Water Research Commission

Annual Report 2007/08

knowledge for growth and development

On the Cover:

The Umbrella Thorn Acacia *(Acacia tortilis)* or 'haak-en-steek' is one of the most recognisable trees of the African savannah. Its English name is derived from its spreading, flat-topped crown. The tree's Afrikaans name refers to its two pairs of thorns, one pair of long white thorns (that stick) and another pair of smaller hooked thorns (that grab). In nature the tree reaches a height of between 5-20 m. The tree can tolerate extreme drought (it is known to survive in areas with annual rainfall of less than 100 mm), temperatures as high as 50°C, high alkalinity, sandy and stony soils, and strongly-sloped rooting surfaces. It is a favourite nesting place for many birds, while its spirally-curved pods are eaten with relish by such animals as kudu, impala, rhinoceros and elephant. The gum is edible and nutritious and, according to literature, the Khoisan used to obtain a liquid from the roots to quench their thirst.

Annual Report 2007/08
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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.

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.

Water-Centred Knowledge

Providing internal, knowledge-based support for the WRC and service to the water sector and society through IT services, knowledge sharing, scientific communication and the furthering of public understanding of science.

Chairperson's Address

Dr SJ Khoza I chairperson

As I write this Chairperson's address for the WRC's 2007/08 Annual Report, I cannot help but reflect on the successes of this unique organisation over the last couple of years. Sadly, this is my last address as Chairperson of the WRC Board. I served on the WRC's Board for two terms – six years, the last three as Chairperson. It has been an honour and a pleasure to steer this organisation together with my fellow Board members and the WRC Executive team.

As a team we realised this year that South Africa's water sector is facing an exciting time. The issues to be addressed have never been as challenging. The difficulties of ensuring water remains the engine for economic growth while closing service lags and maintaining and improving available water and sanitation services are enormous. Addressing these challenges requires knowledge. In such times one greatly appreciates the utmost importance of an organisation such as the WRC. In fulfilling its role of leading the creation of appropriate and relevant knowledge as well as its function of promoting the communication and cooperation in the field of water research, the WRC is indeed a valuable national asset.

The research projects funded by the WRC during the year under review once again proved that although South Africa might be water scarce, it is not short of resourcefulness. The researchers' ingenuity and creativity are exemplified by the innovations, both technological and social, that have resulted from various WRC research projects. The highlights chapter in this *Annual Report* is just a sample of this. These solutions are the fruit of the WRC's approach to finding real, practical solutions to South Africa's water challenges.

It is also a pleasure for me to hand over a well-oiled organisation, where internal processes from financial and governance perspectives are well established. The Board has put strong emphasis on building governance practices and procedures and led a drive to establish appropriate performance and risk frameworks. Reflecting on the past three years, I am proud to say that the Board has established and maintained an appropriate Board charter and functional committees which proved to be highly effective. I am delighted to share the WRC's achievements for the 2007/08 financial year.

Supporting water users in need

The WRC supported 286 research projects during the past financial year. During 2007/08 about 44% of research project funds was invested in projects that focused on water resources (including water-linked ecosystems), and about 56% on projects that focused on water utilisation (including the study of sanitation and hygiene, effluent treatment and agriculture). The organisation continues to balance so-called 'hard' sciences and engineering and 'softer' issues that benefit communities especially. This includes research fields such as rural water supply and sanitation, water policy, integrated water resource management and health-related water issues.

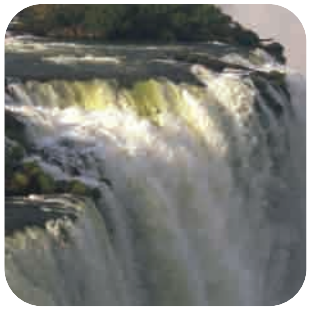
Financial management and governance

The WRC is funded through the Water Research Fund which derives income from levies on water consumption. The Board and Executive remain acutely aware of the fact that these are public funds, and therefore responsible care of these funds and good governance receives top priority. During the past financial year, the actual utilisation of funds by the WRC's key strategic areas fully agreed with the planned allocation, with a slight deviation of one per cent. In addition to funds derived from the Fund, it should be noted that the WRC also derived funds from other

Water Resource Management

Generating the knowledge, tools and skills to ensure that water resources of South Africa are protected, utilised, developed, conserved and managed to achieve environmental, social and economic sustainability.



sources, leveraging its ability to support research and knowledge dissemination activities by more than ten per cent of its total income.

From a governance perspective, the Board and its committees have seen the WRC progress well against its strategic objectives and achieve its set performance indicators as well as comply with all relevant legislation.

Investment in emerging technologies

While seeking solutions to the immediate water challenges, the WRC also nurtures emerging technologies as these form the basis of the intellectual capital for the future. This year, we specifically studied the impact of past research on the water sector. One example is the use of membranes for the desalination of brackish and sea water for domestic and industrial use. An impact study undertaken during 2007/08 revealed how the WRC's systematic investment in the field of membrane technology over the decades has resulted in the creation of a strong and vibrant South African membrane market. A number of new products have been introduced, while existing ones have been improved, with many new employment opportunities created. Membranes are especially suited to small rural applications and through funds from the WRC a number of projects have been initiated to assist in the development of rural water access.

Another exciting new field of research is nanotechnology, and the WRC has been one of the first local organisations to fund research into this technology specifically for the treatment of drinking water. With the potential of this technology now being recognised with the implementation of the National Nanotechnology Strategy, research and development in this field are bound to increase on a national scale.

Nurturing new talent

Among the many challenges facing the WRC, and the water sector as a whole, is the need to retain an effective pool of researchers in the field and to rapidly grow a strong cohort of researchers from sections of the populations which have historically not been well represented. Continued efforts by the WRC to nurture new talent in the water sector is paying dividends with many areas of research supported by the organisation now being led by former students who participated in earlier WRC projects. At present, more than 660 students are being supported by WRC projects, a significant increase from the previous financial year. About 65% of them are from disadvantaged backgrounds, a figure the organisation can be proud of.

Joining hands with sector partners

The WRC maintains its national, regional and global profile while forging new partnerships. Working synergistically with government departments, especially DWAF, remains a priority, and WRC projects are strongly aligned with government's aims towards the use of water for growth and development. In Africa, in particular, the WRC continues to play a crucial role in the establishment of the NEPAD network of science Centres of Excellence for water research in Africa.

Appreciation

Without the continued support of the Minister of Water Affairs & Forestry, Ms Lindiwe Hendricks, her department and the various role-players and interested and affected parties within the water sector, the hard work and dedication of the WRC-funded researchers, its Executive and staff would come to nought. I, therefore, on behalf of the Board and members of the WRC, wish to express my sincere gratitude and appreciation for the roles played by each of these stakeholders. We rely on your continued support to ensure that the WRC's actions remain applicable and relevant.

As the present members of the Board reach the end of their three-year term, I wish to thank them for the energetic and enthusiastic way in which they have guided the organisation. It was a pleasure for me to serve on the Board with you. To the new Board, I wish you strength. May you embrace your new role and may your fresh thinking bring new innovations and policies to the inner workings of the WRC.

Dr SJ Khoza

Highlights of 2007

Like the strong lateral roots of the Umbrella Thorn *Acacia* featured on the front cover of this *Annual Report* so are the WRC and its actions embedded in the vagaries of the South African water sector. The constant need to maintain and improve water quality and to share the scarce water resources of South Africa equitably have underlined the importance of creating a strong local knowledge base to ensure the integrated management of fresh water for the benefit of all.

As part of its national drive to address the country's present and future water challenges, the WRC is aligned with the strategic objectives of the Department of Water Affairs & Forestry and other water-sector stakeholders to fund relevant water research within South Africa. The organisation also pursues partnerships across Africa and globally to grow sector research capacity, leverage expertise and apply innovation across a wide spectrum of need.

The WRC, as the leader in the creation, sharing and application of water-centred knowledge, recognises that meaningful impact is only achieved when the outputs from its research are successfully absorbed into the sector. The organisation is therefore constantly enhancing its information-sharing drives through new media, sector networking and new forums for knowledge exchange to ensure that research findings are known and their application understood across a wide range of stakeholders.

The most important knowledge-sharing platform for the WRC is its *Annual Report*. This document is used by sector leaders to benchmark and gain knowledge of the sector. It is therefore a privilege and a pleasure to share some of the highlights from the WRC research portfolio of 2007/08.

WATER, HEALTH & DEVELOPMENT

Enhancing food security

In-field rainwater harvesting (IRWH) and conservation is becoming an increasingly popular way for rural communities to enhance food production. Since the WRC launched its first IRWH project in the Free State in 2001, more than a thousand households have benefited from improved crop yields as a result of applying this technique. The various community-based bodies have now formed the Tswelelopele Small Farmers Cooperative, a municipal-based water harvesting interest group that includes 42 communities in the Thaba Nchu and Botshabelo areas. The success of this project is attributed to the various capacity-building initiatives as well as communication methods used to ensure the growth and sustainability of the technology. This includes the development of simple and practical training guidelines in collaboration with researchers, technical assistants, farmers and extension officers. Additional research has also been undertaken into the types of soils that are suitable for IRWH. The report sets a benchmark for soil scientists and also benefits subsistence farmers by assisting them to identify soil types suitable for IRWH in different farming areas in South Africa.

Water tool takes root

Water services institutions the world over use various mechanisms to measure water losses or unaccounted-for water and non-revenue water. The WRC developed an advanced software tool called Aqualite to audit water use. This new generation software is designed specifically to assist water suppliers in managing their non-revenue water, and is one of the few models which is not based on an Excel spreadsheet format. The model is unique and versatile in that it was developed in collaboration with numerous internationally recognised water loss managers. The model incorporates a host of new features, some of which do not feature in other water audit models. Moreover, the software can be used to create an annual water balance model for a specific water-supply area based on the available data concerning the water supplied to the system and the breakdown of the water that can be accounted for by the supplier.

Making safe sanitation safer

Since 1994, ventilated improved pit (VIP) latrines have been rolled out to millions of South African households lacking safe sanitation. While they remain a good basic sanitation delivery option, filled VIP pits pose a number of challenges to policy-makers, compounded by the fact that, generally, the contents of the pits or what happens to material in the pits are not well known. The WRC sponsored comprehensive research, which included field and laboratory investigations, into this subject, the results of which add significantly to the improved design and supply of VIP latrines for the benefit of South African communities. Among others, the study emphasised the importance of good construction, regular maintenance and education to instil good user habits for VIPs to be effective. Future research must concentrate on the emptying of pits, especially when this is done manually. Finally, evidence was neither found in field nor laboratory trials that the addition of commercial pit additives result in a significant reduction in either mass or volume of pit latrine contents.

The ABC of EDCs

Over the past two decades there has been growing concern, public debate and lack of scientific consensus worldwide about the potential effects of endocrine disrupting compounds (EDCs) – natural or man-made substances which interfere with the normal functioning of the endocrine system of humans and wildlife. The WRC-led South African EDC Research Programme is leading research into the exposure routes and potential effects of EDCs, especially those found in the water environment. WRC-funded research has resulted in the building of much needed capacity in the sector, as well as the evaluation of specific methods for activity testing and chemical analysis, culminating in a pilot study. The WRC has been recognised abroad for its innovative approach to researching EDCs. The organisation was officially acknowledged for its approach at a workshop of the Water Environment Research Foundation in the USA in 2007. Further research continues into the presence of EDCs in source and drinking water.

Improving rural livelihoods

WRC-funded research has enhanced the sustainability and success of smallholder irrigation schemes. At the Dzindi canal irrigation scheme, in the Vhembe district of Limpopo Province, research was undertaken to assist farmers to improve their livelihoods. Studies were focused mainly on understanding and improving management practices. The research team focused on product aspects, including the integration of crop animal production systems, improvement of the production of selected indigenous crops (namely African leafy vegetables) as well as the improvement of green maize production. The findings of this study revealed that the development of best management practices for smallholder irrigation schemes needs to consider three important domains: the individual farm enterprises, the irrigation scheme as a whole and the scheme and its surrounds as these domains work synergistically in realising the goals of farming on such schemes.

Water and culture – the inexorable link

The WRC explored the importance of water in sustaining the rich cultural diversity of the South African people in a coffee table book entitled *Our Water Our Culture: A Glimpse into South Africa's Water History*. The publication was successfully launched by the Minister of Water Affairs & Forestry, Ms Lindiwe Hendricks, at a gala event on 11 October 2007 at the CSIR Convention Centre. At the request of the Minister, copies of the book were distributed to members of Parliament (including members of the Portfolio Committee on Water Affairs & Forestry). The subject relating to the book received wide media coverage.

SUSTAINING THE ENVIRONMENT

From wine waste to clean water

While South Africa's wine industry had seen phenomenal growth over the past decade, local winemakers have had to take heed of tighter legislative controls on environmental impacts. A WRC-funded project aimed at assisting wine farms to dispose of their wastewater more safely has led to the successful adoption of upflow anaerobic sludge blanket (UASB) technology for the treatment of winery wastewater. The technology, which was originally designed in the 1960s, relies on anaerobic digestion, a biological process in which organic matter is converted in the absence of air to methane and carbon dioxide. Through its 25 000 ℓ/day capacity plant, La Motte winery is able to reduce pollutants in its wine effluent to more acceptable levels, allowing it to use the effluent safely for irrigation purposes.

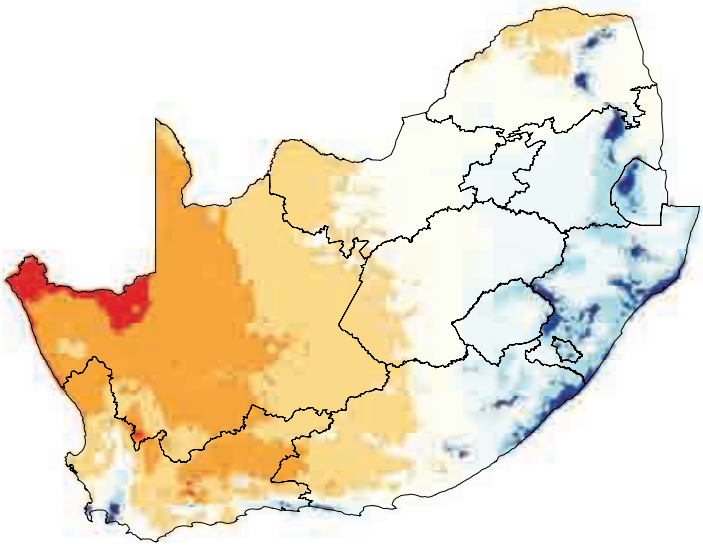
The low-down on polluting liquids

Dense non-aqueous phase liquids (DNAPLs) are chemicals or mixtures of chemicals that are heavier than water, and are only slightly soluble in water. This means that when released into the environment in sufficient quantity, they can move through soils and groundwater until they encounter an impermeable layer that will impede further mass vertical

movement and allow the liquid to pool or move along the dip of an impermeable layer. Contamination with DNAPLs is a worldwide phenomenon, but to date there has been limited awareness and understanding locally of the problem. The WRC led the first comprehensive publicly-funded study into the fate and transport of DNAPLs in groundwater in South Africa. The project resulted in the development of guidelines for a range of activities linked to the identification, characterisation and monitoring of DNAPL-contaminated sites. Rather than creating one large report, the study was split into several, easier digestible, documents. The study also laid the foundation for new research into light non-aqueous phase liquids (LNAPLs), which started in 2007. Crucial partnerships were built during the DNAPL study with potential industrial polluters. For example, the petrochemical sector has made some of its sites available for research for the new LNAPL study.

