Effective date: To be determined by the Minister
New standard of GRAP: Prescribes the accounting treatment for heritage assets and related disclosure requirements. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

GRAP 104 - Financial Instruments
ASB Issue date: October 2009
Effective date: To be determined by the Minister
New standard of GRAP dealing with the recognition, measurement, presentation and disclosure of financial instruments. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

***Improvements to standards of GRAP
ASB Issue date: N/A
Effective date: Proposed: 1 April 2011
Improvements are proposed to the following standards of GRAP: GRAP 1-4, 9-14, 16-17, 19 and 100 as part of the ASB's improvement project. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

***Standards affected by the Improvements Project of the ASB issued in an exposure draft as ED 63 - Improvements to the Standards of GRAP

Figures in Rand

3. Property, plant and equipment

Group	2010			2009		
	Cost	Accumulated depreciation	Carrying value	Cost	Accumulated depreciation	Carrying value
Buildings	8,691,522	-	8,691,522	8,691,522	-	8,691,522
Furniture and fixtures	1,511,144	(333,424)	1,177,720	1,452,192	(294,143)	1,158,049
Motor vehicles	68,975	(47,636)	21,339	68,975	(46,187)	22,788
Office equipment	688,267	(203,551)	484,716	788,170	(204,576)	583,594
IT equipment	3,484,901	(1,942,999)	1,541,902	2,508,161	(1,208,190)	1,299,971
Total	**14,444,809**	**(2,527,610)**	**11,917,199**	**13,509,020**	**(1,753,096)**	**11,755,924**

Company	2010			2009		
	Cost	Accumulated depreciation	Carrying value	Cost	Accumulated depreciation	Carrying value
Furniture and fixtures	1,511,144	(333,424)	1,177,720	1,452,192	(294,143)	1,158,049
Motor vehicles	68,975	(47,636)	21,339	68,975	(46,187)	22,788
Office equipment	688,267	(203,551)	484,716	788,170	(204,576)	583,594
IT equipment	3,484,901	(1,942,999)	1,541,902	2,508,161	(1,208,190)	1,299,971
Total	**5,753,287**	**(2,527,610)**	**3,225,677**	**4,817,498**	**(1,753,096)**	**3,064,402**

Reconciliation of property, plant and equipment - Group - 2010

	Opening Balance	Additions	Disposals	Depreciation	Total
Buildings	8,691,522	-	-	-	8,691,522
Furniture and fixtures	1,158,049	58,952	-	(39,281)	1,177,720
Motor vehicles	22,788	-	-	(1,449)	21,339
Office equipment	583,594	21,133	(50,792)	(69,219)	484,716
IT equipment	1,299,971	976,739	-	(734,808)	1,541,902
	11,755,924	**1,056,824**	**(50,792)**	**(844,757)**	**11,917,199**

Reconciliation of property, plant and equipment - Group - 2009

	Opening Balance	Additions	Depreciation	Total
Buildings	8,691,522	-	-	8,691,522
Furniture and fixtures	1,147,559	51,875	(41,385)	1,158,049
Motor vehicles	25,361	-	(2,573)	22,788
Office equipment	641,156	21,243	(78,805)	583,594
IT equipment	728,363	1,296,900	(725,292)	1,299,971
	11,233,961	**1,370,018**	**(848,055)**	**11,755,924**

Reconciliation of property, plant and equipment - Company - 2010

	Opening Balance	Additions	Disposals	Depreciation	Total
Furniture and fixtures	1,158,049	58,952	-	(39,281)	1,177,720
Motor vehicles	22,788	-	-	(1,449)	21,339
Office equipment	583,594	21,133	(50,792)	(69,219)	484,716
IT equipment	1,299,971	976,739	-	(734,808)	1,541,902
	3,064,402	**1,056,824**	**(50,792)**	**(844,757)**	**3,225,677**

Figures in Rand

3. Property, plant and equipment (continued)

Reconciliation of property, plant and equipment - Company - 2009

	Opening Balance	Additions	Depreciation	Total
Furniture and fixtures	1,147,559	51,875	(41,385)	1,158,049
Motor vehicles	25,361	-	(2,573)	22,788
Office equipment	641,156	21,243	(78,805)	583,594
IT equipment	728,363	1,296,900	(725,292)	1,299,971
	2,542,439	**1,370,018**	**(848,055)**	**3,064,402**

	Group		WRC	
Figures in Rand	2010	2009	2010	2009
Pledged as security				
No assets are pledged as security.				
Assets subject to finance lease				
IT equipment	906,057	970,057	906,027	970,057

Revaluations

The property has been valued at R26,700,000 by Reinertsen International Valuation Services, as an independant valuer, on 31 March 2010.

Other information

Fair value of property carried at cost	26,700,000	28,000,000	-	-
Details of properties				
Erf 706 Rietfontein, Pretoria, Gauteng				
- Purchase price	615,855	615,855	-	-
- Additions since purchase or valuation	8,075,667	8,075,667	-	-
	8,691,522	**8,691,522**	**-**	**-**

Figures in Rand

4. Intangible assets

Group	2010			2009		
	Cost	Accumulated depreciation	Carrying value	Cost	Accumulated depreciation	Carrying value
Computer software	2,873,030	(266,936)	2,606,094	1,706,482	(13,653)	1,692,829
Company						
Computer software	2,873,030	(266,936)	2,606,094	1,706,482	(13,653)	1,692,829

Reconciliation of intangible assets - Group - 2010

	Opening Balance	Additions	Amortisation	Total
Computer software	1,692,829	1,166,547	(253,282)	2,606,094

Reconciliation of intangible assets - Group - 2009

	Opening Balance	Additions	Amortisation	Total
Computer software	1,358,287	348,195	(13,653)	1,692,829

Reconciliation of intangible assets - Company - 2010

	Opening Balance	Additions	Impairment loss	Total
Computer software	1,692,829	1,166,547	(253,282)	2,606,094

Reconciliation of intangible assets - Company - 2009

	Opening Balance	Additions	Amortisation	Total
Computer software	1,358,287	348,195	(13,653)	1,692,829

Pledged as security

None of the intangible assets are pledged as security.

5. Investments in subsidiary

Name of entity	Held by	% holding 2010	% holding 2009	Carrying amount 2010	Carrying amount 2009
Erf 706 Rietfontein (Proprietary) Limited	Water Research Commission	100.00%	100.00%	755,939	755,939

The carrying amounts of subsidiaries are shown net of impairment losses. The investment in subsidiary is not pledged as security.

The Commission holds 100% of the shares in Erf sewe nul ses Rietfontein (Pty) Ltd, a property company. Erf sewe nul ses Rietfontein (Pty) Ltd owns one property which is mainly occupied by the Water Research Commission. As per the valuation performed by Reinertsen Valuation Services, a professional valuer, the open market value of the property is valued at R 27,600,000. Management thereofore deems the fair value of Erf sewe nul ses Rietfontein (Pty) Ltd to be equal to the market value of the property held by Erf sewe nul ses Rietfontein (Pty) Ltd.

	Group		WRC	
Figures in Rand	**2010**	**2009**	**2010**	**2009**

6. Loans to group entities

Subsidiaries

Erf 706 Rietfontein (Proprietary) Limited The unsecured loan bears interest at a nominal rate of 15% and is repayable in equal monthly instalments of R60,000 over 13 years.	-	-	7,479,812	7,732,302
Erf 706 Rietfontein (Proprietary) Limited The unsecured loan bears interest at prime plus 2% with no fixed terms of repayment.	-	-	2,643,719	2,607,164
Subtotal	-	-	10,123,531	10,339,466
Impairment of loans to subsidiaries	-	-	(5,032,639)	(4,503,820)
	-	**-**	**5,090,892**	**5,835,646**

Credit quality of loans to group entities

The credit quality of loans to group companies are of a good quality. The maximum exposure to credit risk at the reporting date is the fair value of loan mentioned above.

None of the loans to group companies defaulted in the year under review.

The terms and conditions of the loans were not renegotiated during the period under review.

Fair value of loans to and from group entities

The fair value of the loan is determined by calculating the present value of future payments by using a discount rate of 15% The entity does not hold any collateral as security.

Loans to group entities past due but not impaired

Loans to group companies were not past due at reporting date.

Loans to group companies impaired

As of 31 March 2010, loans to group companies of R 5,032,639 (2009: R 4,503,820) were impaired and provided for.

Figures in Rand	Group 2010	Group 2009	WRC 2010	WRC 2009
Reconciliation of provision for impairment of loans to group companies				
Opening balance	-	-	4,503,820	4,148,221
Provision for impairment	-	-	528,819	355,599
	-	**-**	**5,032,639**	**4,503,820**

The creation and release of provision for impaired receivables have been included in operating expenses in the income statement (note). Amounts charged to the allowance account are generally written off when there is no expectation of recovering additional cash.

7. Other financial assets

Available for sale				
Old Mutual	44,155,644	44,350,913	44,155,644	44,350,913
Momentum Wealth	4,587,171	3,572,900	4,587,171	3,572,900
	48,742,815	**47,923,813**	**48,742,815**	**47,923,813**

National Treasury has granted exemption from the requirement to invest surplus cash with the Corporation for Public Deposits in terms of Treasury Regulation 31.3.3. National Treasury has also confirmed that the above investments are in compliance with Treasury Regulation 31.3.5.

Non-current assets				
Available for sale	48,742,815	47,923,813	48,742,815	47,923,813

The fair values of the financial assets were determined as follows:

- The fair values of listed or quoted investments are based on the quoted market price.
- The fair values on investments not listed or quoted are estimated using the discounted cash flow analysis.

Fair values are determined annually at reporting date.

There were no gains or losses realised on the disposal of available for sale financial assets in 2010 and 2009, as all the financial assets were disposed of at their redemption date. The maximum exposure to credit risk at the reporting date is the fair value of each class of loan mentioned above.