Mapping the South African climate

The *South African Atlas of Climatology and Agrohydrology* is an illustration of the diversity of South Africa's biophysical make-up – its climate, agricultural production and the water-related environment. New information was processed into a set of electronic maps to ultimately create an updated and extended Atlas. New soils and baseline land cover information was used in the project while optimum climatic growth areas, yield and the inter-annual variabilities of a range of crops were revised. The Atlas is being used as a reference by a wide variety of water sector stakeholders, including all spheres of government, non-governmental and aid organisations, parastatals, research and educational institutions, consultants and agricultural producers.



Leaving lasting impressions of water

Water policy and legislation can at times be difficult to comprehend. In order to raise awareness and understanding of the rationale behind the Ecological Reserve, a somewhat elusive concept, the WRC, in partnership with DWAF published *Watermark: The Lasting Impression of the Ecological Reserve*. Like the human body, water systems need a certain amount of water in it all the time in order to exist. This is the concept behind the Ecological Reserve. The booklet illustrates in simple language how defining and implementing the Ecological Reserve will help to ensure adequate supply of water in the years to come. South African water policy and the concepts around water allocation are explained. Other topics covered include the role of water in the economy; water quality and environmental flow; the link between flow and biodiversity; pollution and waste disposal; as well as balancing use with sustainability.

Safe disposal of sewage sludge

Despite the existence of guidelines, sludge disposal remains one of the greatest challenges of wastewater treatment plants. While sewage sludge provides several benefits as a soil conditioner and source of nutrients in agriculture, the long-term sustainability of applying sludge to land is not without question. The lack of information on the occurrence of

organic pollutants in sewage sludge especially has remained a source of uncertainty to providing guidance regarding the sludge's utilisation potential. A WRC-funded study has provided much-needed information on the quality of South African sewage sludge with respect to organic pollutants. Findings have been related to the limits set by the previous local guidelines and also international limits. This information has started supporting decision-making at a national level, and has assisted in the preparation of the current edition of the national guidelines.

Throwing light on pollutants

Pollution of water systems poses a severe threat to human health and is of serious environmental concern. The problem is exacerbated by the fact that detection of pollutants in the environment is currently time-consuming and expensive. The WRC funded a successful study into the evaluation of eco-toxicity testing using bacterial bioluminescence biosensors as an effective and cost-efficient means of detecting pollutants in water. Detection is based on the production of light in modified bacteria, through the effect bio-available pollutants have on the metabolic activity of cells. The amount of light emitted provides an indication of the presence of toxic substances, and a measure of the toxicity of the pollutants. Several different bacterial biosensors with the ability to emit a readily detectable signal (light) in the presence of a wide range of environmental pollutants were developed. The data generated from the research proved the potential of using biosensors to monitor pollution in water resources.

Growing knowledge on SA rivers

'Eco-hydraulics' is a widely used term which refers to the specification of hydraulic variables that contribute to the definition of riverine habitat. The latest eco-hydraulic study funded by the WRC resulted in the development of a software tool to predict resistance in rivers. This tool uses photographic matching to provide resistance coefficients. The resistance coefficients are key parameters in deterministic models. The software tool is supported by a photographic database of several important South African rivers, site descriptions, equations and procedures for determining resistance coefficients.

SAVING WATER, GROWING THE ECONOMY

Calculating the rands and cents of water

The evaluation of water-related projects is often a difficult task since costs and benefits cannot necessarily be seen immediately. Furthermore, costs and benefits are often hidden and frequently difficult to measure. To assist decision-makers in this regard the WRC funded the publication of a manual for conducting cost-benefit analysis with specific reference to evaluating the development and management of water resources. The manual follows a broader approach to incorporate the relationships between cost-benefit analysis and other aspects of the economy. In this regard, the relationship between the principles of cost-benefit analysis and welfare economics, as well as cost-benefit analysis as one component of the range of decision-making support instruments has been included, among others.

More food with less water

Commercial irrigation accounts for about 62% of South Africa's total water use. There have been increased calls for the irrigation sector to improve its water use efficiency, and through the years the WRC has funded various research projects to achieve just that. These projects have resulted in the development of several irrigation efficiency models and programs, including the Agricultural Catchment Research Unit (ACRU) model, Water Administration System (WAS), irrigation scheduling program (SAPWAT), Soil Water Balance (SWB) and Risk Management Simulation Model (RISKMAN), which have all proved to be popular and

are used widely. A new technology-transfer project involved water user associations and water boards to act as centres of excellence as a means of lesson sharing. A central feature of this project is to capture accurate data in a geographic information system (GIS). The project will assist in providing water resource managers and other stakeholders with valuable information, enabling them to evaluate water management scenarios.

Water pinching saves many pennies

Water pinch technology, adapted from pinch analysis techniques originally developed for optimal design of heat-recovery systems, is a methodology for optimising the ways in which resources, such as water, are used for a variety of purposes. The technology works by first drawing up an inventory of all producers and consumers and then designing an optimal scheme of utility exchange between the two. A pinch approach sets water use targets, and recommends network design changes with maximise reuse of water. This novel approach was successfully used to assess water-saving opportunities in the Grootdraai catchment, in Mpumalanga, which is under severe water stress. During the study an inventory of water users and generators of wastewater was developed. A water pinch technology model was then applied to optimise water use and wastewater reuse in the area. Application of the pinch model showed that all the wastewater of the different users could be reused, thereby reducing the demand on the Grootdraai Dam, the main source of supply. The inflow to the dam would also be reduced as part of the wastewater which is currently released above the dam.

Helping SA run the nano race

Nanotechnology is the act, science and engineering for manipulating objects at the nanoscale (one nanometre is about 10 000 times narrower than a human hair). The WRC has invested in research into the development of nanotechnology for the treatment of water since 2002. The WRC played a key role in supporting the Department of Science & Technology's (DST's) nanotechnology platform, which has led to the National Nanotechnology Strategy. This will see the coordination of nanoscale research and development at a national level. Two Nanotechnology Innovation Centres have been established through a collaborative effort of Mintek, the WRC and DST, one of which will focus on water-related nanotechnology.

GUIDING THE WAY

Supporting responsible mining

A decision support system (DSS) was developed to support decisions on water impacts and long-term surface stability associated with mine residue disposal facilities. It comprises three components, the central of which consists of a top-down hierarchy of questions within a rational framework. The hierarchy of questions are supported by two further components that provide users with decision guidance and decision criteria. The supporting components direct users through a series of logical steps to identify where the critical issues for each site-specific situation lies. Regulators, proponents and consultants can use the system to better understand what questions need to be asked and answered. Subsequent versions of the DSS will include further modules on aspects such as air quality and socio-cultural impacts until eventually all relevant modules are included in a final system.

Taking care of dam safety

Some 3 700 dams with a height greater than 5 m are currently listed in the Register of Dams maintained by DWAF's Dam Safety Office. The public safety hazard of the 252 dams classified as 'Large Dams' is of particular concern. In the 1990s, the South African National Committee on Large Dams (SANCOLD) issued a set of *Guidelines on Safety in Relation to Floods*, as well as a *Compendium of South African Design Flood Determination Techniques* to provide guidance to those charged with evaluating the safety of existing dams, as well as to the designers of new dams. A WRC-funded project discovered that the existing SANCOLD guidelines were outdated and that they were based on inefficient techniques that resulted in both under-estimates of floods in some cases as well as over-designs in other cases. It was also noted that the existing guidelines did not use the most up-to-date hydrological regimes which have some of the highest rainfall and flows in over a hundred years. The research team observed that the existing guidelines also omitted risk assessments and analyses which are now important in most countries. The observations made on the national and international safety evaluation of dams in relation to floods as well as the methodology and software developed in this project can be used to improve dam safety assessments and designs. The research project was reported in three reports and a software CD containing the *Design Flood Hydrograph Toolbox*.

Probing the history of water law

The new water law compendium published by the WRC is proving a valuable legal resource in the implementation of the National Water Act. This publication, which took nearly four years to complete, captures nearly 400 water court cases handled by the legal system from 1912 to 1988. All cases dealing with the former Water Acts (of 1912 and 1956) as well as common water law are included in the publication. The compendium fills the need for a legal source for use during the implementation of the National Water Act, and especially for purposes of determining existing lawful water uses. Minister of Water Affairs & Forestry Ms Lindiwe Hendricks welcomed the compendium calling it 'an outstanding knowledge dissemination initiative for the benefit of all users.'

Selecting optimum drinking water plants

Planners of schemes to provide potable water to small communities are faced with a large number of local and international system designs from which to make a selection. Especially in the case of novel and emerging systems, very little may be known about operating costs, efficiency and applicability. To aid decision-makers in this regard, the WRC has produced a guidebook offering detailed information on small water treatment systems. The guidebook, which offers comprehensive information on most small water treatment technologies available in South Africa, fulfils a long existing need in the market. Also included is a database of small water treatment plants in South Africa. This stand-alone product includes basic and specific information on the water source, plant size, plant type, processes employed and contact details of either the plant owner or the relevant water services provider. Information pertaining to almost 1 100 water treatment plants has been captured in the final version of the database.

Towards coordinated climate change research

The WRC has led a comprehensive research programme on climate change impacts on water resources since 2002 with a view to gaining insight into the magnitude of the impacts and the consequential adaptation needs in the sector. Continuing with these efforts, the WRC compiled a comprehensive discussion paper detailing all current research efforts in South Africa that address climate change in relation to water, as well as the national policy environment within which such research is being carried out. Complementing this discussion paper was a national workshop that provided a platform for dialogue and sharing among role players. The excitement and robust debate engendered by this event was evidence of its timeliness and the need

for more regular get-togethers on a topic that is critical to the future well-being of the country and its citizens. The draft paper was reworked repeatedly to accommodate comments by stakeholders and workshop discussion. Now in its final form it provides information for all South Africans interested in climate change and water.

Getting to grips with eutrophication

Eutrophication remains one of the most persistent water pollution problems in South Africa. In 2000, a WRC study identified the need for an improved approach to eutrophication in South Africa. During this year a Guide was developed to assist in the assessment of eutrophication-related water quality using the same protocol as the DWAF Guide to catchment-scale water quality assessment studies. The WRC Guide is structured around six management questions that are designed to establish the eutrophication status and management options at catchment scale. It furthermore captured the best eutrophication assessment practice in a Web-based nutrient enrichment assessment protocol and developed course material making use of these two products to fast-track capacity building concerning eutrophication assessment.

SHARING STRATEGIC INSIGHTS

Cultivating water knowledge

In order for the WRC to remain relevant to South African society it is not only crucial that its research is aligned with government and sector goals, but that the outcomes and knowledge from that research is shared and transferred to the relevant stakeholders. The WRC prides itself in its knowledge dissemination initiatives, and it has successfully developed many communication and information dissemination channels (including a popular magazine, scientific journal and research reports). Print, radio and television media networks are also used to expand public understanding of WRC research outcomes and water-related issues in general.

New information dissemination products, such as the use of audio-visual material, are increasingly being explored to complement the WRC's research outputs. For example, the organisation produced a DVD aimed at educating local government decision-makers on the importance of water and sanitation in the lives of HIV/AIDS patients. During the year under review, the WRC also introduced its so-called technical and policy briefs – short printed summaries relating key research outcomes and recommendations to decision-makers and technical personnel in government.

In addition, the WRC received strategic exposure at various national and international water-related exhibitions, symposia and other workshops on such diverse subject matter ranging from municipal engineering, groundwater and water resources management to wastewater, irrigation and sanitation. A total of 20 technical workshops were held while the organisation exhibited at 11 exhibitions and symposia. Highlights include the three-day international conference organised by the WRC in partnership with the UNESCO International Hydrological Programme focal point, DWAF, and the Water Institute of Southern Africa on integrated water resources management in developing countries in Cape Town, and the Second African Conference on Sanitation & Hygiene, held in Durban.

BUILDING CAPACITY

Skills training partnership renewed

The WRC works closely with sector partners, including DWAF to build much-needed capacity and strengthen strategic skills within the water sector. The organisation has been appointed the implementing agent for Phase II of the Framework for Education and Training in Water (FETWater) following the signing of a new agreement between the Minister of Water Affairs & Forestry, Ms Lindiwe Hendricks, and Dr Claudia Harvey of the United Nations Educational, Scientific and Cultural Organisation's Windhoek Cluster Office. FETWater is a programme for effective cooperation in research, education, training and capacity building initiatives to achieve integrated water resource management in South Africa. It provides constitutional support and financing in the form of seed funding to encourage the creation of training networks as a method for cooperation between universities, research institutions as well as public and private sectors in the country. To date, about 400 professionals and students have received training through the programme.

A winning network for local government

One of the important areas requiring the building of competence is that of local government. The WRC serves as the implementing agent for DWAF of the Water Information Network – South Africa (WIN-SA). WIN-SA is a network of organisations focusing on improving knowledge sharing in the water and sanitation sector, targeting decision-makers in the government and non-government water services sector. These organisations all have a vested interest in information and knowledge generation and dissemination to local government. During the year under review, WIN-SA's *Water Services Councillor Introduction* (instructional DVD) proved extremely popular as a useful and concise tool for councillors to share information with each other. The growth of the WIN-SA Lessons Series is also highly appreciated by local government and other stakeholders. Nine lessons have been completed covering various themes which focus on improved service delivery. In addition, the organisation launched its *Fieldnote Series* during 2007/08. This series captures discrete experiences by local government in a two-page document format that is easily accessible.

Nurturing young talent

In lieu of current skills shortages within the water sector, the WRC places strong emphasis on building research capacity in South Africa. The organisation's efforts have yielded exceptional results, with many areas of research supported by the organisation now being led by former students who participated in earlier WRC projects. At present, about

664 students are supported by WRC projects, the majority of them being from disadvantaged backgrounds.

The WRC is also involved in primary and secondary education. In March 2007, the organisation handed over a series of lesson plans for grades R to 10 to DWAF which it had developed together with Share-Net (a project of the Wildlife and Environment Society of South Africa). The lesson plans, which are linked to the South African National Curriculum, provide education across different natural science disciplines. The WRC's career guide, *Water @ Work: A Career Guide*, remains extremely popular, and is available in booklet as well as CD format.

The WRC was again one of the main sponsors of the *South African Youth Water Prize*. Winners of this competition for high-school learners go on to compete on the international arena for the *Stockholm Youth Water Prize* presented in Sweden every year during World Water Week. This year's winners were Bronwyn Metcalf, Nicole Purdon and Scott Hahoney of Thomas Moore College in KwaZulu-Natal. Their project focused on an integrated approach to saving and managing water.

ACCOLADES

WRC staff shines

Dr Gerhard Backeberg, Director: Water Utilisation in Agriculture received two accolades during the past financial year. Dr Backeberg was honoured with the South African Irrigation Institute silver medal for his outstanding service in promoting irrigation in South Africa. He also received the Best Paper Award from the International Commission of Irrigation & Drainage (ICID) for his paper titled 'Reform of User Charges, Market Pricing and Management of Water: Problem or Opportunity for Irrigated Agriculture' which was published in Volume **55**, No 1 of the ICID Journal *Irrigation and Drainage*.

WRC Research Manager Dr Stanley Liphadzi was the recipient of the *2007 Marquis Who's Who in Science and Engineering Award*, which distinguishes the most accomplished people in their science and engineering fields in the USA.

International irrigation award

Dr Abraham Singels, Principal Agronomist at the South African Sugarcane Research Institute received the *WatSave Innovative Water Management Award* from ICID for his work on the development and implementation of the MyCaneSIM system, which utilises the potential of sophisticated information and communication technology, combined with participatory methods to achieve substantial improvement in water use efficiency and sugarcane yields for the benefit of small-scale growers. The system, developed with financial assistance from the WRC, has already seen successful and widespread adoption in northern KwaZulu-Natal.

Students do WRC proud

Marcelle Marchand, a PhD student in the Department of Zoology at the University of Pretoria, received a *Young Scientist Award* for her poster presentation at the 17th annual meeting of the Society of Environmental Toxicology and Chemistry in Porto, Portugal, in 2007. The award is presented annually and is intended to honour individual prominent performance in scientific work of a junior scientist under the age of 30. Several other students also delivered presentations on WRC-related projects at South African and global events.

George Dimopoulos, a Masters student in the Department of Economics at the University of Port Elizabeth, was awarded the *Founders Medal* from the Economic Society of South Africa for his research on the valuation of fresh water inflows into selected estuaries using the contingent valuation method. His research, which broke new ground in the generation of values of river water, focused on the Knysna, Klein and Groot Brak Estuaries and formed part of a larger project funded by the WRC.

Thumbs up for *Water SA* and open-source publishing

The Institute for Scientific Information (ISI) annually releases its ISI/SCI Journal Citation Reports (JCR), reporting journal impact factors (IF) for the world's most important scholarly journals. The JCR provides quantitative tools for ranking, evaluating, categorising, and comparing journals. The IF is one of these and is a measure of the frequency with which an average article in a journal has been cited in any particular year or period. The WRC's South African multidisciplinary scholarly water journal *Water SA*, under the Science Citation Index (SCI), improved its ISI/SCI IF from 0.0494 in 2006 to 1.120 in 2007, and came out as the 2nd ranked journal in South Africa and well ranked in the water journal category worldwide. This journal has been funded and published by the WRC since 1975 and the 2007 IF is the highest ever achieved. An IF score of 1 indicates that, on average, a paper published in that journal will be cited in another paper published in a peer-reviewed journal. South African journals rarely have an impact score of over 1; good international journals have an impact score of 2 to 3. Not only is this IF rating a remarkable achievement for the journal, but also for open-source publishing. From April 2006 onwards, *Water SA* has been published free of charge as an open-source journal with a limited print run.

SUPPORTING SA INNOVATION

Commercialisation efforts bear fruit

The WRC continues to support the development and application of new innovations in the South African water sector. Protecting the intellectual property (IP) of South African designed products and technologies stemming from research projects remains an important task. As the WRC is essentially a research-funding organisation, a high percentage of the patent portfolio of the organisation is licensed out. At present, the WRC has licence agreements with reputable South African and international companies. During the year under review another innovation was licensed out. This is an invention that will allow the provision of clean water at a small scale and could effectively provide for drinking water for small rural communities. The Filtration Membrane Technology, a cluster of five patents, was licensed to Ikusasa Chemicals in January 2008. The technology has been applied at Struisbaai, in the Western Cape, to supplement drinking water with desalinated seawater. Furthermore, the filing of six patents (filed during 2006/07) is at different stages of prosecution and licensing negotiations.

BRANCHING OUT TO AFRICA

Centres of Excellence

The WRC is playing a key role in the establishment of the NEPAD Network of Science Centres of Excellence, aimed at advancing water science and technology, and thus development, in Africa. The initiative was originally agreed upon by the African Ministerial Council on Science & Technology (AMCOST) and the African Ministerial Council on Water (AMCOW). The network is expected to facilitate process of change to be able to remove mental, financial, technical and legal barriers to integration, and to institutionalise the links between the involved institutions. The NEPAD Office of Science & Technology appointed the WRC along with the Institute of Research and Development to steer this initiative. It is envisaged that the network and its centres will be officially launched in 2009.

Workshop for Africa

The WRC organised a successful workshop on behalf of the Academy of Science of South Africa, held in August, as part of the InterAcademy Panel Global Water Programme. The workshop brought together water researchers and high-level water managers to discuss major challenges and possible solutions within the global water arena.

The mightiest trunks start off as the smallest seeds. The initiatives represented above highlight but a few branches of the Tree of Knowledge that the WRC is aiming to grow for the South African water sector and its stakeholders. It is hoped that the fruit of these initiatives – the research outputs and resulting innovations – be taken up and implemented to realise a better quality of life for all.

Executive Report

This 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 2007 to 31 March 2008.

The report addresses corporate governance practices and structure, the mandate and core business of the WRC, the WRC's achievements and progress made during the year under review with regard to key performance areas. The members of the Executive of the WRC submit this report, as approved by the WRC Board, to the South African Parliament through the Minister of Water Affairs & Forestry.

As reflected by the Mandate and Mission of the WRC, the organisation continues 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 water resources and water services management. Knowledge provided by the WRC during the year under review has capacitated South Africa with better understanding, improved competencies and stronger capacity to address issues regarding water quantity, quality and accessibility. Special emphasis was placed on research related to 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 Affairs and Forestry, its shareholder, and the Strategic Plan of the Department of Water Affairs and Forestry (DWAF). The WRC also supported many government core initiatives and strategic policy frameworks. Examples include the national R&D strategy, Accelerated and Shared Growth Initiative-South Africa (AsgiSA) and NEPAD. Capacity building through research and improving knowledge dissemination mechanisms were also addressed, resulting in significant improvements, but also bringing about the realisation that more innovative approaches are still required.

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 and transforming knowledge into knowledge-based products which form the basis for new water resource and water service management practices for the water sector and the community at large, both locally and globally. The WRC is continuously expanding its role in the African continent and within a number of global networks and initiatives.

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.

Water plays many roles in South Africa. Water is a key resource which forms the basis for economic growth and development. It is also a limited resource and a lack of water of the appropriate quality, quantity and proximity can be an economic and social burden. It may have a detrimental effect on human life, resulting in poor health and poverty. It is clear that both water quantity and quality are critical to South Africa's long-term sustainability. During 2007/08, the WRC built on decades of research and development and science-based knowledge. This knowledge provided the basis for the development of policies and strategies that allow for the sustainability of South Africa's water resources, aimed at building a country where water is a key driver for economic growth and development. The WRC continued to provide South Africa with a knowledge framework that ensures that the country has 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.

Members of the Board

DR SJ KHOZA
(WRC Chairperson)
Executive Manager: Knowledge Management: Development Bank of Southern Africa

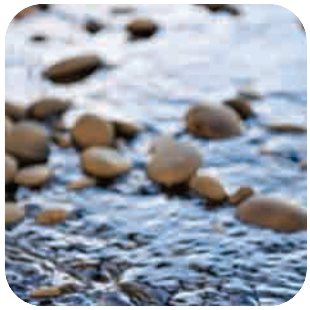
PROF JA ADAMS
Professor: Department of Botany, Nelson Mandela Metropolitan University

MR DP NAIDOO
Deputy-Director-General: International Co-operation and Resources Department of Science and Technology (until end 2007. Now with the University of Pretoria.)

MRS MM MATSABU
Director: DYNACON Environmental

DR DJ MERREY
Director of Programmes: FANRPAN

MS VGN MKAZA
Director: Community Education Training & Empowerment (ACETE)



DR R KFIR
(ex officio)
Chief Executive Officer:
Water Research Commission

PROF F OTIENO
(WRC Vice-Chairperson)
Dean: Faculty of Engineering and the Built Environment
Tshwane University of Technology

MR JI SINDANE
(ex officio)
Director-General:
Department of Water Affairs and Forestry

MR M SIRENYA
Chief Executive Officer:
Amatola Water

PROF EM STACK
Rhodes University
Grahamstown

Water Use and Waste Management

Researching effective and efficient water service provision to, and use of water in, the domestic, industrial and mining sectors. This includes the prevention of pollution and the development of technologies for treatment of water and wastewater.




GOVERNANCE

Governance framework

The WRC, under the leadership of its shareholder, the Minister of Water Affairs and Forestry, and 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 PFMA, Treasury Regulations as well as all other relevant legislation. The corporate governance framework provided the organisation and its leadership with a benchmark for integrity, accountability and transparency.

The Board of the WRC provided the organisation with a clear governance framework and oversight regarding 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.

Risk management

The WRC has further developed its risk management framework using a new tool for assessing the risks and developing mitigating action plans. The framework informed many of the objectives set for the organisation and the WRC developed and implemented its strategic and operational plan based on the risk areas identified. The plan that had been approved by the Board of the WRC was used as a basis for a number of key strategic objectives as well as the basis for the internal audit of the organisation.

As in previous years, the WRC appointed an audit firm to undertake an internal audit function of the organisation in terms of an audit plan that had been reviewed and recommended for approval by the Audit and Finance 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 financial practices. One of the key performance objectives of the WRC included feedback on the level to which management had addressed the previous year's issues identified by the internal audit. The audit results and the WRC management's response, as well as the level of successful and planned actions intended to bring about further improvements, were reviewed and approved by the Audit and Finance Committee and 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. During the year under review, the WRC continued to integrate its corporate values into all its undertakings, both internally and externally.

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 2007/08 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 on 1 June 2005 for a period of three years, ending on 31 May 2008. Board members were as follows:

Dr SJ Khoza (Chairperson)
Prof F Otieno (Vice-chairperson)

Prof JA Adams
Dr DJ Merrey
Ms MM Matsabu
Ms VGN Mkaza
Mr D Naidoo
Mr J Sindane (Director–General (D-G), DWAF, until August 2007)
Dr M Rampedi (Acting D-G, DWAF from September 2007)
Mr M Sirenya
Prof EM Stack
Ms Zagry Scholtz (Board Committee Secretary until June 2007)
Ms R Frank (Board Oversight Secretary from June 2007)
Ms A Jansen (Board Committee Secretary from September 2007)

Mr Sindane, Director-General of the Department of Water Affairs and Forestry, Dr Rampedi, Acting Director-General of the Department of Water Affairs and Forestry and Dr Kfir, Chief Executive Officer of the WRC, are ex officio members.

Ms Scholtz and Ms Jansen served as Board Committee Secretaries and Ms Frank as Board Oversight Secretary during the period under review.

Board meetings held during 2007/08

27 June 2007	Board (Special)
03 July 2007	Board
13 September 2007	Board
07 December 2007	Board (Strategic)
18 March 2008	Board

Board Committee Secretaries:

27 June 2007:	Ms Z Scholtz
03 July 2007:	Ms Z Scholtz
13 September 2007:	Ms A Jansen
07 December 2007:	Ms A Jansen
18 March 2008:	Ms A Jansen

Executive Committee of the Board (ExCo)

Members
Dr SJ Khoza (Chairperson)
Prof F Otieno
Mr D Naidoo
Dr R Kfir (CEO)
Ms Z Scholtz (Committtee Secretary)

Meetings
24 May 2007 (joint meeting with the Audit and Finance 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 and Finance Committee to approve the financial year-end statements and the Directors' Report.

Audit and Finance Committee of the Board

Members
Prof EM Stack (Chairperson)
Mr JN Campbell (Co-opted)
Ms MM Matsabu
Mr D Naidoo
Prof F Otieno
Mr M Sirenya
Dr R Kfir (CEO)

WRC (in attendance)
Mr N Patel (Chief Financial Officer)
Committee Secretaries:
24 May 2007: Ms R Frank
22 August 2007: Ms A Jansen
26 February 2008: Ms R Frank

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

Office of the Auditor-General Ms B Davis, Ms C Simpson, Mr G Goche, Mr R Rautenbach, Mr J Mcitwa **PricewaterhouseCoopers (Internal Auditors)** Mr P Prinsloo, Ms G de Risi, Ms K Dreyer, Mr N Laher	• 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
Meetings 24 May 2007 (joint meeting with ExCo) 22 August 2007 26 February 2008	

Human Resources Committee of the Board (HR Committee)

Members Mr M Rall/Ms VGN Mkaza (Chairperson) (from 2 July 2007) Prof F Otieno Prof EM Stack Dr R Kfir (CEO) Committee Secretaries: 2 July 2007: Ms R Frank 22 August 2007: Ms A Jansen 26 February 2008: Ms R Frank	**Terms of Reference** • Draft the CEO's performance agreement and assess performance on an annual basis • Advise on the structure and composition of the Executive • Review transformation and employment equity plans and assess progress with respect to milestones and targets • Review career-pathing and personnel development strategies and monitor implementation of skills development programmes • Review and advise on job level assessment policy and procedures • Advise on amendments to the conditions of employment and remuneration structure • Review and monitor the effectiveness of the WRC's performance management system • Advise on labour dispute strategies • Monitor the scope and effectiveness of the internal audit function from the human resource perspective • Report to the Board on an ongoing basis
Meetings 2 July 2007 22 August 2007 26 February 2008	

Remuneration Committee of the Board

Members Prof SJ Khoza (Chairperson) Ms MM Matsabu Prof EM Stack Ms Z Scholtz (Committee Secretary)	**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
Meetings 27 May 2007	

Research Policy and Strategy Committee of the Board (RPS Committee)

Members

Ms MM Matsabu
(Chairperson)
Prof JA Adams
Dr DJ Merrey
Mr D Naidoo
M Sirenya
Dr R Kfir (CEO)
Committee Secretaries:
23 August 2007:
Ms A Jansen
26 February 2008:
Ms E Karar

Meetings

23 August 2007
26 February 2008

Terms of Reference

- Review and advise on the alignment of research goals and plans with national policy and priorities and the mission of the WRC
- Assess and advise on the balance and appropriateness of research strategies (short-, medium- and long-term) in meeting such goals
- Ensure that research plans and strategies are aligned with the WRC's policy for capacity-building and are appropriately designed to meet capacity-building objectives
- Advise on the partitioning of research funds among primary application areas
- Review and make recommendations regarding the acceptability of proposed research programmes
- Monitor progress at the level of research programmes and primary application areas and evaluate outcomes with regard to stated goals, including those concerned with capacity-building, technology transfer and knowledge management
- Review policies and procedures for ensuring beneficial exploitation of research products
- Monitor the scope and effectiveness of the internal audit function from the research perspective
- Report to the Board on an ongoing basis

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Marumati Building
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0084

Postal Address

Private Bag X03
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0031

ACHIEVEMENTS

During 2007/08 the WRC enhanced and strengthened its role as a water-centred knowledge hub through investment in the creation of new knowledge and the sharing, application and dissemination of that knowledge and through the provision of leadership and strategic direction regarding water research and development in South Africa.