The other financial assets were not pledged as security for any financial liability.

8. Financial assets by category

Figures in Rand

The accounting policies for financial instruments have been applied to the line items below:

Group – 2010	Loans and receivables	Fair value through surplus or deficit - held for trading	Fair value through surplus or deficit - designated	Available for sale	Total
Other financial assets	-	-	-	48,742,815	48,742,815
Trade and other receivables	37,784,028	-	-	-	37,784,028
Cash and cash equivalents	68,944,252	-	-	-	68,944,252
	106,728,280	**-**	**-**	**48,742,815**	**155,471,095**
Company – 2009					
Other financial assets	-	-	-	47,923,813	47,923,813
Trade and other receivables	31,933,495	-	-	-	31,933,495
Cash and cash equivalents	63,580,968	-	-	-	63,580,968
	95,514,463	**-**	**-**	**47,923,813**	**143,438,276**
Company – 2010					
Loans to group companies	5,090,892	-	-	-	5,090,892
Other financial assets	-	-	-	48,742,815	48,742,815
Trade and other receivables	38,132,372	-	-	-	38,132,372
Cash and cash equivalents	67,410,029	-	-	-	67,410,029
	110,633,293	**-**	**-**	**48,742,815**	**159,376,108**
Company – 2009					
Loans to group companies	5,835,646	-	-	-	5,835,646
Other financial assets	-	-	-	47,923,813	47,923,813
Trade and other receivables	32,189,313	-	-	-	32,189,313
Cash and cash equivalents	62,368,319	-	-	-	62,368,319
	100,393,278	**-**	**-**	**47,923,813**	**148,317,091**

9. Retirement benefits

Pension and Provident funds

The Water Research Commission has pension and provident schemes covering all employees. Until 31 March 2005 all eligible employees were members of the defined benefit funds administered by ABSA Consultants & Actuaries. As at 1 April 2005 both the pension fund and provident fund converted to a defined contribution fund, for current employees. The effect of this is that the WRC has no liability other than the defined contributions payable to the fund on a monthly basis. No liability can arise due to adverse market conditions. However, all pensioners remain entitled to their benefits in terms of the old dispensation. (Refer to note 1.8).

The assets of these funds are held in adminstered trust funds separately from the entity's assets. Fund assets primarily consist of investments in Momentum Group Life Limited. The funds are governed by the Pension Funds Act of 1956.

These funds are actuarially valued for financial reporting purposes at annual intervals to determine the liability for the entity. The funds were last actuarially valued on 31 March 2010. At that time all funds were certified by the reporting actuary as being in a sound financial position, subject to the continuation of their current contribution rates. In arriving at his conclusion, the actuary took into account certain assumptions at reporting date (expressed as weighted averages).

Medical Aid scheme

The Water Research Commission has made provision for a medical aid benefit scheme covering retired members and active employees before 1 April 2008. All eligible employees are members of the defined contribution scheme. The funds are governed by the Medical Schemes Act, 1998 (Act No. 131 of 1998)

These funds are actuarially valued at an interval of not more than three years using the projected unit credit method. No plan assets are held by the entity to fund the obligation. The scheme was last actuarially valued on 31 March 2010. At that time the reporting actuary certified that the vested liability for continuation members will fluctuate depending on the mortality rate of current continuation members and the rate of new retirements over the next few years. The active member liability will be affected by whether the actual withdrawals match those expected and the rate of medical aid inflation. In arriving at his conclusion, the actuary took into account certain assumptions at reporting date (expressed as weighted averages).

	Group		WRC	
Figures in Rand	**2010**	**2009**	**2010**	**2009**
Carrying value				
Present value of the defined contribution/benefit obligation-partially or wholly funded	(38,081,530)	(33,936,981)	(38,081,530)	(33,936,981)
Fair value of plan assets	5,288,000	5,467,000	5,288,000	5,467,000
	(32,793,530)	**(28,469,981)**	**(32,793,530)**	**(28,469,981)**

Figures in Rand	Group 2010	Group 2009	WRC 2010	WRC 2009

9. Retirement benefits (continued)

Movements for the year – pension fund

Opening balance	**894,000**	546,000	**894,000**	546,000
Net expense recognised in the statement of financial performance	**403,000**	348,000	**403,000**	348,000
	1,297,000	**894,000**	**1,297,000**	**894,000**

Net expense recognised in the statement of financial performance - pension fund

Interest cost	383,000	405,000	383,000	405,000
Actuarial (gains) losses	360,000	285,000	360,000	285,000
Expected return on plan assets	(340,000)	(342,000)	(340,000)	(342,000)
	403,000	**348,000**	**403,000**	**348,000**

Key assumptions used – pension fund

Assumptions used on last valuation on 31 March 2010.

Discount rates used	8.90%	8.00%	8.90%	8.00%
Expected rate of return on assets	9.90%	9.90%	9.90%	9.90%
General inflation rate	5.90%	5.90%	5.90%	5.90%
Expected increase in salaries	6.90%	8.00%	6.90%	8.00%

The expected rate of return on assets is based on the assumption that the investment returns will exceed general inflation by 4% after allowing for investment related expenses.

Movements for the year – provident fund

Opening balance	652,000	480,000	652,000	480,000
Net expense recognised in the statement of financial performance	166,000	172,000	166,000	172,000
	818,000	**652,000**	**818,000**	**652,000**

Figures in Rand	Group 2010	Group 2009	WRC 2010	WRC 2009

9. Retirement benefits (continued)

Net expense recognised in the statement of financial performance – provident fund

Interest cost	190,000	202,000	190,000	202,000
Actuarial (gains) losses	197,000	137,000	197,000	137,000
Expected return on plan assets	(221,000)	(167,000)	(221,000)	(167,000)
	166,000	**172,000**	**166,000**	**172,000**

Key assumptions used – provident fund

Assumptions used on last valuation on 31 March 2010.

Discount rates used	9.40%	8.00%	9.40%	8.00%
Expected rate of return on assets	9.90%	9.90%	9.90%	9.90%
General inflation rate	5.90%	5.90%	5.90%	5.90%
Expected increase in salaries	6.90%	8.00%	6.90%	8.00%

The expected rate of return on assets is based on the assumption that the investment returns will exceed general inflation by 4% after allowing for investment related expenses.

Movements for the year – medical aid fund

Opening balance	27,095,980	23,399,011	27,095,980	23,399,011
Benefits paid	(1,202,651)	(896,143)	(1,202,651)	(896,143)
Net expense recognised in the statement of financial performance	4,957,201	4,593,112	4,957,201	4,593,112
	30,850,530	**27,095,980**	**30,850,530**	**27,095,980**

Net expense recognised in the statement of financial performance - medical aid fund

Current service cost	698,781	766,202	698,781	766,202
Interest cost	2,445,926	2,132,225	2,445,926	2,132,225
Actuarial (gains) losses	1,812,494	1,694,685	1,812,494	1,694,685
	4,957,201	**4,593,112**	**4,957,201**	**4,593,112**

Key assumptions used - medical aid fund

Assumptions used on last valuation on 31 March 2010.

Retirement age	65	65	65	65
Early retirement age	55	55	55	55
Percentage married on retirement	90.00%	90.00%	90.00%	90.00%
Investment returns	9.00%	9.00%	9.00%	9.00%
Medical aid inflation rate	8.20%	8.00%	8.20%	8.00%

Sensitivity Analysis

The assumptions made in the liability calculation are best estimates of future levels of the various factors. These factors in reality may turn out to be different than the assumed values. In order to illustrate the sensitivity of the results to changes in these inflation, mortality and withdrawal assumptions, the liability figure has been recalculated on six additional bases, as outlined in the following table:

Figures in Rand

9. Retirement benefits (continued)

Basis	Past service liability (R)	% Change from best estimate
1 % gap	30,850,530	
0% gap (medical inflation 0% lower than interest rates)	35,314,120	+14.5%
2% gap (medical inflation 0% lower than interest rates)	27,163,306	-12.0%
Mortality 10% lower	32,233,418	+ 4.5%
Mortality 10% higher	29,622,888	-4.0%
Withdrawals 20% lower	30,941,541	+ 0.3%
Withdrawals 20% higher	30,766,240	-0.3%

The analysis above shows that the past service liability is most sensitive to a change in the gap between medical inflation and interest rates.

The liability is also sensitive to a change in mortality rates, which is most significant at post-retirement ages.

A change in withdrawal rates has an insignificant effect on the liability, as the average age for in service members is within the 45-50 age band and withdrawal rates fall to zero after age 50.

The following table shows the sensitivity of the interest cost and service cost to a change in the medical inflation rate:

Basis	Interest Cost (R)	% Change from best estimate	Service Cost (R)	% Change from best estimate
1% gap (best estimate)	2,847,570		816,990	
0% gap (medical inflation 0% lower than interest rates)	3,275,699	+ 15.0%	1,007,500	+ 23.3%
2% gap (medical inflation 2% lower than interest rates	2,494,697	-12.4%	668,106	-18.2%

The analysis above shows that the sensitivity of the interest cost and service cost to a change in the medical inflation rate is similar to the sensitivity of the past service liability, although service cost is more sensitive.

Figures in Rand	2010	2009	2010	2009

10. Trade and other receivables

Water research levies - non-exchange transactions	36,305,437	31,618,196	36,305,437	31,618,196
Deposits - non-exchange transactions	9,754	9,754	-	-
VAT - non-exchange transactions	996	11,183	-	-
Computer loans - non-exchange transactions	18,943	955	18,943	955
Other receivables - non-exchange transactions	1,424,063	287,710	1,807,992	570,162
Other receivable - exchange transactions	24,835	5,697	-	-
	37,784,028	**31,933,495**	**38,132,372**	**32,189,313**

10. Trade and other receivables (continued)

Trade and other receivables pledged as security

No trade and other receivables were pledged as security for any financial liability.

Management considers that all the above financial assets are of good credit quality. The maximum exposure to credit risk at the reporting date is the fair value of each class of receivable mentioned above. None of the trade and other receivables defaulted in the year under review.

None of the financial assets that are fully performing have been renegotiated in the last year.

None of the trade and other receivables defaulted in the year under review.

Trade and other receivables past due but not impaired

Group
Trade and other receivables are all considered for impairment. At 31 March 2010, R 804,198 (2009: R 257,754) were past due but not impaired.

Company

Trade and other receivables are all considered for impairment. At 31 March 2010, R 798,539 (2009: R 257,754) were past due but not impaired.

The ageing of amounts past due but not impaired is as follows:

	Group		WRC	
Figures in Rand	**2010**	**2009**	**2010**	**2009**
1 month past due	6,690,905	19,168	6,685,246	19,168
2 months past due	5,885,386	1,293	5,885,386	1,293
3 months or more past due	4,217,168	4,353,793	4,217,168	4,344,039

Group

As of 31 March 2010, trade and other receivables of R 768,252 (2009: R 153,043) were impaired and provided for.

The amount of the provision was R 19,580,552 as of 31 March 2010 (2009: R18,812,300).

Company

As of 31 March 2010, trade and other receivables of R 768,252 (2009: R 153,043) were impaired and provided for. The amount of the provision was R 19,580,552 as of 31 March 2010 (2009: R18,812,300).

10. Trade and other receivables (continued)

The ageing of these loans is as follows:

	Group		WRC	
Figures in Rand	**2010**	**2009**	**2010**	**2009**
Current - Gross	21,001,777	27,612,244	21,355,780	27,877,816
1 Month past due - Gross	7,315,892	19,463	7,310,233	19,463
2 Months past due - Gross	5,885,459	96,172	5,885,459	96,172
3 Months or more past due - Gross	23,161,452	23,017,916	23,161,452	23,008,162
Current - Impaired amount	(11,208)	(53,003)	(11,208)	(53,003)
1 Month past due - Impaired amount	(624,987)	(295)	(624,987)	(295)
2 Months past due - Impaired amount	(73)	(94,879)	(73)	(94,879)
3 Months or more past due - Impaired amount	(18,944,284)	(18,664,123)	(18,944,284)	(18,664,123)
Balance	**37,784,028**	**31,933,495**	**38,132,372**	**32,189,313**
Reconciliation of provision for impairment of trade and other receivables				
Opening balance	18,812,300	18,659,257	18,812,300	18,659,257
Provision for impairment	768,252	153,043	768,252	153,043
	19,580,552	**18,812,300**	**19,580,552**	**18,812,300**

The creation and release of provision for impaired receivables have been included in operating expenses in the statement of financial performance (note 17). Amounts charged to the allowance account are generally written off when there is no expectation of recovering additional cash.

The maximum exposure to credit risk at the reporting date is the fair value of each class of receivable mentioned above. The group does not hold any collateral as security.

11. Cash and cash equivalents

Cash and cash equivalents consist of:

Cash on hand	109	964	109	964
Bank balances	42,229,510	49,924,007	40,695,287	48,711,358
Short-term deposits	26,714,633	13,655,997	26,714,633	13,655,997
	68,944,252	**63,580,968**	**67,410,029**	**62,368,319**

All cash and cash equivalents held by the entity are available for use.

Credit quality of cash at bank and short term deposits, excluding cash on hand

Management considers that all the above cash and cash equivalent categories are of good quality. The maximum exposure to credit risk at the reporting date is the fair value of each class of cash and cash equivalent mentioned above.

The cash and cash equivalents were not pledged as security for any financial liabilities.

Figures in Rand	Group 2010	Group 2009	WRC 2010	WRC 2009
12. Finance lease obligation				
Minimum lease payments due				
- within one year	560,323	780,491	560,323	780,491
- in second to fifth year inclusive	974,026	492,087	974,026	492,087
	1,534,349	1,272,578	1,534,349	1,272,578
less: future finance charges	(298,028)	(189,724)	(298,028)	(189,724)
Present value of minimum lease payments	**1,236,321**	**1,082,854**	**1,236,321**	**1,082,854**
Present value of minimum lease payments due				
- within one year	421,847	645,439	421,847	645,439
- in second to fifth year inclusive	814,474	437,416	814,474	437,416
	1,236,321	**1,082,855**	**1,236,321**	**1,082,855**
Non-current liabilities	814,474	437,416	814,474	437,416
Current liabilities	421,847	645,439	421,847	645,439
	1,236,321	**1,082,855**	**1,236,321**	**1,082,855**

It is group policy to lease certain equipment under finance leases. The average lease term was three years and the average effective borrowing rate was 14% (2009: 14%).

Interest rates are fixed at the contract date. All leases have fixed repayments and no arrangements have been entered into for contingent rent.

The group did not default on any interest or capital portions on any of the finance leases.

None of the terms attached to the finance leases were renegotiated in the period under review.

13. Accruals - leave and bonus

Reconciliation of accruals - leave and bonus - Group - 2010

	Opening Balance	Additions	Utilised during the year	Total
Accruals for leave	2,523,237	-	(170,720)	2,352,517
Accruals for bonus	-	257,921	-	257,921
	2,523,237	**257,921**	**(170,720)**	**2,610,438**

Reconciliation of accruals - leave and bonus - Group - 2009

	Opening Balance	Additions	Total
Accruals for leave	2,243,521	279,716	2,523,237

Figures in Rand

13. Accruals - leave and bonus (continued)

Reconciliation of accruals - leave and bonus - Company - 2010

	Opening Balance	Additions	Utilised during the year	Total
Accruals for leave	2,523,237	-	(170,720)	2,352,517
Accruals for bonus	-	257,921	-	257,921
	2,523,237	**257,921**	**(170,720)**	**2,610,438**

Reconciliation of accruals - leave and bonus - Company - 2009

	Opening Balance	Additions	Total
Accruals for leave	2,243,521	279,716	2,523,237

The leave pay represents the liability in respect of leave outstanding.

The bonus pay represents the liability in respect of bonus to be paid out.

14. Trade and other payables

	Group		WRC	
Figures in Rand	2010	2009	2010	2009
Trade payables - exchange transactions	34,568,007	25,646,535	34,468,028	25,570,318
Deposits received - non-exchange transactions	23,912	19,724	-	-
	34,591,919	**25,666,259**	**34,468,028**	**25,570,318**

The entity did not default on interest or capital on any trade and other payables.

None of the terms attached to the trade and other payables were renegotiated in the period under review.

Figures in Rand

15. Financial liabilities by category

The accounting policies for financial instruments have been applied to the line items below:

Group - 2010

	Financial liabilities at amortised cost	Fair value through surplus or deficit – held for trading	Fair value through surplus or deficit – designated	Total
Finance lease obligation	1,236,321	-	-	1,236,321
Trade and other payables	34,591,919	-	-	34,591,919
Accruals	2,610,438	-	-	2,610,438
	38,438,678	**-**	**-**	**38,438,678**

Group - 2009

Finance lease obligation	1,082,855	-	-	1,082,855
Trade and other payables	25,666,259	-	-	25,666,259
Accruals	2,523,237	-	-	2,523,237
	29,272,351	**-**	**-**	**29,272,351**

Company - 2010

Finance lease obligation	1,236,321	-	-	1,236,321
Trade and other payables	34,468,028	-	-	34,468,028
Accruals	2,610,438	-	-	2,610,438
	38,314,787	**-**	**-**	**38,314,787**

Company - 2009

Finance lease obligation	1,082,855	-	-	1,082,855
Trade and other payables	25,570,318	-	-	25,570,318
Accruals	2,523,237	-	-	2,523,237
	29,176,410	**-**	**-**	**29,176,410**

16. Revenue

	Group		WRC	
Figures in Rand	**2010**	**2009**	**2010**	**2009**
Water research levies - non-exchange transactions	132,052,108	127,071,498	132,052,108	127,071,498
Rental Income - exchange transactions	336,971	248,758	-	-
Leverage income - non-exchange transactions	19,691,457	16,061,246	19,691,457	16,061,246
	152,080,536	**143,381,502**	**151,743,565**	**143,132,744**

Water research levies and leverage income are both income from non-exchange transactions.
All other income in the detailed statement of financial performance, except for interest income and discount received are income from exhange transactions.

Figures in Rand	Group 2010	Group 2009	WRC 2010	WRC 2009

17. Operating deficit

Operating deficit for the year is stated after accounting for the following:

Operating lease charges				
Premises				
• Contractual amounts	-	-	1,856,658	1,800,950
Equipment				
• Contractual amounts	2,831	244,395	2,831	244,395
	2,831	**244,395**	**1,859,489**	**2,045,345**
Loss on sale of property, plant and equipment	(50,792)	-	(50,792)	-
Impairment on loans to group companies	-	-	528,819	355,599
Depreciation on property, plant and equipment	1,098,041	861,708	1,098,041	861,708
Employee costs	33,405,218	30,188,256	33,405,218	30,188,256
Research and development	106,746,169	106,751,521	106,746,169	106,751,521

18. Investment revenue – non-exchange transactions

Interest revenue				
Listed financial assets	348,346	443,930	348,346	443,930
Loan to subsidiary (financial asset - loan and receivable)	-	-	804,065	974,637
Bank (financial asset - held for trading)	3,535,434	6,170,897	3,534,983	6,168,058
Interest charged on trade and other receivables (financial asset - loan and receivable)	222,780	326,624	222,780	326,624
Other interest	246,191	481,327	246,191	481,327
Computer loans (financial asset - loan and receivable)	424	196	424	196
	4,353,175	**7,422,974**	**5,156,789**	**8,394,772**

19. Finance costs

Trade and other payables (financial liability - held at amortised cost)	1,027,120	1,328,836	1,027,120	1,328,836
Finance leases	137,788	163,443	137,788	163,443
	1,164,908	**1,492,279**	**1,164,908**	**1,492,279**

20. Taxation

No provision has been made for 2010 tax as the group is exempted from income tax in terms of Section 10(1)(cA)(i) of the Income Tax Act.