INVESTING IN WATER-CENTRED KNOWLEDGE

Investing in the creation and sharing of knowledge

During 2007/08 the WRC continued to serve South Africa's government reporting via its Board to the Minister of Water Affairs and Forestry, its shareholder, and DWAF. Knowledge created through the WRC funds strongly supports DWAF's overarching objective i.e. water for economic growth and sustainable development. The WRC continued to support the water sector and all its relevant institutions and partners by providing them with knowledge aimed at informing their decision-making processes, improving their monitoring and assessment tools and making available a new and improved range of technologies related to water resource management and the provision of water and sanitation services. The WRC also continued to address the issue of climate change and the linked phenomena of extreme events. Research conducted by the WRC and its research partners will support the development of adaptive and mitigating strategies which will ensure the future sustainability of the country's water resources and services.

The research portfolio for 2007/08 was set on the basis of the WRC's strategic plan. 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. The Institutional Review also supported the research portfolio and the KSA-based structure, with its four water-centred KSAs (as mentioned above), supported by the KSA: Water-Centred Knowledge. This structure continued to form the core operating framework for WRC-funded R&D and was further consolidated during the year and became accepted generally.

Water Resource Management

Research carried out by this KSA aimed at ensuring that the water resources of South Africa are protected, utilised, developed, conserved and managed to achieve environmental, social and economic

sustainability. The research aimed at developing a scientific understanding of the hydrological cycle (and inter-linkages) in order to promote a systematic assessment and variability of the quantity and quality of water available for development in South Africa; building up appropriate quantitative understanding, tools and adaptive strategies for managing the impacts of extreme climatic events (floods and droughts) due to global warming and human-induced impacts on water resources (including an understanding of the impact on human health);providing control measures for improving the prevention, mitigation and control of pollution of water resources and supporting and improving policy reforms for promoting equitable, efficient and sustainable conservation and allocation of water resources among competing needs. During 2007/08 the WRC invested in research projects in four research thrusts in this KSA, including water resource assessment and planning; management of natural and human-induced impacts on water resources; water resource protection and water resource institutional arrangements.

Water-Linked Ecosystems

This KSA invested in the creation of knowledge aimed at enabling good environmental governance and ensuring the utilisation and sustainable management of water-linked ecosystems in our water-scarce country during a time of demographic and climate change. The research developed the understanding of the ecological processes underlying the delivery of goods and services and provided knowledge to sustainably manage, protect and utilise aquatic ecosystems. Three main research areas were addressed during 2007/08, 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 rehabilitation (rivers and wetlands).

Water Use and Waste Management

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 policies relevant to water supply, waste and effluent management for these sectors. During the year under review, this KSA supported 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 the urban, rural, large and small systems. Research was conducted on new ways to manage and enhance hygiene and sanitation practices, and on institutional and management issues, with special emphasis on the efficient functioning of water service institutions and their viability. Infrastructure for both water supply and sanitation was included. Waste and effluent as well as reuse technologies that can support the municipal, mining and industrial sectors and improve management in these sectors were also addressed and innovative as well as integrated solutions to 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; wastewater and effluent treatment and reuse technology; industrial and mine water management; and sanitation, health 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 on farming, community and regional levels through efficient and sustainable utilisation and development of water resources in agriculture. More specifically, the research focused on increased biological, technical and economic efficiency of water use, the reduction of poverty through water-based agricultural activities, the increases in profitability of water-based farming systems and the sustainable use of water resources through protection. All agricultural sub-sectors were addressed including irrigated and dry-land agriculture; woodlands and forestry; grasslands and livestock watering and aquaculture. During 2007/08, research was conducted in three main areas, including water utilisation for food and fibre production; water utilisation for fuel-wood and timber production; and water for poverty reduction and wealth creation in agriculture. Research specifically addressed small-scale farming and rural communities.

Supporting research projects

During the year under review, the WRC supported 286 research projects, of which about 75% (216 projects) were active projects (ongoing and new) and about 24% (70 projects) were finalised. The active projects comprised 149 ongoing projects and 67 newly initiated projects that commenced during 2007/08. 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 75 solicited projects, which translates to about 35% of active projects.

The reduction in the total number of projects is directly related to the reduction of the number of ongoing projects and is a clear indication of improved project management with special reference to the deliverable framework which was introduced in recent years. In comparison with the previous year, the year under review shows a 9% decrease in the number of projects. There is an increase of 20% in new projects in comparison to the previous year. In addition, this also relates to the increase in the number of active solicited projects which increased by 12% from the previous year. These projects are often large and include a number of organisations working as a consortium. This reflects the WRC commitment to address the needs of the South African water sector where research problems are often of a complex nature which requires larger projects of a multidisciplinary nature.

Financial year	2007/08	2006/07
Total No. of projects	286	314
No. of active projects	216	243
No. of new projects	67	56
No. of finalised projects	70	71
No. of active solicited projects	75	67

Utilisation of funds by the various KSAs

The percentage utilisation of research project funds (based on amounts actually paid out) by the KSAs during 2007/08 indicates that about 44% (in comparison to about 49% (2006/07) was invested in projects that focused on water resources (including water-linked ecosystems) and about 56% (compared to 51% (2006/07) 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 to projects during the current financial year. The allocation of about 50% of the fund to issues related to resource management and 50% to water utilisation is ongoing and was supported by the recommendations from the institutional review.

Distribution of research project funds among KSAs – planned vs. utilised (cash paid out) funds (2006/07 data in brackets)

KSA	Planned % allocation of funds	% of fund utilised for research projects
Water Resource Management	31 (33)	30 (34)
Water-Linked Ecosystems	14 (14)	14 (15)
Water Use and Waste Management	31 (30)	31 (25)
Water Utilisation in Agriculture	24 (23)	25 (26)

The actual utilisation (as a percentage of total funds) of funds by the KSAs almost fully agrees with the planned allocation, and the deviations do not exceed 1%. This indicates an improvement from the previous year (2006/07) where deviations of up to 5% from planned to utilised funds was recorded.

Based on cash paid out, the overall investment in research projects (knowledge creation) was about R71.3m. This amount (paid out for research projects) reflects a 19% increase from last year (R60m. during 2006/07).

Total investment in the support of knowledge creation, sharing and dissemination amounted to R99.2m. This represents an increase of 16% from the previous year (R85.5m. total investment was reported in 2006/07). This investment includes about R4.3m. for WIN-SA 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 the funding of the creation of new knowledge (research projects only) is almost identical to that of the previous year, with only a 1% increase. The ratio for research support is also similar to that of the previous year, with only a 1% increase.

Research funding – Business efficiency indicators (budgeted and cash paid out)

	07/08 (budgeted*)	07/08 (cash paid out)	06/07 (cash paid out)
Research project funding as % of total expenditure**	64%	65%	64%
Research support (research projects and support and technology transfer) as % of total expenditure	76%	76%	75%

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

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 DWAF's objective of water for economic growth and sustainable development.

In the area of **Water and Society** the research addressed the understanding of social dynamics in the water sector and people's needs for and views of water. Specific studies seek to have an impact on:

- People's participation in water management and decisions about water
- The ways of using water for transformation and social justice
- 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
- Sustainable ways for the provision of water services which are socially acceptable, affordable and available to all, and
- Access to water for the poor and disadvantaged members of society (e.g. sufferers of HIV/AIDS) .

Water and the Economy included research conducted with the view of water being an economic instrument or an economic good. Research explored how water issues could potentially provide an engine for economic growth, but also to be a potential economic burden. The research aimed to demonstrate the applicability of economic principles in the water field and to provide convincing evidence as well as sound knowledge and support to water management institutions and implementing authorities. Studies attempted to assess the role of water in economic development; to use economic instruments for improved management of water and to study complex water-economy systems. More specifically, 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 an economic and a social burden. Research carried out by the WRC addressed the 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 may affect human health, improved treatment technologies and quality guidelines are suggested. Research focuses on the development and utilisation of methodologies to identify and quantify the occurrence of pathogens and contaminants in water, as well as 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, etc. Issues such a pollution, climate change and biodiversity are parallel issues relating to water. Research carried out by the WRC addressed the above. This is reflected in the impact area focusing on **Water and the Environment**, which aimed to improve 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 impact area will also seek to establish and apply best practices in mitigation of damage to the water environment. The impact area contributes to achieving 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.

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 2007/08 this drive has been highly successful. The WRC income originating from sources other than the levy for 2007/08 amounted to R13.3m. Leveraged income included funds allocated to a number of KSAs for direct support to research projects and funds provided for knowledge sharing and dissemination (e.g. the Water Information Network, WIN-SA). 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. Other sources of income amount to about 15% of the total income.

Income indicators

Indicator	Budget	07/08 Year-end (actual received)
Levies as percentage of total income	87%	85%
Other sources of income as percentage of total income	13%	15%
Leveraged income as a percentage of other income *	71%	67%

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

BUILDING THE WATER-CENTRED KNOWLEDGE BASE

During the year under review, the WRC placed strong emphasis on building research capacity in South Africa. By increasing the number of students conducting water research, the WRC provides South Africa with a good basis for future researchers as well as a source of skilled human capital for other institutions within the water sector. 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.

During 2007/08 the WRC has excelled in its support to students, with special emphasis on historically disadvantaged students. Currently about 664 students are supported by WRC projects, of whom about 65% are from disadvantaged backgrounds. This is a significant increase in the number of students as well as an increase in the percentage of historically disadvantaged students as compared to previous years. This clearly indicates that the WRC's strategy to improve capacity building through its research projects continues to bear fruit.

Of all the institutions supporting students, universities are clearly leading with 452 students, of whom 286 or 63% of students originate from historically disadvantaged backgrounds. Although all universities support students, the University of KZN exceeded all with about 94 students, followed by the University of Cape Town with 68 students, 48 students at the University of Stellenbosch and 43 at the University of the Western Cape. Science Councils supported more than 50 students, with the CSIR supporting 37 students, of whom 62% are from historically disadvantaged backgrounds. The large water boards, including Rand Water and Umgeni Water, also indicated a large number of students totalling 20 with 60% originating from historically disadvantaged backgrounds. There is also a clear pattern of an increased number of students involved in projects led by consultant groups. Many consulting firms indicated the involvement of about 10 students. The increase in the number of students in non-academic institutions is encouraging as these students represent 'on the job' continuous development and/or new skilled human capital for the sector. The increase in the number of students is also a result of the WRC strategy of building research networks and research consortia.

Institution	No of disadvantaged students	Total number of students
African Water Institute (AWI)	1	1
Anchor Consultancy (linked to UCT)	13	13
ARC	2	4
AWARD	1	1
Cape Peninsula University of Technology	6	9
Central University of Technology	1	1
Chris Swartz Water Utilisation Engineers	16	16
Conningarth Economists	2	4
Conward Consulting	3	4
Council for Geoscience	2	3
CSIR	23	37
Digby Wells and Associates	2	4
Durban University of Technology	2	2
Duzi-uMngeni Conservation Trust	1	1
Emanti Management (Pty) Ltd	3	3
ERWAT	1	2
GEOSS	1	3
Golder Associates Africa (Pty) Ltd	7	7
Groundwater Africa	1	1
HSRC	2	2
Jeffares & Green Consulting Engineers	2	3
Nelson Mandela Metropolitan University	5	20
Nemai Consulting	2	2
Ninham Shand	0	2
Palmer Development Group	2	2
Partners in Development cc	6	6
Pegram and Associates	4	5
Proxa (Pty) Ltd	1	1
Pulles, Howard and de Lange (now with Golder)	7	12

Institution	No of disadvantaged students	Total number of students
Rand Water	3	8
Rhodes University	7	14
Rural Integrated Eng	7	7
SA Institute for Aquatic Biodiversity	2	7
SASRI	3	4
SAWS	2	3
Sigma Beta	0	1
Source Strategic Focus	2	3
SRK	6	8
Sustainable Environmental Technologies	1	1
TBR Project	1	1
Tshwane University of Technology	11	11
The Impact Free Water Group	4	5
Umgeni Water	10	12
Umhlaba Consulting	1	1
University of Cape Town	45	68
University of Fort Hare	18	19
University of Johannesburg	6	7
University of KwaZulu-Natal	50	94
University of Limpopo	3	4
University of Pretoria	30	45
University of Stellenbosch	28	48
University of the Free State	14	27
University of the North West	8	16
University of the Western Cape	32	43
University of the Witwatersrand	8	18
University of Venda	12	17
Zitholele Consulting (Pty) Ltd	1	1
	434	**664**

Students supported by the WRC attended and delivered presentations on WRC-related projects within South Africa and also beyond its borders. Examples include, Geoff du Toit from UCT, and Valentina Parco, from Palermo, Italy, who presented a joint paper on the work of their respective Doctorate and Masters degrees at the IWA Young Professionals Conference on Membranes for Water and Wastewater Treatment. The event was held on 4-6 June in Berlin. These innovative young students worked in the UCT Water Research Group (WRG) Laboratories under the guidance of Professor George Ekama and Associate Professor Mark Wentzel, on a WRC-funded project to better understand the impact of microfiltration membranes on the performance of biological nutrient removal (BNR) systems. The solid-liquid separation step is crucial to the effectiveness of the BNR process and membranes, when used correctly, can reliably ensure this step in the treatment process. Marcelle Marchand, a PhD student in the Department of Zoology at the University of Pretoria, received a *Young Scientist Award* (YSA) for her poster presentation at the 17th Annual meeting of the Society of Environmental Toxicology and Chemistry (SETAC) in Porto, Portugal in 2007. The award is presented annually and is intended to honour individual prominent performance in scientific work of a junior scientist under the age of 30. Marcelle will receive the award at the Opening Ceremony at the 18th Annual SETAC meeting to be held in Warsaw, Poland during 2008. Marcelle's project was achieved through WRC-funded research.