Figures in Rand	Group 2010	Group 2009	WRC 2010	WRC 2009

21. Auditors' remuneration

Fees	877,398	1,026,291	877,398	1,026,291

22. Cash generated from (used in) operations

Deficit for the period	(1,494,499)	(3,527,889)	(2,440,351)	(4,076,632)
Adjustments for:				
Depreciation and amortisation	1,098,041	861,708	1,098,041	861,708
Loss on sale of assets	50,792	-	50,792	-
Interest received	(4,353,175)	(7,422,974)	(5,156,789)	(8,394,772)
Finance costs	1,164,908	1,492,279	1,164,908	1,492,279
Impairment loss	-	-	528,819	355,599
Movements in retirement benefit assets and liabilities	4,323,549	4,216,970	4,323,549	4,216,970
Movements in accruals	87,201	279,716	87,201	279,716
Changes in working capital:				
Trade and other receivables	(5,831,395)	(11,426,432)	(5,943,059)	(11,459,600)
Trade and other payables	8,925,660	(14,389,217)	8,897,710	(14,428,356)
	3,971,082	**(29,915,839)**	**2,610,821**	**(31,153,088)**

23. Commitments

Research expenditure

Already contracted for but not provided for

• Research	43,849,938	40,221,159	43,849,938	40,221,159

This committed expenditure relates to research cost and will be financed from internal sources.

Operating leases - as lessee (expense)

Minimum lease payments due

- within one year	-	-	1,653,252	1,574,525
- in second to fifth year inclusive	-	-	7,306,902	-
	-	**-**	**8,960,154**	**1,574,525**

24. Contingencies

No contingencies exist at reporting date.

	Group		WRC	
Figures in Rand	**2010**	**2009**	**2010**	**2009**

25. Related parties

Relationships

Subsidiaries Refer to note 5

Related party balances

Loan accounts – Owing by related parties				
Erf 706 Rietfontein (Proprietary) Limited			5,090,892	5,835,646

Related party transactions

Interest received from related parties				
Erf 706 Rietfontein (Proprietary) Limited			(804,065)	(974,637)
Rent paid to related parties				
Erf 706 Rietfontein (Proprietary) Limited			1,856,658	1,800,950
Administration fees received from related parties				
Erf 706 Rietfontein (Proprietary) Limited			(361,450)	(236,454)
Municipal expenses paid to related parties				
Erf 706 Rietfontein (Proprietary) Limited			388,245	275,762

Compensation to directors and other key management, refer to note 26.

Figures in Rand	Group 2010	Group 2009	WRC 2010	WRC 2009

26. Directors' emoluments

Total Directors' Emoluments				
Fees for services as directors	385,448	336,438	385,448	336,438
Basic salary	6,994,924	6,134,906	6,994,924	6,134,906
Bonuses and performance payments	621,971	387,138	621,971	387,138
Travel allowance	530,904	615,204	530,904	615,204
	8,533,247	**7,473,686**	**8,533,247**	**7,473,686**

Executive

2010	**Salary**	**Bonus and performance payments**	**Travel allowances**	**Total**
Dr R Kfir - Chief Executive Officer	1,108,337	112,395	80,004	1,300,736
Mr NB Patel - Chief Financial Officer	831,029	67,334	90,000	988,363
Dr GR Backeberg	764,091	59,313	59,400	882,804
Mr JN Bhagwan	837,540	67,810	90,000	995,350
Ms E Karar	843,540	67,810	84,000	995,350
Dr SA Mitchell	-	66,761	-	66,761
Ms R Frank	819,117	65,915	82,500	967,532
Dr H Snyman	878,079	59,057	45,000	982,136
Dr S Liphadzi	913,191	55,576	-	968,767
	6,994,924	**621,971**	**530,904**	**8,147,799**

2009	**Salary**	**Bonus and performance payments**	**Travel allowances**	**Total**
Dr R Kfir - Chief Executive Officer	1,007,337	101,715	80,004	1,189,056
Mr NB Patel - Chief Financial Officer	752,749	42,738	90,000	885,487
Dr GR Backeberg	658,086	34,909	64,800	757,795
Mr JN Bhagwan	758,706	43,040	90,000	891,746
Ms E Karar	764,706	43,040	84,000	891,746
Dr SA Mitchell	767,178	42,374	68,400	877,952
Ms R Frank	734,987	41,837	90,000	866,824
Dr H Snyman	691,157	37,485	48,000	776,642
	6,134,906	**387,138**	**615,204**	**7,137,248**

Non-executive

2010	**Fees for services as directors**	**Total**
Prof JB Hiscock (Adams) Chairperson	257,448	257,448
Mr D Naidoo	26,000	26,000
Mr EPW Cross	18,000	18,000
Dr DSS Lushaba	20,000	20,000
IMS ZB Mathenjwa	12,000	12,000
Mrs DN Ndaba	20,000	20,000
Mr M Sirenya	20,000	20,000
Dr DJ Merrey	12,000	12,000
	385,448	**385,448**

Figures in Rand

2009	Fees for services as Directors	Total
Dr SJ Khoza - Chairperson	57,385	57,385
Prof JB Adams - Chairperson	159,053	159,053
Prof F Otieno - Vice-chairperson	4,000	4,000
Mr D Naidoo	10,000	10,000
Dr TPE Auf Der Heyde	4,000	4,000
Mr EPW Cross	12,000	12,000
Dr DSS Lushaba	10,000	10,000
Ms ZB Mathenjwa	12,000	12,000
Ms MM Matsabu	6,000	6,000
Ms VGM Mkaza	4,000	4,000
Mrs DN Ndaba	14,000	14,000
Prof EM Stack	6,000	6,000
Mr M Sirenya	22,000	22,000
Mr JN Campbell	4,000	4,000
Prof JB Adams	2,000	2,000
Dr DJ Merrey	10,000	10,000
	336,438	**336,438**

27. Prior period errors

Trade and other payables and accumulated surplus for the prior financial period (2009) were incorrect. This is as a result of incorrect capturing of transactions in 2007 (R 344,964) and 2008 (R 1,001,430) in the financial system. The Statement of Financial Performance line item that was affected in those years was operating expenses (Research and development cost in the detailed Statement of Financial Performance).

Trade and other receivables, revenue and accumulated surplus for the prior financial period (2009) were incorrect. This is as a result of incorrect provisions for water research levies in the 2009 period as well as the periods prior to 2009. The effect for 2009 is that water research levies were overstated with an amount of R 157,108 and for the periods prior to 2009, the total was understated with an amount of R 4,236,916.

The correction of the error results in adjustments as follows:

Statement of financial position				
Trade and other payables	-	1,346,394	-	1,346,394
Accumulated surplus	-	(5,583,310)	-	(5,583,310)
Trade and other receivables	-	4,079,808	-	4,079,808
Revenue	-	157,108	-	157,108

	Group		WRC	
Figures in Rand	**2010**	**2009**	**2010**	**2009**

28. Comparative figures

The line item in the statement of financial position, Accruals for leave and bonus, were incorrectly titled as provisions in the prior financial year.

Certain comparative figures have been reclassified in the detailed statement of financial performance. The effects of the reclassification are as follows:

Statement of financial performance

Discount received	-	(87,374)	-	(87,374)
Other income	-	87,374	-	87,374
Research and development cost	-	(1,202,579)	-	(1,202,579)
Professional fees	-	1,202,579	-	1,202,579
Water research levies	-	(585,158)	-	-
Other income	-	585,158	-	-
Leverage income	-	(8,403)	-	-
Other income	-	8,403	-	-
Utilities	-	(551,524)	-	-
Other income	-	(551,524)	-	-

29. Risk management

Liquidity risk

The group's risk to liquidity is a result of the funds available to cover future commitments. The group manages liquidity risk through an ongoing review of future commitments and credit facilities.

The table below analyses the group's financial liabilities and net-settled derivative financial liabilities into relevant maturity groupings based on the remaining period at the reporting date to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows.

Group

At 31 March 2010	**Less than 1 year**	**Between 1 and 2 years**	**Between 2 and 5 years**	**Over 5 years**
Trade and other payables	34,591,919	-	-	-
Finance leases	560,323	466,289	507,737	-
At 31 March 2009	**Less than 1 year**	**Between 1 and 2 years**	**Between 2 and 5 years**	**Over 5 years**
Trade and other payables	25,666,259	-	-	-
Finance leases	780,491	293,061	199,027	-

29. Risk management (continued)

Company

At 31 March 2010	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Trade and other payables	34,468,028	-	-	-
Finance leases	560,323	466,289	507,737	-

At 31 March 2009	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Trade and other payables	25,570,318	-	-	-
Finance leases	780,491	293,061	199,027	-

Interest rate risk

Due to the nature and extent of the Commission's investments, the Commission is not unduly exposed to interest rate risks as at least 80% of the investments are held in trusts.

Group

At 31 March 2010, if interest rates on Rand-denominated borrowings had been 2.0% higher/lower with all other variables held constant, surplus for the year would have been R 102,564 (2009: R 242,907) lower/higher, mainly as a result of higher/lower interest expense on floating rate borrowings.

Company

At 31 March 2009, if interest rates on Rand-denominated borrowings had been 2.0% higher/lower with all other variables held constant, surplus (deficit) for the year would have been R 104,136 (2008: R 108,278) lower/higher, mainly as a result of higher/lower interest expense on floating rate borrowings.

Deposits attract interest at rates that vary with prime. The entity's policy is to manage interest rate risk so that fluctuations in variable rates do not have a material impact on a surplus(deficit).

At year end, financial instruments exposed to interest rate risk were as follows: Balances with banks and deposits with the Corporation for Public Deposits.

Credit risk

Credit risk consists mainly of cash deposits, cash equivalents, staff loans and trade debtors. The Water Research Commission only deposits cash with major banks with high quality credit standing and limits exposure to any one counter-party.

Financial assets exposed to credit risk at year end were as follows:

Financial instrument	Group - 2010	Group - 2009	Company - 2010	Company - 2009
Deposits with banks	1,800	1,800	1,800	1,800
Corporation for Public Deposits	26,714,633	13,654,197	26,714,633	13,654,197
Computer loans	18,943	955	18,943	955
Bank Balance	42,229,510	49,924,007	40,695,287	48,711,358

These balances represent the maximum exposure to credit risk.

29. Risk management (continued)

Foreign exchange risk

The Water Research Commission does not have any foreign account receivables, foreign accounts payables or derivative market instruments.

Price risk

Due to the nature and extent of the Commission's investments, the Commission is not unduly exposed to price risks as investments are held in trusts, cash and deposits.

30. Going concern

The annual financial statements have been prepared on the basis of accounting policies applicable to a going concern. This basis presumes that funds will be available to finance future operations and that the realisation of assets and settlement of liabilities, contingent obligations and commitments will occur in the ordinary course of business.

31. Post reporting date events

There were no events after reporting date that requires reporting or disclosure in the Annual Financial Statements.

DETAILED STATEMENT OF FINANCIAL PERFORMANCE

Water Research Commission Consolidated Annual Financial Statements for the year ended 31 March 2010

		Group		WRC	
Figures in Rand		**2010**	2009	**2010**	2009
Revenue					
Water research levies - non-exchange transactions		132,052,108	127,071,498	132,052,108	127,071,498
Rental Income - exchange transactions		336,971	248,758	-	-
Leverage income - non-exchange transactions		19,691,457	16,061,246	19,691,457	16,061,246
	16	**152,080,536**	**143,381,502**	**151,743,565**	**143,132,744**
Other income					
Administration and management fees received - exchange transactions		-	-	361,450	236,454
Discount received - non-exchange transactions		14,067	13,619	14,067	13,619
Other income - exchange transactions		1,932,788	1,167,097	1,878,634	1,125,060
Interest received - non-exchange transactions	18	4,353,175	7,422,974	5,156,789	8,394,772
		6,300,030	**8,603,690**	**7,410,940**	**9,769,905**
Expenses (refer below)		**(158,710,157)**	**(154,020,802)**	**(160,429,948)**	**(155,487,002)**
Operating deficit	17	**(329,591)**	**(2,035,610)**	**(1,275,443)**	**(2,584,353)**
Finance costs	19	(1,164,908)	(1,492,279)	(1,164,908)	(1,492,279)
Deficit for the period		**(1,494,499)**	**(3,527,889)**	**(2,440,351)**	**(4,076,632)**
Operating expenses					
Administration and management fees		350,389	342,668	350,389	342,668
Auditors remuneration	21	877,398	1,026,291	877,398	1,026,291
Allowance for impairment		768,252	153,043	768,252	153,043
Bank charges		58,406	74,003	53,815	69,081
Consumables		23,761	38,545	23,761	38,545
Depreciation, amortisation and impairments		1,098,041	861,708	1,626,860	1,217,307
Discretionary fund		26,381	18,454	26,381	18,454
Employee costs		33,405,218	30,188,256	33,405,218	30,188,256
Entertainment		223,628	209,690	223,628	209,690
IT expenses		1,156,615	1,043,692	1,156,615	1,043,692
Insurance		151,054	122,600	128,576	100,122
Lease rentals on operating lease		2,831	244,395	1,859,489	2,045,345
Loss on disposal of assets		50,792	-	50,792	-
Motor vehicle expenses		5,692	7,748	5,692	7,748
Patent registrations		421,850	570,772	421,850	570,772
Postage		180,925	235,277	180,925	235,277
Printing and stationery		5,104,822	4,629,090	5,104,822	4,627,982
Promotions		218,203	194,319	218,203	194,319
Professional fees		1,749,369	1,202,579	1,749,369	1,202,579
Recruitment costs		81,553	298,953	81,553	298,953
Repairs and maintenance		500,987	443,533	317,002	181,301
Research and development costs		106,746,169	106,751,521	106,746,169	106,751,521
Secretarial fees		2,378	3,550	-	-
Security		293,554	286,286	-	-
Staff welfare		20,989	17,778	20,989	17,778
Subscriptions		576,775	337,722	576,775	337,722
Telephone and fax		697,914	744,301	692,346	740,140
Training		303,360	250,889	303,360	250,889
Travel - local		2,436,788	2,538,869	2,436,788	2,538,869
Travel - overseas		634,686	802,896	634,686	802,896
Utilities		541,377	381,374	388,245	275,762
		158,710,157	**154,020,802**	**160,429,948**	**155,487,002**

STATEMENT OF COMPARISON OF BUDGET AND ACTUAL AMOUNTS

Water Research Commission Consolidated Annual Financial Statements for the year ended 31 March 2010

1. Reconciliation between actual amounts on comparable basis and actual amounts in Statement of Financial Performance

Budget on Cash Basis	
Net surplus/(deficit) per Statement of Financial Performance	(2,440,351)
Adjusted for	
Fair value adjustments	485,246
Impairments recognised/reversed	1,297,071
Profit/loss on sale of assets	50,792
Depreciation and amortisation	1,098,041
Other adjustments	
Variance between budget and actual:	(97,442)
Sales/Commercial	
Miscellaneous	(1,131,899)
Electricity	93,288
Postal & courier	(60,506)
Building maintenance	108,632
PC Consumables	(31,308)
PC Software, licences	(112,360)
S&T International	(182,825)
WRC Vehicle expenses	(5,858)
Consultancies, Professional	362,678
Entertainment	38,015
Books, educational material	(19,650)
Membership & subscription	77,570
Promotions and publicity	54,088
Discretionary fund	(30,318)
Patent registrations	(178,150)
Employee cost	5,985,147
Staff training	74,197
Insurance	(55,405)
Collection services	(283,969)
Bank charges	(23,704)
Interest paid	(22,212)
Audit fees	(185,222)
Other variances	(3,756,129)
Net surplus/(deficit) per revised budget (excluding capital expenditure)	**1,107,457**

The budget is approved on a cash basis by nature classification. The approved budget covers the fiscal period from 1 April 2009 to 31 March 2010. The budget detail included is only for the Water Research Commission and not for Erf 706 Rietfontein (Proprietary) Limited.

The Financial Statements differ from the budget, which is approved on the cash basis.

The amounts in the financial statements were recast from the accrual basis to the cash basis to be on the same basis as the final approved budget.

A reconciliation between the actual amounts on a comparable basis as presented in the Statement of Comparison of Budget and Actual Amounts and the actual amounts in the Statement of Financial Performance for the period ended 31 March 2010 is presented above. The Financial Statements and budget documents are prepared for the same period.

ERF SEWE-NUL-SES RIETFONTEIN (PTY) LTD ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2010

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REPORT OF THE AUDITOR-GENERAL TO PARLIAMENT ON THE FINANCIAL STATEMENTS AND PERFORMANCE INFORMATION OF ERF 706 RIETFONTEIN (PTY) LTD FOR THE YEAR ENDED 31 MARCH 2010

REPORT ON THE FINANCIAL STATEMENTS

Introduction

I have audited the accompanying financial statements of Erf 706 Reitfontein (Pty) Ltd which comprise the statement of financial position as at 31 March 2010, statement of financial performance, statement of changes in net assets and cash flow statement for the year then ended and a summary of significant accounting policies and other explanatory notes, as set out on pages 131 to 150.

Accounting authority's responsibility for the financial statements

The accounting officer is responsible for the preparation and fair presentation of these financial statements in accordance with South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and in the manner required by the Public Finance Management Act of South Africa and the Companies Act of South Africa. This responsibility includes: designing, implementing and maintaining internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Auditor-General's responsibility

As required by section 188 of the Constitution of South Africa and section 4 of the Public Audit Act of South Africa and section 14 of the Water Research Act of South Africa, my responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with International Standards on Auditing and General Notice 1570 of 2009 issued in Government Gazette 32758 of 27 November 2009. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

Opinion

In my opinion the financial statements present fairly, in all material respects, the financial position of Erf 706 Rietfontein (Pty) Ltd as at 31 March 2010 and its financial performance and cash flows for the year then ended, in accordance with South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and in the manner required by the Public Finance Management Act of South Africa and the Companies Act of South Africa.

REPORT ON OTHER LEGAL AND REGULATORY REQUIREMENTS

In terms of the PAA of South Africa and General notice 1570 of 2009, issued in Government Gazette No. 32758 of 27 November 2009 I include below my findings on the report on predetermined objectives, compliance with the Public Audit Act of South Africa and the Water Research Act of South Africa and financial management (internal control).

Findings

Predetermined objectives

No matters to report.

Compliance with laws and regulations

No matters to report.

Internal control

I considered internal control relevant to my audit of the financial statements and the report on predetermined objectives and compliance with the Public Finance Management Act, 1999 (Act No.1 of 1999), but not for the purposes of expressing an opinion on the effectiveness of internal control.

There are no matters to report.

Auditor-General

Pretoria
30 July 2010

AUDITOR-GENERAL
SOUTH AFRICA

Auditing to build public confidence

FINANCIAL STATEMENTS

Erf Sewe-Nul-Ses Rietfontein (Pty) Ltd

Approval of Financial Statements

The Directors' Report and Financial Statements set out on pages 130 to 150 were approved by the Board of Directors and were signed on its behalf by:

Prof JB Adams
Chairperson

Dr R. Kfir
WRC Chief Executive Officer

GENERAL INFORMATION

Directors:

Dr R Kfir
Prof JB Adams

Registered office:

301 Watko Building
491, 18th Avenue
Rietfontein
Pretoria

Registration number

1984/003566/07

Main business and purpose
The main business of the company is to own the immovable property known as Erf Rietfontein and in addition and supplementary to the aim of the Water Research Commission (WRC), to place the property at the disposal of the WRC as their main place of business.