One of the important areas requiring the building of competence is that of local government. The WRC serves as the implementing agent for the DWAF with regard to the Water Information Network (WIN-SA). The WIN-SA sector initiative is growing in strength. WIN-SA is aimed at knowledge sharing and capacity building for local government. WIN-SA's *Water Services Councillor Induction* (instructional DVD) has 'got the whole country talking': It is a very useful and concise tool aimed at

capacitating local government: it captures essential issues, enables councillors to see the real picture and to hear from other councillors. The growth of the WIN-SA Lessons Series is highly appreciated by local government and other stakeholders. Nine lessons have been completed covering various themes which focus on improved service delivery by local government. The WIN-SA *Fieldnote Series* was launched this year. This series captures discrete experiences by local government in a two-page document that is easily accessible. The new look WIN-SA website has recently been launched. It seeks to provide easier navigation and access to information. WIN-SA also conducted a learning journey for 12 officials, from the North West and the Northern Cape Provinces, to learn more on operations and maintenance of infrastructure. This initiative was highly appreciated by local government in both provinces.

Another key capacity building area in the development of competencies and capacity regarding water resource management is FETWater. The WRC continues to co-lead the activities of the Framework for Education and Training in Water (FETWater), a joint UNESCO, Belgian and South African programme aimed at building improved capacity in integrated water resource management. During the year under review, the WRC assumed the position of implementing agent for Phase II of the programme.

The WRC and the SA Youth Water Prize

The WRC was again one of the main sponsors and judges of the *South African Youth Water Prize*. This year's winners were Bronwyn Metcalf, Nicole Purdon and Scott Hahoney of Thomas Moore College in KwaZulu-Natal. Their project focused on an Integrated Approach to Saving and Managing Water. The WRC sponsored the main prize: computers were handed over to all the finalists.

The WRC and Women in Water, Sanitation and Forestry Awards

The WRC supported the *Women in Water Award*. This award (now including *Women in Sanitation and Forestry*) was jointly established by DWAF, WISA and the WRC. Dr Sue Hart (82 years old) who was nominated by the WRC received a special award on career achievement through the environmental NGO Ecolink.

Research on capacity building

The WRC continues its capacity-building research initiatives and initiated Phase II studying capacity building for Integrated Water Resource Management (IWRM) and water research.

A series of training courses was organised by the WRC in collaboration with DWAF on International Water Quality Modelling Training Courses and presentations were made by Prof Steve Chapra from Tufts University (USA) during January 2008.

Development of lessons planned to support water education in South African schools – (within the revised national curriculum statements).

The WRC completed the development of educational material (Grades R-10), focusing on water, for school learners. The material provides education across different natural science disciplines. The lessons were officially launched at the Sci-Bono Discovery Science Centre during National Water Week 2008. The Minister of Water Affairs and Forestry, Ms Lindiwe Hendricks, nominated Ms N Matyana of DWAF to receive the lesson plans at the official handover.

The WRC *Career Guide* continues to grow in popularity. These informative booklets feature prominently at many science expos and career drive initiatives. The publication is available as a booklet or as a CD. It is also downloadable from the WRC website (www.wrc.org.za).

Building capacity in Africa

The WRC's capacity-building activities continue to address both support for Africa and participation in global initiatives aimed at building capacity: Some examples include:

- **NEPAD – network of centres of excellence for water research in Africa**. This is an ongoing dedicated activity, where the WRC coordinated and led the process of establishing the network in cooperation with the French Institute for Development Research (IRD). During the year under review a framework was developed to determine criteria to select those organisations that would act as centres of excellence. The process of selection is currently ongoing.
- **Water Research Fund of Southern Africa (WARFSA)**. The WRC has been involved in this research capacity programme for a number of years. Currently one staff member serves as a Board Member of WARFSA. WARFSA was established with the purpose of building research capacity among regional institutions and individuals as well as promoting the utilisation of research results in the planning and management of water resources in the sub-region. The WRC coordinated the logistics of the WARFSA Board meetings.
- **Streams – Africa**. Another example is the WRC's role in *Streams of Knowledge*, a network of capacity-building organisations, focused on water and sanitation, with most members being from various parts of Africa. The network is led by a staff member of the WRC. In recent months, in cooperation with WIN-SA, a number of African resource centres have been developing a plan to build Stream-Africa, which will specifically support capacity building in water and sanitation in Africa with an initial focus on Southern Africa.

Building internal capacity

The WRC held an internal Open Day on 20 September 2007 at the Hartbeespoort Dam. The WRC staff members were treated to informative talks ranging from wastewater to water treatment and the issue of water quality and algal toxins. Staff members were also introduced to the South African Scoring System (SASS) test and specific issues addressing the management of the Hartbeespoort Dam.

ENHANCING KNOWLEDGE DISSEMINATION, SHARING AND PUBLIC UNDERSTANDING OF WATER-CENTRED KNOWLEDGE

Effective knowledge dissemination using different mechanisms and tools is an ongoing challenge. During 2007/08 the WRC focused on improving current mechanisms and introducing new knowledge dissemination and sharing tools. Mechanisms used by the WRC include the publication and distribution of research and technology transfer reports, coordination of the involvement of the sector in project selection and in steering the research project through reference groups. Other tools include exhibitions, workshops and conferences as well as Open Days. In addition, the WRC regularly publishes material such as *Water SA, Amanzi* (until October 2007), the *Knowledge Review* and *The Water Wheel*. The WRC also disseminates and shares research through 'action research'. This type of research is mainly practised in the field of 'water utilisation in agriculture', but also plays a role in other areas where public participation is required. By actively including members of the community or beneficiaries in the research, research outcomes are adopted and sustainably used, thus providing a good tool for knowledge dissemination and capacity building. The WRC also supports the dissemination of specific water-related education material using audio-visual channels, and the media. Recently the WRC introduced Ministerial, Policy Support and Technical Briefs which provide an overview and summary of research and its key messages. The WRC has also instituted a tailor-made approach to its participation in exhibitions, where special material is packaged in a user-friendly format to specifically target the varying audiences.

The WRC finalised 70 research projects and published 108 research reports which were distributed widely within the water sector during 2007/08. In addition to publishing research reports, the WRC published about 40 research briefs.

DWAF Open Day and technical workshops

The WRC organised an Open Day focusing on its support to DWAF (held on 7 March 2008 at the WRC offices in Rietfontein). The event was opened by Acting Deputy Director-General: Policy and Regulation, Mr Helgard Muller. The CEO of the WRC also addressed the delegates. Thereafter, the directors of the key strategic areas (KSAs) delivered presentations relating to how their work is aligned with DWAF objectives. This was followed by a poster exhibit of various research projects and valuable networking and interaction.

Technical workshops

A number of technical workshops were held by the various KSAs. Some of the workshops aimed at knowledge sharing, and transfer (training), while other workshops were aimed at developing terms of reference for future solicited research projects.

1. Citizens Voice project. A workshop was held at the HSRC on 11 April 2007 to present outcomes of the WRC study which focused on developing models relating to the involvement of communities in the regulation of water services.
2. Intermediate reserve for the East Kleinemonde River and Estuary. This workshop was supported by DWAF and was held on 19-20 April 2007.
3. Integrating customary/local management regimes for freshwater resource management into statutory institutional arrangements held during May, 2007 (in collaboration with AWARD).
4. Cost Benefit Analysis of Water Supply and Sanitation. A collaborative project with WHO. A seminar was hosted at the University of Johannesburg on 24 May 2007 to present and discuss the project.
5. 'Mental Models'. The workshop examined the implementation of the ecological reserve in terms of the National Water Act (The WRC, in collaboration with local (SANParks) and international (CSIRO, Australia) partners, facilitated the workshop on 14-25 May, 2007).
6. Predicting Environmental Life Cycle Impacts of Mineral Wastes. The WRC held a workshop on 6 June 2007 to develop ToRs for solicited projects on sustainable tailings facilities.
7. 'Wise Use of Wetlands'. The workshop was organised to define the action research required as well as to explore future research opportunities (in collaboration with Working for Wetlands and Mondi Wetlands Project on 28 June 2007.
8. Technical Assistance Centre. The workshop discussed the initiative aimed to assist rural water service providers. The workshop was held on 18 September 2007.
9. 'Environmental flows in non-perennial rivers'. A workshop was organised and held by the WRC on 17-18 October 2007.
10. Application of Remote Sensing to Estimate Water Use of Crops in Irrigated Agriculture. The WRC, in collaboration with the Western Cape Department of Agriculture, organised a workshop on 25 October 2007 in Stellenbosch.
11. Developing and Refining Indicators for Freshwater Biodiversity. A WRC two-day workshop was held at the SANBI offices on 30-31 October 2007.
12. 'Marine Outfalls: Preparing for the Future'. The workshop/technical discussion was held in Durban on 16 November 2007. More than 100 delegates attended and assisted in developing a way forward in terms of R&D.
13. 'Climate Change'. A climate change national workshop. The workshop aimed to define future research priorities for the next 5 years regarding adaptation to climate change (The WRC hosted and facilitated a workshop on 28 November, 2007).
14. Drinking water technology. A joint South Africa- European Union workshop was organised by the WRC on 29 November 2007 in Cape Town.
15. 'Sludge Guidelines' workshops. Based on a number of research projects, the WRC has developed new Wastewater Sludge Disposal Guidelines (currently awaiting Ministerial approval). With DWAF support, the WRC undertook an extensive stakeholder's consultation and training process. This included nine workshops and training sessions undertaken in each of the nine provinces, attracting up to 100 participants per session.

Sludge Guideline Stakeholder Workshops

Location	Province	Dates
Polokwane	Limpopo	5-6 July
Bloemfontein	Free State	11-12 July
Kimberley	Northern Cape	16-17 July
Shongweni	KwaZulu-Natal	18-19 July
East London	Eastern Cape	25-26 July
Pretoria	Gauteng	31 July-1 August
Stellenbosch	Western Cape	2-3 August
Rustenburg	North West Province	28-29 August
Nelspruit	Mpumulanga	6-7 September

16. 'Status of Isotope Hydrology in South Africa.' The workshop specifically dealt with the isotope measuring facilities as well as available expertise and capacity building (The WRC hosted and facilitated a workshop, on 05 December 2007).
17. Governance of fresh water conservation. Workshop organised by the WRC in UCT on 29 Jan 2008.
18. Water-use in Relation to Bio-mass of Indigenous Tree Species in Woodland, Forest and/or Plantation. Pietermaritzburg, 20 February 2008.
19. The 3rd National Benchmarking workshop was organised in collaboration with DWAF in Durban 26 and 27 February 2008.

Books and special editions of Water SA

The booklet *Watermark* has been widely acclaimed and is being widely used. It is about to be revised and the 2nd edition will be published early in 2008/09.

The WRC published a coffee table book titled *Our Water Our Culture: A Glimpse into South Africa's Water History*. The publication emphasises the importance of water in sustaining the rich cultural diversity of the South African people. The publication was launched at a gala event on 11 October 2007 at the CSIR Convention Centre. The Minister of Water Affairs and Forestry, Ms Lindiwe Hendricks, officially launched the book. At the request of the Minister, 100 copies of the book were sent to the Minister who distributed the publication to members of Parliament (including the Portfolio Committee on Water Affairs and Forestry).

A special edition of *Water SA* (Vol **33** No 3) was produced in May 2007 and published in the 1st week of June 2007, with the theme: 'The Nutritional Value and Water Use of Indigenous Crops for Improved Livelihoods.' This edition features 3 articles written especially for this edition as well as a selection of 14 articles based on papers that were presented at the International Symposium on the Nutritional Value and Water Use of Indigenous Crops for Improved Livelihoods held on 19- 20 September 2006 at the University of Pretoria. This edition is available on the WRC website.

Conferences: A Mechanism for Knowledge Sharing

The WRC played an active role in organising, attending and contributing to conferences focusing on local, African and international attendance. A few examples are given below:

Wastewater Management Conference

The WRC, The Water Institute of Southern Africa (WISA) and Amatola Water co-hosted the WISA Wastewater Management Conference – From Challenge to Opportunity – in East London on 12-13 June 2007. The conference, attended by over 200 delegates, provided a broad foundation to change the approach to wastewater management in South Africa. The first half of the conference focused on the drivers, responsibilities and challenges that face wastewater management practitioners. The second half of the programme focused on identifying opportunities through the appropriate use of technology and resources. This conference created awareness and stimulated meaningful debate and received extensive favourable media coverage

IWRM 2008

The conference was hosted by the WRC in partnership with DWAF and the WISA. This conference was a platform to celebrate the 10-year anniversary of the National Water Act (NWA) as well as using the Conference as an opportunity to hold the 2nd IHP meeting. Approximately 180 delegates from across South Africa, Africa and internationally registered for the two-day conference and 40 delegates registered for the IHP meeting. The WRC exhibited at this Conference which was held on 10-12 March 2008 at the Cape Town International Convention Centre. The WRC CEO delivered one of the keynote addresses. Two staff members organised the conference. A staff member was partly responsible for the production of the daily newsletter.

Sustainable Sanitation Alliance (Susana)

The WRC, through one of its Executive Directors, arranged and hosted the Sustainable Sanitation Alliance (Susana) meeting in Durban on 16-17 February. It was attended by nearly 100 participants from the region and from International destinations. This is a voluntary initiative which is

driven by GTZ, aimed at establishing strategies and processes for sustainable sanitation.

Empowering rural women

The 4th World Congress of Rural Women was held in Durban on 23-26 April. The event, which occurs every four years, was hosted by the Ministry of Agriculture and Land Affairs. It was preceded by an African Consultation of Rural Women. The theme of the congress was: 'United in Our Diversity: Working Together Toward the Total Emancipation of Rural Women from Poverty and Hunger.' The WRC exhibited at this event. A special CD was produced which contained WRC reports relating to the congress theme.

Wetland Indaba

The WRC was one of the key players at the Wetland Indaba held on 23-27 October 2007 in Kempton Park. On 23 October the first volume (in a planned series of ten volumes) was launched. A WRC Director was one of the high-profile speakers who addressed the delegates. The WRC also co-funded this event.

Congress of the South African Irrigation Institute (SAII)

During August 2007, WRC staff members participated in the biennial congress of the South African Irrigation Institute (SAII). Upon invitation by the organisers, two presentations were made on 'The use of poor quality water for irrigation - influence on the environment' and 'Managing the innovation process: from research to application'. At this occasion the SAII silver medal was awarded to the dDirector of the KSA for his contribution in promoting irrigation research in South Africa.