Director's Report

a. General review
   To review the business and operations of the company for the above accounting period in general, the directors draw attention to the statements of financial position, financial performance, changes in net assets and cash flows attached, where the business of the company, the results and state of affairs are clearly reflected.
b. The Fourth Schedule to the Companies Act, 1973, requires the Directors to report on any material facts or circumstances which occurred between the accounting date and the date of their report. No such material or circumstances occurred.

Specific matters

a. The main aim of the company is that of owning immovable property known as Erf 706 Rietfontein, including all permanent improvements, and to use the property for the purpose of promoting the operations of Water Research Commission.
b. No shares were allotted or issued by the company for the year ending 31 March 2010.
c. No dividends were paid or declared during the accounting period and we have no recommendation to make in respect of dividends (2009-RNil)
d. The Directors and certain members of staff of Water Research Commission, for whom an administration fee is paid to the Water Research Commission, managed the business of the company. No third person was involved in managing the company.
e. The names of Directors are shown below. No changes have taken place in the appointments during the accounting period. The company's secretary is Mr D de Lange.

- Dr R Kfir
- Prof JB Adams

The company is wholly owned by the Water Research Commission

STATEMENT OF FINANCIAL POSITION

Erf Sewe-Nul-Ses Rietfontein (Pty) Ltd Annual Financial Statements for the year ended 31 March 2010

Figures in Rand	Note(s)	2010	2009
Assets			
Non-Current Assets			
Investment property	3	8,691,522	8,691,522
Current Assets			
Trade and other receivables - exchange transactions	5	24,835	8,411
Other receivables - non-exchange transactions	5	10,750	20,938
Cash and cash equivalents	6	1,150,294	1,212,649
		1,185,879	**1,241,998**
Total Assets		**9,877,401**	**9,933,520**
Net Assets and Liabilities			
Net Assets			
Share capital	7	1	1
Accumulated deficit		(5,954,459)	(5,528,320)
		(5,954,458)	**(5,528,319)**
Liabilities			
Non-Current Liabilities			
Other financial liabilities	8	15,588,801	15,080,731
Current Liabilities			
Operating lease liability		119,164	-
Trade and other payables - exchange transactions	9	99,982	361,384
Other payables - non-exchange transactions	9	23,912	19,724
		243,058	**381,108**
Total Liabilities		**15,831,859**	**15,461,839**
Total Net Assets and Liabilities		**9,877,401**	**9,933,520**

STATEMENT OF FINANCIAL PERFORMANCE

Erf Sewe-Nul-Ses Rietfontein (Pty) Ltd Annual Financial Statements for the year ended 31 March 2010

Figures in Rand	Note(s)	2010	2009
Revenue	11	2,516,863	2,367,507
Operating expenses		(1,415,382)	(1,202,565)
Operating surplus		**1,101,481**	**1,164,942**
Investment revenue	12	451	2,839
Finance costs	13	(1,528,071)	(2,205,749)
Deficit for the period		**(426,139)**	**(1,037,968)**

STATEMENT OF CHANGES IN NET ASSETS

Erf Sewe-Nul-Ses Rietfontein (Pty) Ltd Annual Financial Statements for the year ended 31 March 2010

Figures in Rand	Share capital	Accumulated deficit	Total net assets
Balance at 01 April 2008	**1**	**(4,490,352)**	**(4,490,351)**
Changes in net assets			
Deficit for the period	-	(1,037,968)	(1,037,968)
Total changes	-	(1,037,968)	(1,037,968)
Balance at 01 April 2009	**1**	**(5,528,320)**	**(5,528,319)**
Changes in net assets			
Deficit for the period	-	(426,139)	(426,139)
Total changes	-	(426,139)	(426,139)
Balance at 31 March 2010	**1**	**(5,954,459)**	**(5,954,458)**

STATEMENT OF CASH FLOWS

Erf Sewe-Nul-Ses Rietfontein (Pty) Ltd Annual Financial Statements for the year ended 31 March 2010

Figures in Rand	Note(s)	2010	2009
Cash flows from operating activities			
Cash receipts from customers		2,629,790	2,364,793
Cash paid to suppliers and employees		(1,672,595)	(1,127,543)
Cash generated from operations	15	957,195	1,237,250
Interest income		451	2,839
Finance costs		(1,528,071)	(2,205,749)
Net cash from operating activities		**(570,425)**	**(965,660)**
Cash flows from financing activities			
Proceeds from other financial liabilities		505,217	1,185,749
Repayment of other financial liabilities		2,853	-
Net cash from financing activities		**508,070**	**1,185,749**
Total cash movement for the period		**(62,355)**	**220,089**
Cash at the beginning of the period		1,212,649	992,560
Total cash at end of the period	**6**	**1,150,294**	**1,212,649**

ACCOUNTING POLICIES

Erf Sewe-Nul-Ses Rietfontein (Pty) Ltd Annual Financial Statements for the year ended 31 March 2010

1. Presentation of Annual Financial Statements

The annual financial statements have been prepared in accordance with Statements of Generally Recognised Accounting Practice (GRAP) issued by the Accounting Standards Board in accordance with Section 55 of the Public Finance Management Act (Act no. 29 of 1999). The annual financial statements have been prepared on the historical cost basis, and incorporate the principal accounting policies set out below.

Accounting policies for material transactions, events or conditions not covered by the GRAP reporting framework, have been developed in accordance with paragraphs 7, 11 and 12 of GRAP 3 and the hierarchy approved in Directive 5 issued by the Accounting Standards Board.

Assets, liabilities, revenues and expenses have not been offset except where offsetting is required or permitted by a Standard of GRAP.

These accounting policies are consistent with the previous period, unless explicitly stated. The details of any changes in accounting policies are explained in the relevant policy.

The principal accounting policies adopted in the preparation of these financial statements are set out below.

Presentation currency

The financial statements are presented in South African Rand, which is the functional currency of the entity. Unless stated otherwise, all figures have been rounded off to the nearest Rand.

Going concern assumption

These annual financial statements have been prepared on the assumption that the entity will continue to operate as a going concern for at least the next 12 months.

Comparative information

When the presentation or classification of items in the annual financial statements is amended, prior period comparative amounts are restated. The nature and reason for the reclassification is disclosed. Where accounting errors have been identified in the current year, the correction is made retrospectively as far as is practicable, and the prior year comparatives are restated accordingly. Where there has been a change in accounting policy in the current year, the adjustment is made retrospectively as far as is practicable, and the prior year comparatives are restated accordingly.

1.1 Significant judgements

In preparing the annual financial statements, management is required to make estimates and assumptions that affect the amounts represented in the annual financial statements and related disclosures. Use of available information and the application of judgement is inherent in the formation of estimates. Actual results in the future could differ from these estimates which may be material to the annual financial statements. Significant judgements include:

Fair value estimation

The carrying value less impairment provision of trade receivables and payables are assumed to approximate their fair values. The fair value of financial liabilities for disclosure purposes is estimated by discounting the future contractual cash flows at the current market interest rate that is available to the entity for similar financial instruments.

1.2 Investment property

Investment property is recognised as an asset when, and only when, it is probable that the future economic benefits that are associated with the investment property will flow to the entity, and the cost of the investment property can be measured reliably.

Investment property is initially recognised at cost. Transaction costs are included in the initial measurement.

Costs include costs incurred initially and costs incurred subsequently to add to, or to replace a part of, or service a property. If a replacement part is recognised in the carrying amount of the investment property, the carrying amount of the replaced part is derecognised.

Cost model

Investment property is carried at cost less depreciation less any accumulated impairment losses.

Depreciation is provided to write down the cost, less estimated residual value by equal installments over the useful life of the property. However it is not currently depreciated as the residual value is estimated to be higher than the carrying value.

1.3 Financial instruments

Loans to (from) group companies

These include loans from the Water Research Commission.

Loans from group entities are classified as financial liabilities measured at amortised cost.

Trade and other receivables

Trade and other receivables are categorised as loans and receivables and are initially recognised at fair value plus direct transaction costs and subsequently carried at amortised cost using the effective interest rate method, less any impairment loss recognised to reflect irrecoverable amounts. Amortised cost refers to the initial carrying amount, plus interest, less repayments and impairments.

Appropriate allowances for estimated irrecoverable amounts are recognised in surplus or deficit when there is objective evidence that the asset is impaired. Significant financial difficulties of the debtor, probability that the debtor will enter bankruptcy or financial reorganisation, and default or delinquency in payments (more than 30 days overdue) are considered indicators that the trade receivable is impaired. The allowance recognised is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the effective interest rate computed at initial recognition.

An impairment of trade receivables is accounted for by reducing the carrying amount of trade receivables through the use of an allowance account, and the amount of the loss is recognised in the statement of financial performance within operating expenses. When a trade receivable is uncollectible, it is written off against the allowance account for trade receivables.

Subsequent recoveries of amounts previously written off are credited against operating expenses in the Statement of Financial Performance.

Trade and other payables and borrowings

Financial liabilities consist of trade payables and borrowings. They are categorised as financial liabilities at amortised cost and are initially recognised at fair value and subsequently measured at amortised cost which is the initial carrying amount, less repayments, plus interest.

Cash and cash equivalents

Cash includes cash on hand and demand deposits. Cash equivalents are short-term highly liquid investments, readily convertible into known amounts of cash and are subject to an insignificant risk of change in value. These are initially and subsequently recorded at fair value. For the purposes of the Statement of Cash Flows, cash and cash equivalents comprise cash on hand, deposits held on call with banks, net of bank overdrafts. The entity categorises cash and cash equivalents as loans and receivables.

1.4 Impairment of assets

The entity assesses at each reporting date whether there is any indication that an asset may be impaired. If any such indication exists, the entity estimates the recoverable service amount of the asset.

Irrespective of whether there is any indication of impairment, the entity also:

- tests intangible assets with an indefinite useful life or intangible assets not yet available for use for impairment annually by comparing its carrying amount with its recoverable amount. This impairment test is performed during the annual period and at the same time every period.
- tests goodwill acquired in a business combination for impairment annually.

If there is any indication that an asset may be impaired, the recoverable amount (or recoverable service amount) is estimated for the individual asset. If it is not possible to estimate the recoverable amount (or recoverable service amount) of the individual asset, the recoverable amount (or recoverable service amount) of the cash-generating unit to which the asset belongs is determined.

The recoverable amount (or recoverable service amount) of an asset or a cash-generating unit is the higher of its fair value less costs to sell and its value in use.

If the recoverable amount (or recoverable service amount) of an asset is less than its carrying amount, the carrying amount of the asset is reduced to its recoverable amount (or recoverable service amount). That reduction is an impairment loss.

An impairment loss of assets carried at cost less any accumulated depreciation or amortisation is recognised immediately in surplus or deficit. Any impairment loss of a revalued asset is treated as a revaluation decrease.

An impairment loss is recognised for cash-generating units if the recoverable amount (or recoverable service amount) of the unit is less than the carrying amount of the units. The impairment loss is allocated to reduce the carrying amount of the assets of the unit in the following order:

- first, to reduce the carrying amount of any goodwill allocated to the cash-generating unit and
- then, to the other assets of the unit, pro rata on the basis of the carrying amount of each asset in the unit.

An entity assesses at each reporting date whether there is any indication that an impairment loss recognised in prior periods for assets other than goodwill may no longer exist or may have decreased. If any such indication exists, the recoverable amounts (or recoverable service amounts) of those assets are estimated.

The increased carrying amount of an asset other than goodwill attributable to a reversal of an impairment loss does not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset in prior periods.

A reversal of an impairment loss of assets carried at cost less accumulated depreciation or amortisation other than goodwill is recognised immediately in surplus or deficit. Any reversal of an impairment loss of a revalued asset is treated as a revaluation increase.

1.5 Share capital and residual interest

A residual interest instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities.

1.6 Revenue

Revenue from exchange transactions

Revenue from the sale of goods is recognised when all the following conditions have been satisfied:

- the entity has transferred to the buyer the significant risks and rewards of ownership of the goods;
- the entity retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold;
- the amount of revenue can be measured reliably;
- it is probable that the economic benefits associated with the transaction will flow to the entity; and
- the costs incurred or to be incurred in respect of the transaction can be measured reliably.

Revenue is measured at the fair value of the consideration received or receivable and represents the amounts receivable for goods and services provided in the normal course of business, net of trade discounts and volume rebates, and value added tax.

Interest is recognised, in surplus or deficit, using the effective interest rate method.

1.7 Pre-Payments

Pre-payments are recognised at the fair value of the payments as soon as payments are made.

1.8 Borrowing costs

Borrowing costs are recognised as an expense in the period in which they are incurred.

1.9 Related parties

The entity follows the guidance of IPSAS 20 to identify related party relationships, transactions and balances and the disclosures on those identified.

2. Statements and interpretations not yet effective

The following standards, amendments to standards and interpretations, with their estimated effect on the Financial Statements, have been issued but are not yet effective as at 31 March 2010:

Amendment to
IFRS 3(AC 140) Business Combinations
APB Issue date: February 2008
Effective date: 1 July 2009
Amendments to accounting for business combinations. This standard is expected to be implemented by the entity in the 2011 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

Revised
**IFRS 3(AC 140) Business Combinations
IASB Issue date: August 2009
APB Issue date: N/A
Effective date: 1 July 2010
- Transition requirements for contingent consideration from a business combination that occurred before the effective date of the revised IFRS
- Measurement of non-controlling interests
- Un-replaced and voluntarily replaced share-based payment awards.
This standard is expected to be implemented by the entity in the 2012 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

Revised
**IFRS 7(AC 144) Financial Instruments: Disclosures
IASB Issue date: August 2009
APB Issue date: N/A
Effective date: 1 January 2011
Clarifications of disclosures. This standard is expected to be implemented by the entity in the 2012 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

IFRS 9(AC 146) Financial Instruments
APB Issue date: January 2010
Effective date: 1 January 2013
New standard issued relating to the classification and measurement of financial assets, which will replace the relevant portions of IAS 39. The standard requires all financial assets to be:
- classified on the basis of the entity's business model for managing the financial assets and the contractual cash flow characteristics of the financial asset
- subsequently measured at amortised cost or fair value.
This standard is expected to be implemented by the entity in the 2014 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

Amendment to
IAS 32(AC 125) Financial Instruments: Presentation
APB Issue date: January 2010
Effective date: 1 February 2010
Rights issues (rights, options or warrants) to acquire a fixed number of the entity's own equity instruments for a fixed amount, which is denominated in a currency other than the functional currency of the issuer will be accounted for as equity instruments.
This standard is expected to be implemented by the entity in the 2011 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

Amendment to
IAS 39(AC 133) Financial Instruments: Recognition and Measurement
APB Issue date: March 2009
Effective date: 1 July 2009
Clarifies two hedge accounting issues:
- Inflation in a financial hedged item
- A one-sided risk in a hedged item.
This standard is expected to be implemented by the entity in the 2011 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

Amendment to
IAS 39(AC 133) Financial Instruments: Recognition and Measurement
APB Issue date: April 2009
Effective date: 1 July 2009
Amendments for embedded derivatives when reclassifying financial instruments
This standard is expected to be implemented by the entity in the 2011 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

Revised
*IAS 39(AC 133) Financial Instruments: Recognition and Measurement
APB Issue date: May 2009
Effective date: 1 January 2010
- Treating loan prepayment penalties as closely related embedded derivatives - Scope exemption for business combination contracts
- Cash flow hedge accounting.
This standard is expected to be implemented by the entity in the 2011 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

*IFRIC 9(AC 442) Reassessment of Embedded Derivatives
APB Issue date: May 2009
Effective date: 1 July 2009
This standard is expected to be implemented by the entity in the 2011 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

**IFRIC 13(AC 446) Customer Loyalty Programmes (Fair value of award credit)
IASB Issue date: August 2009
APB Issue date: N/A
Effective date: 1 January 2011
This standard is expected to be implemented by the entity in the 2012 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

IFRIC 14(AC 447) The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction (Prepayments of a minimum funding requirement)
APB Issue date: January 2010
Effective date: 1 January 2011
This standard is expected to be implemented by the entity in the 2012 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

*IFRIC 16(AC 449) Hedges of a Net Investment in a Foreign Operation
APB Issue date: May 2009
Effective date: 1 July 2009
This standard is expected to be implemented by the entity in the 2011 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

IFRIC 17(AC 450) Distributions of Non-cash Assets to Owners
APB Issue date: March 2009
Effective date: 1 July 2009
This standard is expected to be implemented by the entity in the 2011 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

IFRIC 18(AC 451) Transfer of Assets from Customers
APB Issue date: March 2009
Effective date: 1 July 2009
This standard is expected to be implemented by the entity in the 2011 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

IFRIC 19(AC 452) Extinguishing Financial Liabilities with Equity Instruments
APB Issue date: January 2010
Effective date: 1 July 2010
This standard is expected to be implemented by the entity in the 2012 financial year in accordance with its effective date. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

*Standards and interpretations affected by the Improvements to IFRS

**Standards and interpretations affected by the Improvements to IFRS issued in an exposure draft as ED 272 Improvements to IFRSs: Proposed amendments to International Financial Reporting Standards
In addition to the above, the following GRAP standards have been approved but are not yet effective:

GRAP 18 - Segment Reporting
ASB Issue date: March 2005
Effective date: To be determined by the Minister
New standard of GRAP: Establishes principles for reporting financial information by segments. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

GRAP 21 - Impairment of Non-cash-generating Assets
ASB Issue date: March 2009
Effective date: To be determined by the Minister
New standard of GRAP: Prescribes the procedures that an entity applies to determine whether a non-cash-generating asset is impaired and to ensure that impairment losses are recognised. The standard also specifies when an entity would reverse an impairment loss and prescribes disclosures. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

GRAP 23 - Revenue from Non-exchange Transactions (Taxes and Transfers)
ASB Issue date: February 2008
Effective date: To be determined by the Minister
New standard of GRAP: Prescribes requirements for the financial reporting of revenue arising from non-exchange transactions, other than non-exchange transactions that give rise to an entity combination. The standard deals with issues that need to be considered in recognising and measuring revenue from non-exchange transactions, including the identification of contributions from owners. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

GRAP 24 - Presentation of Budget Information in Financial Statements
ASB Issue date: November 2007
Effective date: To be determined by the Minister
New standard of GRAP dealing with the presentation and disclosure of budget information as required by GRAP 1. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

GRAP 25 - Employee Benefits
ASB Issue date: November 2009
Effective date: To be determined by the Minister
New standard of GRAP dealing with the requirements around accounting and disclosure of employee benefits including short term, long term and post retirement employee benefits. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

GRAP 26 - Impairment of Cash-generating Assets
ASB Issue date: March 2009
Effective date: To be determined by the Minister
New standard of GRAP: Prescribes the procedures that an entity applies to determine whether a cash-generating asset is impaired and to ensure that impairment losses are recognised. The standard also specifies when an entity would reverse an impairment loss and prescribes disclosures. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

GRAP 103 - Heritage Assets
APB Issue date: July 2008
Effective date: To be determined by the Minister