AfricaSAN 2008

The WRC was represented by one of its Executive Directors on the organising committee of AfricaSAN. The AfricaSan 2008 conference was held on 18-20 February in Durban. Over the three days 32 African Ministers for Sanitation and 616 delegates comprising senior administrators in African governments, private sector representatives, NGOs and multilateral development organisations involved in the sector deliberated on the issues affecting sanitation and hygiene in Africa. AfricaSan 2008 was hosted by Bruno Jean-Richard Itoua, the President of AMCOW, Lindiwe Hendricks, Minister for Water Affairs and Forestry in South Africa, and their co-hosts (AfDB, UNSGAB, UNICEF, WSP, WBG and WSSCC). A number of staff members of the WRC attended the conference and a WRC Executive Director presented a paper titled 'What Happens When the Pits Fill Up?' WIN-SA and the WRC exhibited during the conference.

UNESCO IHE SYMPOSIUM

A staff member of the WRC, upon invitation, delivered an address, titled 'Water for a Changing World: Enhancing Local Knowledge and Capacity,' at the UNESCO IHE symposium, on the occasion of its 50-year anniversary.

International Commission for Irrigation and Drainage, (ICID)

- 2nd African Regional Conference – A staff served as the convener of the Programme Sub-committee of the ICID 2nd African Regional Conference, which was held on 6-9 November 2007 at the Glenburn Lodge near Johannesburg. The Conference was organised by SARIA and SANCID, and respectively chaired by two staff members of the WRC. The Department of Agriculture, the WRC, World Bank, FAO, ESKOM and Netafim were the main sponsors and hosts of the Conference.
- The 58th International Executive Council (IEC) meeting – A Staff member attended a meeting on 6 October 2007 in Sacramento, California, USA.
- A staff member presented a paper during a workshop of the ICID Working Group on Sustainable Use of Natural Resources for Crop Production during the USCID 4th International Conference on Irrigation and Drainage.

Moving Forward, Wastewater Biosolids Sustainability: Technical, Managerial and Public Synergy

A WRC Research Manager was a member of the international managerial, and public synergy programme committee for the IWA conference entitled: 'Moving Forward, Wastewater Biosolids Sustainability: Technical, Managerial and Public Synergy' held on 24-28 June 2007 in Moncton, New Brunswick, Canada. The conference was attended by 450 delegates from 44 countries. The focus of the conference was to bring the technical, managerial and public perceptions in line. The staff member also presented an invited plenary address entitled: 'Management of wastewater and faecal sludge in Southern Africa'.

International River Symposium and Environmental Flows

A staff member of the WRC presented a paper on 'Investigating the role of capacity building in the implementation of the Ecological Reserve in South Africa' at the International River Symposium and Environmental Flows Conference which was held on 2-7 September 2007, in Brisbane, Australia.

Other presentations included:

- A WRC Director presented a paper titled 'When Last Did We Look Down the Pits?' at the World Toilet Conference which was held in New Delhi on 30 October-3 November 2007.
- The Swiss Federal Institute of Technology, Zurich invited a staff member of the WRC to present a keynote address at the inauguration of the North South Centre for promoting research and education in the field of international development and cooperation on the 29th June 2007. The title of the launch was 'Relevance and Impact of Research for Development'.
- The CEO, in her capacity as Chairperson of *Streams of Knowledge*,

was invited to the 1st Asia-Pacific Water Summit which was held in Beppu, Japan, on 3-4 December 2007. She chaired a session and delivered a paper on capacity building.

Exhibitions

The WRC, in its quest to strengthen partnerships with professionals and other stakeholders in the water sector and to build new alliances, uses various channels to engage with stakeholders, nationally, regionally and on international platforms. One such channel is exhibiting at water-related exhibitions, conferences, symposia and workshops. At some conferences where delegates from African countries and overseas countries are present, the WRC strives to forge new partnerships and alliances so as to refine its knowledge resources and update its knowledge archive, making it a truly dynamic water knowledge hub. During the various exhibitions the WRC disseminates information in the form of reports and other publications. During the year under review the WRC employed innovative mechanisms to meet attendance needs through tailoring specific knowledge packages. Some exhibitions include:

- The 4th Congress of Rural Women, Durban (23-26 April 2007)
- WRC,WISA, Amatola Water Wastewater Conference, East London (11-13 June 2007)
- ZSSA Conference, Potchefstroom (8-11 July 2007)
- Sustain (Water Management Excellence) Conference, Sandton (15-17 August 2007)
- SANCHIAS Symposium, Cape Town (6-7 September 2007)
- Groundwater Conference, Bloemfontein (8-10 October 2007)
- IMESA Conference, Durban (23-26 October 2007)
- Help Symposium, Johannesburg (5-9 November 2007)
- ICID Conference, Johannesburg (6-9 November 2007)
- AfricaSan 2008, Durban (18-20 February 2008)
- IWRM 2008, Cape Town (10-12 March 2008).

Publications authored by WRC staff members

The following are some example of publications and contributions to book chapters by staff members of the WRC:

Gerhard R Backeberg and Andrew J Sanewe published an article in the international journal *Irrigation and Drainage* (Vol. **55**, June 2006) with the title 'The research and development strategy for water utilisation in agriculture-responding to diverse needs of farmers in South Africa.'. This article is based on the paper presented at the Special Session on 'Driving research for change in irrigation and drainage practices', 19th Congress of the International Commission on Irrigation and Drainage (ICID), Beijing, China, 12 September 2005.

Dr Liphadzi wrote a chapter in a book entitled:

- Physiological Effects of Heavy Metals on Plant Growth and Function. In: Bingru Huang (ed.) *Plant-Environment Interactions* (3rd edn.). Rutgers University, New Brunswick, CRC Press, New Jersey, USA. pp 243-269.

In addition, the same staff member also published two journal articles entitled:

- Heavy metal displacement in EDTA-assisted phytoremediation of biosolids soil. *Water Science and Technology* **54**.
- Availability of heavy metals in soil with injected sludge and composted-sludge soil. *Advances in GeoEcology* **38**: 203-214.

Dr Liphadzi also co-authored 3 journal papers with Prof. MB Kirkham of Kansas State University in the USA:

- Auxin-enhanced root growth for phytoremediation of sewage sludge amended soil. *Environmental Technology* **27**: 695-704.
- Chelate-assisted heavy metal removal by sunflower to improve soil with sludge. *Journal of Crop Improvement* **16**: 151-170.
- Availability and plant uptake of heavy metals in EDTA-assisted phytoremediation of soil and composted biosolids. *South African Journal of Botany* **72**: 391-397.

Dr Adams co-authored a paper

- Conrad J and Adams S. GIS-based assessment of groundwater recharge in the fractured rocks of Namaqualand, South Africa. In Krasny J & Sharp JM (eds). *Groundwater in Fractured Rocks. Selected Papers on Hydrogeology Series.* SP9. International Association of Hydrogeologists. Taylor & Francis, Andover, UK. ISBN: 9780415407458.

Other publications

Water Science & Technology (Volume **54** Number 5, 2006) edited by Dr Heidi Snyman contains selected papers from the international conference entitled: 'Sustainable Management of Residues from Water and Wastewater Treatment' held in 2005 and was published in September 2006. This edition contains several papers from South African researchers supported by the WRC. WRC supported research papers include:

- 'Development of the South African wastewater sludge guidelines' by H.G. Snyman, A.M. van Niekerk, E. Herselman and J.W. Wilken (p 9-16)
- 'The effects of hydraulic retention time and feed COD concentration on the rate of hydrolysis of primary sewage sludge under methanogenic conditions' by N.E. Ristow, S.W. Sötemann, M.C. Wentzel, R.E. Loewenthal and G.A. Ekama (p 91-100)
- 'Integrated chemical, physical and biological processes modelling of anaerobic digestion of sewage sludge' by S.W. Sötemann, P. van Rensburg, N.E. Ristow, M.C. Wentzel, R.E. Loewenthal and G.A. Ekama (p 109-117)
- 'Dedicated land disposal of wastewater sludge in South Africa: Leaching of trace elements and nutrients' by J.E. Herselman, C.E. Steyn and H.G. Snyman (p 139-146)
- 'Heavy metal displacement in EDTA-assisted phytoremediation of biosolids soil' by M.S. Liphadzi and M.B. Kirkham (p 147-153)
- 'The survival of pathogens in soil treated with waste¬water sludge

and in potatoes grown in such soil' by J.R.B. Chale-Matsau and H.G. Snyman (p 163-168)
- 'Using Ecosan sludge for crop production' by B. Jimenez, A. Austin, E. Cloete and C. Phasha (p 169-177)
- 'The effects of water treatment residues on soil respiration and microbial community structure' by S. Pecku, C.H. Hunter and J.C. Hughes (p 215-225)
- 'The effects of a polyacrylamide-derived water treatment residue on the hydraulic conductivity, water retention and evaporation of four contrasting South African soils and implications for land disposal' by M. Moodley and J.C. Hughes (p 227-234).

In addition, a number of WRC staff members reviewed papers for the IWA World Congress which will be held in Vienna in September 2008. Another staff member acted as a reviewer of scientific papers for five Elsevier journals: *J.Hazardous Waste; Chemosphere J; Environ. Pollut. J.; Arch.Environ. Contam.Toxicol.; Sci.Total Environ. J.*

INNOVATIONS AND KNOWLEDGE APPLICATION

The WRC continues to support the development of new applied knowledge and water-related innovation. While the WRC supports many innovations which are considered to be advantageous to the public and are readily available for use, some technologies, processes and products require commercial involvement in order to make them publicly available. In recent years the WRC supported the commercialisation of such innovations where applicable. However, the process has proved to be complex (requiring dedicated specialist support) and to have long-term prospects (often several years are required). In this regard, although a high percentage of the patent portfolio of the WRC is licensed out, the WRC continues in its effort to earn income from its licensed IP. In addition, with the improved capabilities of certain academic institutions to manage IP, the WRC has opted, in certain cases, to sign benefit-sharing agreements and allow these institutions to take the commercialisation process forward. An example is the Olive Wastewater Treatment Technology which was assigned to the University of Cape Town (UCT) and a benefit-sharing agreement was signed.

Currently, the WRC has licence agreements with reputable South African and international companies. These include one innovation earning royalties, i.e. The Secondary Metabolites, a cluster of 13 patents, is currently licensed to Synexa-Life Sciences and the WRC has been receiving royalties since 2006. Two other licensed innovations including 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) are currently undergoing further development. Such development is often required to allow the technology to function at a large scale. During the year under review another innovation was licensed out. This is an invention that will allow the provision of clean water at a small scale and could effectively provide for drinking water for small rural communities. The Filtration Membrane Technology (CUF), a cluster of five patents, was licensed to Ikusasa Chemicals in January 2008.

The filing of six patent applications (filed during 2006/07) is at different stages of prosecution and licensing negotiations. These patents include:
- Biosensor
- Method of detecting the presence of micro-organisms in a solution
- Passive sampler
- Application for fly ash and its derivatives
- Synthesis of zeolites.

In January 2008 one Patent Corporation Treaty (PCT) patent application entitled 'Treatment of wastewater using dual-stage membrane bioreactor' was filed. The invention relates to a wastewater treatment process for removing undesired impurities from effluent feed. The process includes the steps of providing a discrete acclimation bioreactor system for developing a desired microorganism inoculum, with the system being in selectively interruptible fluid flow connection with a discrete effluent hydrolysis system. This allows the flow of desired microorganisms from the bioreactor system to the effluent hydrolysis system to be regulated independently from the effluent feed flow through the hydrolysis system, leading to greater flow-through and system efficiencies.

The WRC is investigating various modalities for marketing its inventions and is currently negotiating the support of a reputable South African technology broker company in this regard. The WRC is also developing a technology-transfer website (to feature within the WRC website) that would be used to promote WRC inventions.

Innovations

As indicated above, the WRC supports many innovations that do not require a commercial route for their transfer and applications. Examples of such innovative methods and tools include:
- The Ambic Protocol for Recovery and detection of *Ascaris* ova – an improved method for recovery of *Ascaris* ova was developed through a WRC study. The method allows for the removal of interference due to soil particles and improves recovery by up to 77% yield. Water Services Barometer Tool - general public's knowledge / awareness / understanding / behaviour regarding key water services messages can serve as an indicator of the 'state of community consultation'. The barometer was constructed in order to give a 'reading' of the current state of knowledge and awareness amongst the South African public regarding key water services knowledge areas. The barometer instrument can be applied to assess any community consultation process. The barometer can be used as a tool to determine whether the target audience was reached and whether the money was well spent.

- The Twin Channel Vertical Slot Fishway is a new concept internationally. It revolutionised fishway design and will reduce the cost substantially from existing designs, carrying a wide range of fish species and sizes. It can be incorporated in the back of a Crump weir, which is the commonly used design of a gauging weir on the larger South African rivers.

GUIDING WATER-CENTRED KNOWLEDGE

The WRC serves South Africa as its water-centred knowledge hub. As such the WRC has to provide leadership and strategic direction regarding knowledge creation, sharing and dissemination. The standing of the organisation locally, in Africa and globally is therefore of utmost importance. During the year under review the WRC improved its standing locally and led and coordinated many local strategic initiatives. In addition, the WRC excelled in its drives to link with and support Africa and in linking South Africa to global knowledge, i.e. with the aim of excelling in leading water-centred knowledge in South Africa.

Local leadership positions

Staff members continue to undertake various leadership positions (many positions are ongoing or set for a term of a number of years). These positions include the following:

Chair of the Minister's Water Advisory Committee, Chairperson of the South African National Commission for Irrigation and Drainage (SANCID), a member of the Board of the Agricultural Research Council, Co-Chairperson FETWater, member of the executive, immediate past President and Deputy President of the Water Institute of Southern Africa (WISA), Chairperson of the National Water Advisory Council, Chairperson of the National Community Water and Sanitation Institute (NCWSI) (University of the North), Board member of the Institute for Environmental and Coastal Management (Nelson Mandela Metropolitan University) and the Institute of Water Research (IWR) (Rhodes University), treasurer of SANCID, member of the South African Committee for the International Association of Hydrological Sciences, member of the National Water Resources Planning Systems User Forum, member of the Technical Steering Committee of the Working for Water Hydrology Review Panel, member of the Committee of the South African Environmental Observation Network (SAEON), member of the Executive Committee of Committee of Heads of Organisations of Research and Technology (COHORT), member 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, member of the South African Power Utility Research Advisory Board (Eskom), Chairperson of the WISA Portfolio Committee on Education, Training and Youth Development, member of Ecolink (an NGO), member of the Advisory Committee of the Groot Marico Catchment Agency, member of the National Disaster Management Committee (DPLG).

Strategic membership in key national networks

- The WRC is a patron member of WISA, a member of the Water Sector Leadership Group, member of the NSTF, COHORT and IWA-SA. The WRC developed a Shareholder's Compact that was approved by the Board and submitted to the Minister on 30 November 2007.