2. Statements and interpretations not yet effective (continued)

New standard of GRAP: Prescribes the accounting treatment for heritage assets and related disclosure requirements. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

GRAP 104 - Financial Instruments
ASB Issue date: October 2009
Effective date: To be determined by the Minister
New standard of GRAP dealing with the recognition, measurement, presentation and disclosure of financial instruments. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

***Improvements to standards of GRAP
ASB Issue date: N/A
Effective date: Proposed: 1 April 2011
Improvements are proposed to the following standards of GRAP: GRAP 1-4, 9-14, 16-17, 19 and 100 as part of the ASB's improvement project. The impact of implementing this standard is expected to be immaterial in the context of this entity's operations

***Standards affected by the Improvements Project of the ASB issued in an exposure draft as ED 63 - Improvements to the Standards of GRAP

3. Investment property

Figures in Rand	2010			2009		
	Cost / Valuation	Accumulated depreciation	Carrying value	Cost/ Valuation	Accumulated depreciation	Carrying value
Investment property	8,691,522	-	8,691,522	8,691,522	-	8,691,522

	2010	2009
Fair value of investment properties	26,700,000	28,000,000

Details of property

ERF 706 RIETFONTEIN, PRETORIA

- Purchase price	615,855	615,855
- Additions since purchase or valuation	8,075,667	8,075,667
	8,691,522	**8,691,522**

Details of valuation

The property has been revalued at R26,700,000 by Reinertsen International Valuation Services, as an independent valuer on 31 March 2010.

Rental income from investment property	2,193,629	2,049,708
Direct operating expenses from rental generating property	537,838	378,407

Figures in Rand

4. Financial assets by category

The accounting policies for financial instruments have been applied to the line items below:

2010

	Loans and receivables	Fair value through surplus or deficit - held for trading	Fair value through surplus or deficit - designated	Held to maturity	Total
Trade and other receivables	35,585	-	-	-	35,585
Cash and cash equivalents	1,150,294	-	-	-	1,150,294
	1,185,879	**-**	**-**	**-**	**1,185,879**

2009

	Loans and receivables	Fair value through surplus or deficit - held for trading	Fair value through surplus or deficit - designated	Held to maturity	Total
Trade and other receivables	29,348	-	-	-	29,348
Cash and cash equivalents	1,212,649	-	-	-	1,212,649
	1,241,997	**-**	**-**	**-**	**1,241,997**

5. Trade and other receivables - exchange transactions

	2010	2009
Trade receivables - exchange transactions	24,835	8,411
Other receivables - non-exchange transactions	10,750	20,938
	35,585	**29,349**

Trade and other receivables pledged as security

No trade and other receivables were pledged as security for any financial liability.

Credit quality of trade and other receivables

Management considers that all the above financial assets are of good credit quality. The maximum exposure to credit risk at the reporting date is the fair value of each class of receivable mentioned above. None of the trade and other receivables defaulted in the year under review.

None of the financial assets that are fully performing have been renegotiated in the last year.

Trade and other receivables past due but not impaired

No trade and other receivables for the entity are past due.

Trade and other receivables impaired

As of 31 March 2010, no trade and other receivables were impaired.

The maximum exposure to credit risk at the reporting date is the fair value of each class of loan mentioned above.

Figures in Rand	2010	2009

6. Cash and cash equivalents

Cash and cash equivalents consist of:

Bank balances	1,150,294	1,212,649

Cash and cash equivalents pledged as collateral

The cash and cash equvalents was not pledged as security for any financial liabilities.

Credit quality of cash at bank and short term deposits, excluding cash on hand

Management considers that the above cash and cash equivalents category are of good faith. The maximum exposure to credit risk at the reporting date is the fair value of cash and cash equivalents mentioned above.

7. Share capital

Authorised		
4000 Ordinary shares of R1 each	4,000	4,000
Issued		
1 Ordinary share of R1 each	1	1

8. Other financial liabilities

Water Research Commission - Held at amortisation cost		
Loan No.1	12,945,082	12,473,567
The unsecured loan bears interest at 15% (2009 - 15%) and is repayable in equal monthly installments of not less than R60,000 a month over 15 years.		
Loan No. 2	2,643,719	2,607,164
The unsecured loan bears interest at prime plus 2% with no fixed terms of repayment.		
	15,588,801	**15,080,731**
Non-current liabilities		
At amortised cost	15,588,801	15,080,731

9. Trade and other payables

Trade payables - exchange transactions	99,982	361,384
Other payables - non-exchange transactions	23,912	19,724
	123,894	**381,108**

The entity did not default on interest or capital on any trade and other payables.
None of the terms attached to the trade and other payables were renegotiated in the period under review.

Figures in Rand

10. Financial liabilities by category

The accounting policies for financial instruments have been applied to the line items below:

2010

	Financial liabilities at amortised cost	Fair value through surplus or deficit - held for trading	Fair value through surplus or deficit - designated	Total
Loans from group companies	15,588,801	-	-	15,588,801
Trade and other payables	123,893	-	-	123,893
	15,712,694	-	-	15,712,694

2009

	Financial liabilities at amortised cost	Fair value through surplus or deficit - held for trading	Fair value through surplus or deficit - designated	Total
Loans from group companies	15,080,731	-	-	15,080,731
Trade and other payables	381,107	-	-	381,107
	15,461,838	-	-	15,461,838

11. Revenue

	2010	2009
Municipal expense recoveries - exchange transactions	431,377	309,396
Rental received - exchange transactions	2,074,465	2,049,708
Sundry income - exchange transactions	11,021	8,403
	2,516,863	2,367,507

12. Investment revenue

Interest revenue		
Bank	451	2,839

13. Finance costs

Non-current borrowings	1,528,071	2,205,749

14. Taxation

No provision has been made for 2010 tax as the company has no taxable income.

Figures in Rand	2010	2009

15. Cash generated from operations

Deficit before taxation	(426,139)	(1,037,968)
Adjustments for:		
Interest received	(451)	(2,839)
Finance costs	1,528,071	2,205,749
Movements in operating lease assets and accruals	119,164	-
Changes in working capital:		
Trade and other receivables	(6,237)	(5,219)
Trade and other payables - exchange transactions	(257,213)	77,527
	957,195	**1,237,250**

16. Related parties

Figures in Rand	2010	2009
Relationships		
Holding companyWater Research Commission		
Related party transactions		
Interest paid to related parties		
Water Research Commission	1,528,071	2,205,749
Municipal expenses received from related parties		
Water Research Commission	(388,245)	(275,762)
Rent received from related parties		
Water Research Commission	(1,856,658)	(1,800,950)
Administration fees paid to related parties		
Water Research Commission	361,450	236,454
Loan accounts - owing to related parties		
Water Research Commission	15,588,801	15,080,731

17. Risk management

Liquidity risk

Prudent liquidity risk management implies maintaining sufficient cash. The entity receives cash by way of rental income. The maintains liquidity by limiting operating expenses to rental income received.

The entity's risk to liquidity is a result of the funds available to cover future commitments. The entity manages liquidity risk through an ongoing review of future commitments and credit facilities.

The table below analyses the entity's financial liabilities and net-settled derivative financial liabilities into relevant maturity groupings based on the remaining period at the statement of financial position to contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows. Balances due within 12 months equal their carrying balances as the impact of discounting is not significant.

At 31 March 2010	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Trade and other payables	123,893	-	-	-
Loan no. 1	1,351,200	1,521,451	5,814,232	5,199,659
Loan no. 2	337,800	371,580	1,352,923	1,142,464

At 31 March 2009	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Trade and other payables	381,107	-	-	-
Loan no. 1	1,200,000	1,351,200	5,163,617	7,371,726
Loan no. 2	300,000	300,000	1,118,118	2,086,648

Interest rate risk

As the entity has no significant interest-bearing assets, the entity's income and operating cash flows are substantially independent of changes in market interest rates.

At 31 March 2010, if interest rates on Rand-denominated borrowings had been 2% higher/lower with all other variables held constant, post-tax profit for the year would have been R 311,067 (2009: R 269,069) lower/higher, mainly as a result of higher/lower interest expense on floating rate borrowings.

Credit risk

Credit risk consists mainly of cash equivalents. The entity only deposits cash with major banks with high quality credit standing and limits exposure to any one counter-party.

Financial assets exposed to credit risk at year end were as follows:

Financial instrument	2010	2009
ABSA Bank	1,150,294	1,212,649

18. Going concern

The annual financial statements have been prepared on the basis of accounting policies applicable to a going concern. This basis presumes that funds will be available to finance future operations and that the realisation of assets and settlement of liabilities, contingent obligations and commitments will occur in the ordinary course of business.

19. Post reporting date events

There were no events after reporting date that require adjustment to or disclosure in the financial statements.

16. Related parties

Figures in Rand		2010	2009
Revenue			
Municipal expense recoveries - exchange transactions		431,377	309,396
Rental Income - exchange transactions		2,074,465	2,049,708
Sundry income - exchange transactions		11,021	8,403
	11	**2,516,863**	**2,367,507**
Other income			
Interest received - non-exchange transactions	12	451	2,839
Operating expenses			
Administration and management fees		361,450	236,454
Bank charges		4,591	4,922
Municipal services and levies		537,838	378,407
Sundry expenses		-	1,108
Insurance		22,478	22,478
Rent - meter readings		3,540	2,967
Repairs and maintenance		183,985	262,232
Secretarial fees		2,378	3,550
Security		293,554	286,286
Telephone and fax		5,568	4,161
		1,415,382	**1,202,565**
Operating surplus		**1,101,932**	**1,167,781**
Finance costs	13	(1,528,071)	(2,205,749)
Deficit for the period		**(426,139)**	**(1,037,968)**

ORGANISATIONAL STRUCTURE

NOTES

Designed by Blue Apple

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