Strategic collaborations and partnership

- A collaboration agreement (MoU) with the National Department of Agriculture (NDA) was signed in August 2007, resulting in the leveraging of funds to support research on Water Utilisation in Agriculture.
- The WRC and the HSRC discussed future strategic partnerships pertaining to gender in the Water and Society Domain
- The WRC is supporting the Inkomati Catchment Management Agency (CMA) Board, the first CMA in South Africa. The two organisations identified future research needs and training partnerships.
- The WRC and the Department of Minerals & Energy (DME) developed a strong working relationship and agreed on future collaboration in the area of mine water research. The WRC serves on the Regional Closure Strategy and Water Ingress Steering Committee and the Government Task Team on Mine Closure and Water Management.
- The WRC continues to provide leadership to the National Benchmarking Initiative.
- The River Health Programme (RHP) is an ongoing strong partnership between DWAF, CSIR, DEAT and the WRC. The RHP, which was initiated in 1994, has now become the basis of a national monitoring programme. The aims are to measure the state of aquatic ecosystems, detect spatial and temporal trends and to identify and report on these. The RHP is unique in that while the results are used by government, the results are also useful to industry as they enable industry to monitor itself. The implementation relies on provincial initiatives which do not obtain funding from National Government, but the central coordination remains the task of National Government. Over the last decade and a half that it has been running, it has achieved considerable success.

Leading and strategically contributing to the success of national initiatives

- The WRC continues to lead WIN-SA (in its position as an implementing agent). During the year WIN-SA took over the support of the District Water Services Managers Network, which emanated from a WRC study. WIN-SA produced a series of lessons learnt and good practices booklets. WIN-SA also undertook an exploratory

study relating to the sharing of information and successes within the SADC region.
- The WRC continues to lead 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. Recently, the WRC assumed the position of implementing agent.
- The WRC initiated the establishment of a Technical Assistance Centre for rural areas. The aim is to assist rural water service providers. The Centre concept will be expanded to include sewage treatment.
- The WRC serves as the secretariat for UNESCO HELP and played a major role in the recent HELP Symposium which was held in November 2007 and the IWRM Conference which was held in March 2008.
- The WRC actively supports the Department of Science and Technology (DST) initiative regarding Technology-Based Solutions for Accelerated Delivery of Water Services.
- The WRC serves on DST's nanotechnology centre. The WRC is the founding member and contributed to the National Water Nanotechnology Strategy. The centre was established through a collaborative effort of MINTEK, WRC and DST.
- The WRC leads the Network on Irrigation Research and Extension for Smallholder Agriculture (NIRESA).
- The WRC supports the National Implementation Plans (NIPS) of DEAT. The aim of this was to establish an inventory and assessment of infrastructure and capacity for the development of NIPS of the Stockholm Convention on Persistent Organic Pollutants (POPS) in South Africa.

In Africa, the WRC played an active part in capacity building, coordination of research and development initiatives and participated and organised scientific and technical gatherings. These various activities are all aimed at building water-centred knowledge in Africa. A number of initiatives are ongoing while others are at their final stages or are newly initiated. During 2007/08, key initiatives included:

- The WRC has been actively involved with the Water Research Fund of Southern Africa (WARFSA) for a number of years. Currently one staff member serves as a Board Member of WARFSA. WARFSA was established with the purpose of building research capacity among regional institutions and individuals as well as promoting the utilisation of research results in the planning and management of water resources in the sub-region. The WRC coordinated the logistics of the WARFSA Board meeting.
- The WRC, in collaboration with the French International Development Institute (IRD), continues to support the NEPAD Centres of Excellence initiative. A framework was also developed to determine criteria to select those organisations that would act as centres of excellence for water research.
- The WRC represented the South African Academy of Science (ASSAf):
  - Attended the African Science Academy (ASADI) symposium in November 2007. The conference theme was 'Water and Health'. Support was provided by the WRC to the South African Academy of Sciences for mobilising South African researchers to take part in the Regional Annual Academy meeting.
  - The WRC is actively involved in the Inter Academy Programme for Water and a staff member attended a meeting (May 2007) of all leading Science Academies (WRC representing South Africa). During this meeting it was agreed that the WRC will develop and lead an IWRM training course for Africa and a proposal for organising an African workshop and a training course on the utilisation of water in agriculture was submitted.
- The WRC is currently negotiating an MoU for bilateral collaboration in water research with the Kenya Water Institute (KEWI). This follows a meeting with a Kenyan delegation on the 6 September 2007 where water resource management issues and future collaborations were discussed.
- The African Water Project (EC project) has come to its conclusion in a final meeting with the European Commission, as the contractor, in Brussels late in December 2007. The closure recommendations include future leadership of the WRC, especially in enhancing the coordination of African researchers' participation in global research consortia. During the year the African Water project (EC) conducted training in West and East Africa.
- The WRC and WIN-SA are supporting the establishment of Streams-Africa, which will address capacity development in water and sanitation in Africa.

In addition the WRC was involved in a number of specific initiatives such as:

- The WRC participated in the South African Open Day during the meeting of the Forum for Agricultural Research in Africa (FARA) which was held on 12 June 2007 at the ARC Research Institute in Irene.
- The WRC was invited to attend the African Leadership mobile workshop held in Botswana and Limpopo (July 2007) to discuss conservation challenges and opportunities. A WRC member represented the aquatic ecosystem or/and water conservation schools of thought.
- The WRC supported the UNEP initiative on Vulnerability of Water Resources in Africa. The WRC coordinated a UNEP workshop held at the Farm-Inn (July 2007), where five representatives of five African Sub-Regions attended.
- A WRC staff member was invited to a technical task team that developed the ToRs for an African Groundwater Commission for AMCOW.
- The WRC CEO, who is also the Chairperson of *Streams of Knowledge* and a WRC Executive Director and a staff member of WIN-SA attended the WASH-Streams meeting in Mombasa, Kenya.

They presented lectures, facilitated workshops as well as exhibited at this event.

- The WRC, in collaboration with IWMI, submitted a project proposal on 'water economies and legal issues' which was accepted by the challenge programme. Other partners on the project are Zimbabwe, Mozambique, Zambia and Burkina Faso.
- A WRC Director arranged and hosted the Sustainable Sanitation Alliance (Susana) meeting in Durban on 16-17 February. It was attended by nearly 100 participants from the region and from international destinations. This is a voluntary initiative which is driven by GTZ, aimed at establishing strategies and processes for sustainable sanitation.
- NEPAD – in addition to the WRC involvement in the Centres of Excellence (see above), a WRC staff member continues to serve on the NEPAD Gender Task Group.
- A WRC staff member is serving as an Executive Member of the Limpopo Challenge Programme for Water for Food (CGIAR)/ (WaterNet).

The WRC continues its global collaborative activities. While most of these activities are ongoing, a few new initiatives were introduced during 2007/08.

Staff members continue to hold key positions, including:

- Member of the steering committee of the Water Supply and Sanitation Collaborative Council (WSSCC)
- Board member of the Global Water Research Coalition (GWRC)
- Chairperson of *Streams of Knowledge*, a global coalition of resource centres
- Member of RAMSAR scientific and review panel
- Board member and chair of the programme committee of the International Water Management Institute (IWMI).

New and specific positions include:

- A member of the International Commission for Irrigation and Drainage (ICID) Working Group for the Use of Poor Quality Water for Irrigation
- A member of the organising committee of the SIL (International Society of Limnology) for its conference which is to be held in South Africa, during 2010
- A member of the organising and advisory Committees of the 4th International Conference on Mine Closure to be held in Johannesburg in 2008

Key partnerships in global networks and initiatives include:

- The WRC continues to represent the South African Academy of Science in discussions addressing the development of capacity for managing water resources by the Inter Academy Programme for Water (IAP).
- The WRC continues to be an active member of the GWRC. During November 2007 the CEO presented the WRC research portfolio at the GWRC meeting in Australia and participated in a workshop addressing Climate Change issues. The WRC is active in a number of GWRC projects, including projects addressing algal toxins, asset management (coordinated by the WRC) and EDCs. During February 2008 the WRC participated in a GWRC workshop which focused on limiting energy use in drinking water and wastewater cycles, with the aim of reducing the impact of global warming.
- The WRC continues to be a member of the Global Alliance (of international research institutions) of the International Network for Acid Prevention (INAP)
- The WRC is represented on the South African National Committee for the International Association of Hydrological Sciences (SANCIAHS)
- The WRC is hosting CapNet, a global network addressing training for IWRM, under UNDP. Staff members of the WRC participated in CapNet activities locally and globally. A WRC staff member contributed to a training session on IWRM in the Philippines. The contribution enhanced the realisation of South East Asia of the vast strides taken by South Africa in IWRM. Further bilateral initiatives will result from this interaction.
- The WRC continues to support SAFewater (the French-South Africa cooperation for research on water). The SAFewater Annual Report was submitted to DST as per management contract with the WRC. The programme is making good progress and DST made funds available for the second phase of the project.
- The WRC is a member of the WHO International Group for Small Community Water Supply Management
- The WRC initiated, hosted and co-led a number of international conferences that took place in South Africa during 2007/08. Examples are the Sustainable Sanitation Alliance (Susana) meeting, the IHP Symposium and the IWRM conference (see details above).

PERFORMANCE FEEDBACK

Impact studies

During the year under review the WRC undertook five impact studies as follows:

- The social, economic and environmental impact of in-field rainwater harvesting and conservation in relation to rural livelihoods of households in villages at Thaba Nchu in the central Free State Province
- Identification of the capacity-building impact of the research investments in water resources management and the contribution to building national technical Centres of Excellence
- Investigation of the impact of WRC-funded projects on membrane technology in both the local and the international environments
- The impact of the implementation of the sludge guidelines on job creation, on the environment, on the economy (both positive and negative impacts), on society and on health
- The WRC conducted an impact study on water Resources Management Research in South Africa: 1991-2006 with special emphasis on research outputs such as publications.

International and local awards

One of the WRC Executive Directors, Dr Gerhard Backeberg, received the prestigious *Best Paper Award 2007* at the International Executive Council meeting of the International Committee on Irrigation and Drainage (ICID), held on 5 October 2007 in Sacramento, California, USA. The paper entitled 'Reform of User Charges, Market Pricing and Management of Water: Problem or Opportunity for Irrigated Agriculture' was published in Issue 55.1 (February 2006) of the ICID journal *Irrigation and Drainage*. The award took the form of a citation plaque and gift books from the publisher, John Wiley and Sons Ltd.

Dr Gerhard Backeberg received the SAII silver medal award for his contribution to promote irrigation research in South Africa, during the biennial congress of the South African Irrigation Institute (SAII), August 2007.

Dr Liphadzi was the recipient of the *2007 Marquis Who's Who in Science and Engineering Award*, which distinguishes the most accomplished people in their science and engineering fields in the USA.

At the International Executive Council meeting of the International Committee on Irrigation and Drainage (ICID) October 2007, California, USA South Africa was awarded the *ICID WatSave Innovative Water Management Award* for a project on scheduling advice to smallholder cane growers, funded in partnership by the WRC and SASRI.

Citations

Feedback is an important instrument in gauging the level of satisfaction of stakeholders. The WRC is constantly re-inventing itself in order to meet the needs of its various stakeholders. Collecting citations referring to the WRC and its activities is one feedback mechanism that the WRC relies upon. Citations indicate public appreciation as well as valuable suggestions to guide future actions and development. The following citations indicate stakeholders' impressions of the WRC:

Citations reflecting the relevance of the WRC

Outreach activities

However, I must quote a very interesting example, taken from the country where I am working at the time, the Republic of South Africa, where there is an appreciable synergy between "research" and "application of research"

One of the reasons lies in the existence of an Agency specifically devoted to impulse, coordinate and manage research on freshwater issues (the Water research Commission, WRC, (http://www.wrc.org.za).The different governments of the country have long been aware of the need of appropriate knowledge to manage water in an integrated manner. Therefore the different Water Acts passed during the last decades, have created and confirmed a process which is creating favourable conditions for planning and carrying out research and for transferring the results toward the civil society. It has been decided that any user paying for water (municipal, industrial, agricultural), will contribute to a research fund, by paying (a very small) levy.

Generally speaking, the WRC is very concerned with the outreach of research and for example, all results are available – free of charge – by the citizens (all commissioned reports can be downloaded in Pdf format). In the same way all data – real time and historical time series – are available for everyone from the server of the Department of Water Affairs. Every year, there are a number of forums, organised at the village scale, to inform the inhabitants of the progress of research issues.

To have a good synergy between research, decision makers and ordinary citizens (who are all water users), there is a need for a continuous production of knowledge, of good quality, easily accessible, and not exclusively targeting the peers. For this to happen, it is necessary to create a national ownership for research issues a nationally driven long term strategy for research.

In this respect, the example of South Africa is worth to consider.

Dr. Jean-Marie FRITSCH
IRD Representative for Southern Africa
E-workshop: European Union Workshop – 'SPLASH', 5 March 2008

Science lesson plans published by the WRC

The Sci-Bono Discovery Centre wishes to express its sincere appreciation to the WRC for having taken the initiative in organising the first Water Week Event held at Sci-Bono. About 2 000 learners participated in the four day programme which was characterised by interactive workshops, demonstrations, motivational careers guidance activities, and informative talks. The highlight was a trip to one of our local rivers to do the Mini-SASS water test accompanied by our national DWAF Minister, Lindiwe Hendricks.This programme has gone beyond the realm of being merely informative, it has served to raise awareness to the extent that learners left inspired and keen to act differently with regard to issues around our most precious resource. Thanks to the WRC for making this possible. We look forward to an even more successful event next year.

Michael Peter, Chief Operating Officer
Sci-Bono Discovery Centre, 8 April 2008

I am very impressed with the Grade 3 activities. I shall be including them in our lesson preparation when we cover water.

Ms Lynne Greef, Educator – Rietondale Primary School, February 2008
in response to the science lesson plans published by the WRC.

Knowledge dissemination – WRC research in the news

Dual water reticulation system

Instead of wasting top-quality drinking water to flush toilets or to water gardens, South Africa is looking at the feasibility of using recycled sewage water, storm water or sea water. The proposed dual water reticulation scheme is known as the "purple pipe system" in some countries because recycled water pipes are colour-coded in purple or lilac to distinguish them from drinking water pipes. The colour-coding is intended to ensure that people do not drink the second-grade water supply by accident, and also to reduce the risk of accidental cross-connections during plumbing alterations. The Water Research Commission in Pretoria says the purple option continues to attract interest at high political level - despite findings that suggest recycling and desalination are too expensive.

Independent-On-Line media report, 10 December 2007

Water filtration

Effective filtration at drinking water treatment plants is important as it reduces the risk of outbreaks of certain waterborne diseases in drinking water supplies. Water management and bulk water supply company, Umgeni Water, in consultation with researchers at other institutions, is carrying out the research. The project is being funded by the Water Research Commission (WRC), in an effort to ensure more efficient drinking water production, because of the threat of a lack of sufficient water in South Africa, along with water quality and availability issues becoming more acute.

Engineering News, 18 March 2008

ORGANISATIONAL GOALS AND OBJECTIVES (KEY PERFORMANCE AREAS)

The WRC continued to use a set of key performance areas 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 addressed the WRC leadership and positioning activities and provides feedback regarding relevance. One of the objectives of this KPA was 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	Eight national initiatives A stakeholder map, and two MoUs (including a formalised framework with DWAF) and an MoU with another key player	A performance target of 'excellence' was achieved A stakeholder map was developed A shareholder compact was submitted to the Minister of Water Affairs and Forestry and an MoU was signed with the Department of Agriculture
	Feedback regarding the relevance of the WRC to South Africa. Outcomes of impact studies (KSA levels)	Positive outcomes of 4 impact studies Five citations	Five impact studies were conducted indicating positive outcomes Positive feedback was received via citations. Five citations indicating that the WRC is a relevant organisation were captured

GOAL/OBJECTIVES	INDICATORS	EXCELLENCE TARGET	PERFORMANCE
Leadership in external affairs • Regional (Africa) • Global	African leadership (key strategic activities in Africa where the WRC plays a significant role)	Five African initiatives	Target met and exceeded
	International player (activities such as global partnerships, participation in global projects, etc.)	Eight global initiatives	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.

GOAL/OBJECTIVES	INDICATORS	EXCELLENCE TARGET	PERFORMANCE
Improved financial performance	Income growth (income growth is measured as meeting the revised budgetary target of R11.6m.)	Meet budget target in full	Target exceeded. Leverage of R13.3m. achieved
	Research ratio (measured as research funding and support as percentage of total income)	75%	Target met and exceeded. Ratio of 76% was achieved
	Cashflow management (measured against availability of cash for effective operation)	R15 m.	Fully met
Effective financial management	High-quality budget planning and reporting (measured as the percentage deviation between actual and budget at year-end)	10%	Fully met
Effective financial management (continued)	Audit results (measured as a percentage of previous year's internal audit queries fully addressed and an unqualified vs. qualified audit)	External audit unqualified 70% of internal audit queries addressed	Previous year's external audit unqualified The 'very good' target of 60% was achieved
	Efficiency of recoveries (measured as the percentage of projects older than 3 years fully finalised)	100%	Target not met Achieved 71%
	Roll-over of research funds (measured as the deviation from the budgetary figure for roll-over of research project funds)	20%	Target exceeded. There was no deviation from budgetary figure

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 the building and right-shaping of the water-centred knowledge base in South Africa (emphasising capacity building), and improve various knowledge-sharing activities. The issues 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.

GOAL/OBJECTIVES	INDICATORS	EXCELLENCE TARGET	PERFORMANCE
Improved commercialisation of IP	Number of innovations The number of licensed out patents earning income	Three new innovations Three patents (one existing, two new)	Fully met Target not met. Only one patent is earning income
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 Studies on capacity-building needs	400 students, 60% of whom are historically disadvantaged Two studies (one on research capacity and one on IWRM)	The WRC supported 664 students, of whom 65% were from historically disadvantaged backgrounds Target met
Knowledge sharing and scientific leadership	The number of Open Days and workshops organised by the WRC New dissemination and sharing mechanisms for knowledge supporting policy development and implementation	Two Open Days (one Internal) and 20 workshops Two new knowledge dissemination mechanisms	The 'excellence' target was met for Open Days and workshops Two new mechanisms developed

Internal processes

During 2007/08 the WRC continued to develop business processes and systems to support its core operation. Functional operation, management practices and performance management were addressed.

GOAL/OBJECTIVES	INDICATORS	EXCELLENCE TARGET	PERFORMANCE
Functional excellence	Improvement of the fund management process (time-frame) – minimising the time gap between receiving a final report to the time of its publication An appropriate fund management system - level of completion of the development/ application of the system Impact studies for all KSAs (addressing impact areas)	100% of projects finalised within 3 months FMS fully populated with active management reports Four impact studies completed	Met the 'very good' target of 90% 'Excellence' target not met. Met 'very good' target Fully met (exceeded, 5 studies were completed)

GOAL/OBJECTIVES	INDICATORS	EXCELLENCE TARGET	PERFORMANCE
Management excellence	Implementation of a business excellence drive (improved internal and external processes)	Three completed improvement projects	Fully met
	Organisation's compliance - extent of compliance as reported by internal and external audits	80% compliance (100% compliance to PFMA)	Fully met
Performance management	Effective use of KPIs	100% of staff evaluated against quantitative KPIs	Fully met

Organisational transformation

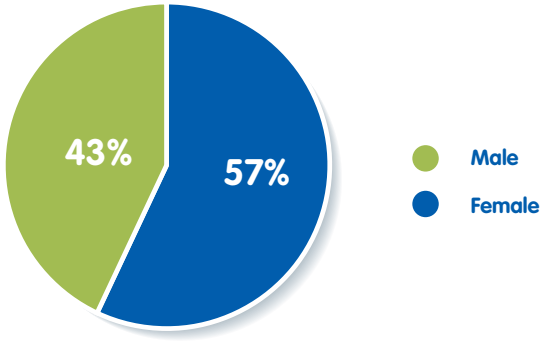
This KPA focused on organisational transformation and was focused on the enhancement of effective leadership and culture, the improved level of staff competence and accelerated equity and redress.

GOAL/OBJECTIVES	INDICATORS	EXCELLENCE TARGET	PERFORMANCE
Effective leadership and culture	The gap between vision and current reality (culture survey)	20% deviation	'Excellence' target not met. Met 'very good' target of 25% deviation
	Assess current CoE and benefit	New CoE and benefit plan recommended for Board approval	Fully met
Improved competence levels	Development and implementation of a training plan skills development plan Develop and implement an HR plan	Detailed training and HR plans developed and fully met	Fully met
Accelerated equity and redress	Meeting targets of EE plan measured against percentage of new appointments	90% of new appointments meet EE requirements	Fully met and exceeded (100% appointments met EE requirement)
	Improved ratio of BEE suppliers	80% of supplier BEE	Not fully met. Exceeded the 'very good' target of 70% (ratio is 73%)

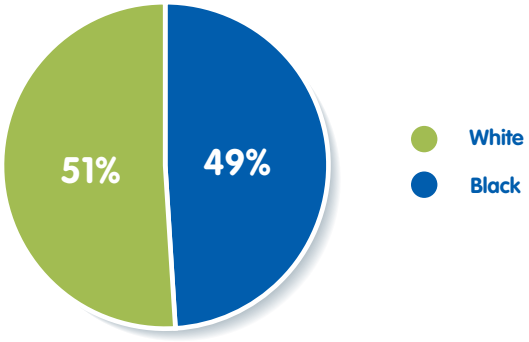
HUMAN RESOURCES

In the 2007/08, 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 47 permanent staff. In terms of composition by race, there was an increase in the appointment of Black staff during the year under review. In the previous financial year i.e. the 2006/07 year the staff members of the WRC consisted of 44% Black staff and 56% White staff. In the 2007/2008 year this increased to 49% Black staff and 51% White staff. Female staff members still represent the majority: 57% female and 43 % male employees.

Staff composition by gender



Staff composition by race



Improved levels of staff competence

The skills development plan for 2007/08 was exceeded as many employees attended courses that were not initially planned at the beginning of the year, in addition to the planned courses.

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 previous years. During 2007/08 the WRC appointed a number of new employees, all of whom had been found to be highly appropriate for assuming duty against the relevant vacancies. The vacancies resulted from resignations of staff as well as staff movement within the organisational structure. One new Financial Officer and a Group Assistant were appointed. One Research Manager was promoted to the position of Executive Director. The Group Assistant of Finance was promoted to the position of Coordinator: Human Resources.

WRC support for staff education and training

Investment in excellence and effective leadership culture

The commitment to performance excellence continued into 2007/08 with almost all new employees attending the *Investment in Excellence* training courses.

The Pacific Institute conducted another survey in February 2008 to determine the gap between current reality and the vision of the organisation. The result indicated that the gap between the vision and current reality was kept at about 24% (as for the previous year).

Training courses

Participation in courses on financial management, information technology, project management, secretarial and life skills, was also supported. In addition, 5 staff members continued to be engaged in studies, supported by the WRC, for a variety of degrees and diplomas.

Formal studies	No of Individuals	Status
B. Tech.: Public Relations Management	1	Completed
Diploma: Administration	1	Ongoing
B Tech.: Administration	1	Ongoing
Diploma: Public Relations	1	Ongoing
Ph.D. (R&D management)	1	Ongoing

LOOKING AHEAD

Effectively looking ahead requires the understanding of where we come from and what has been achieved to date. It also calls for understanding the current and future of the WRC environment and the needs of South Africa. In 2002 the WRC took a strategic decision to transform the organisation into a dynamic hub for water-centred knowledge, addressing South Africa's research needs and supporting the dissemination and application of the created knowledge. This transformation called for fundamental changes that aimed to make the organisation highly relevant, effective and efficient. It required the bold step of streamlining its business: eighteen research fields were narrowed down to five key strategic areas (KSAs). It also required the need for integrating mechanisms and understanding the impact of the research. The WRC identified the impact areas of the economy, society, health and the environment as key to its research portfolio. Collectively, these areas support the objective of water serving as a driver for economic growth and sustainable development. While organising the WRC along four key areas related to water issues from water resource management to its effective uses, the WRC has built strong support for knowledge sharing, dissemination and application through its **Water-Centred Knowledge** KSA. It also invested in enhancing its financial and legal functions. Functioning as South Africa's dynamic and credible water knowledge hub required the WRC to be close to its shareholder and key stakeholder, the Minister and the Department of Water Affairs and Forestry and to actively reach out to the water sector, related sectors and the community at large.

Transformation of the WRC was not only internally focused. The WRC targeted research areas and provided knowledge that, if appropriately utilised, could effectively improve the quality of life of all South Africans, providing them with a reliable and safe water supply and sanitation and contributing to future economic growth. Transformation of the water sector also required skills and competencies. The WRC has been supporting historically disadvantaged students with the aim of not only building a new generation of researchers, but also providing new skilled capacity to the sector.

While building and continuing its service to South Africa, the WRC realises the importance of partnerships and building strong networks locally, globally and, especially, in Africa. In recent years the WRC initiated a strategic drive to strategically support a number of initiatives in building water research capacity in Africa.
As reported during the financial year, the WRC continued to serve South Africa as its dynamic water-centred knowledge hub. Building capacity, creating new knowledge and improving its mechanisms regarding knowledge dissemination were matters of priority. In future years the WRC aims to further build on what was achieved, adhering to its mandate of providing the country with a knowledge framework that will ensure that the country has safe drinking water and sanitation for all and that the quantity and quality of water available for various water uses will promote a healthy environment and sustainable economic growth. The WRC will continue to support its shareholder and DWAF in realising the objective of water for *Sustainable Growth and Development*, while providing the knowledge required for sustainable infrastructure for water and sanitation services; effective water management policies; and systems and adaptive and mitigating strategies to face the challenges of climate change.

BOARD APPROVAL

The Annual Financial Statements of the WRC and wholly-owned company for the year ended 31 March 2008, which appear on pages 45 to 93 to of this report, were approved by the WRC Board at its meeting held on 28 May 2007. 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:

Dr S J Khoza
WRC Board Chairperson

Dr Rivka Kfir
WRC Chief Executive Officer

Water Research Commission Consolidated Annual Financial Statements for the year ended 31 March 2008

Contents

Report of the Auditor-General

Report of the Auditor-General to Parliament on the Group Financial Statements and performance information of the Water Research Commission for the year ended 31 March 2008.

REPORT ON THE FINANCIAL STATEMENTS

Introduction

1. I have audited the accompanying group financial statements and financial statements of the Water Research Commission which comprise the consolidated and separate statements of financial position as at 31 March 2008, consolidated and separate statements of financial performance, consolidated and separate statements of changes in net assets and consolidated and separate cash flow statements for the year then ended, and a summary of significant accounting policies and other explanatory notes, as set out on pages 49 to 78.

Responsibility of the accounting officer for the financial statements

2. The accounting authority is responsible for the preparation and fair presentation of these financial statements in accordance with the basis of accounting determined by the National Treasury, as set out in accounting policy note 1 to the financial statements and in the manner required by the Public Finance Management Act, 1999 (Act No. 1 of 1999) (PFMA). 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
   - making accounting estimates that are reasonable in the circumstances.

Responsibility of the Auditor-General

3. As required by section 188 of the Constitution of the Republic of South Africa, 1996 read with section 4 of the Public Audit Act, 2004 (Act No. 25 of 2004) (PAA) and the Water Research Act,1971 (Act No.34 of 1971), my responsibility is to express an opinion on these financial statements based on my audit.

4. I conducted my audit in accordance with the International Standards on Auditing and General Notice 616 of 2008, issued in Government Gazette No. 31057 of 15 May 2008. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance on whether the financial statements are free from material misstatement.

5. 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.

6. An audit also includes evaluating the:
   - appropriateness of accounting policies used
   - reasonableness of accounting estimates made by management
   - overall presentation of the financial statements.

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

Basis of accounting

8. The public entity's policy is to prepare financial statements on the basis of accounting as determined by National Treasury, as set out in accounting policy note 1 to the financial statements.

Opinion

9. 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 2008 and its consolidated and separate financial performance and consolidated and separate cash flows for the year then ended, in all material respects, in accordance with the basis of accounting as described in note 1 and in the manner required by the PFMA and Companies Act.

OTHER MATTER

Without qualifying my audit opinion, I draw attention to the following matters that relate to my responsibilities in the audit of the financial statements:

Matters of governance

10. The PFMA tasks the accounting officer with a number of responsibilities concerning financial and risk management and internal control. Fundamental to achieving this is the implementation of certain key governance responsibilities, which I have assessed as follows:

MATTER OF GOVERNANCE	YES	NO
AUDIT COMMITTEE		
• The entity had an audit committee in operation throughout the financial year.	✓	
• The audit committee operates in accordance with approved, written terms of reference.	✓	
• The audit committee substantially fulfilled its responsibilities for the year, as set out in section 77 of the PFMA and Treasury Regulation 27.1.8.	✓	
INTERNAL AUDIT		
• The entity had an internal audit function in operation throughout the financial year.	✓	
• The internal audit function operates in terms of an approved internal audit plan.	✓	
• The internal audit function substantially fulfilled its responsibilities for the year, as set out in Treasury Regulation 27.2.	✓	
OTHER MATTERS OF GOVERNANCE		
• The annual financial statements were submitted for audit as per the legislated deadlines (section 55 of the PFMA).	✓	
• The financial statements submitted for audit were not subject to any material amendments resulting from the audit	✓	
• No significant difficulties were experienced during the audit concerning delays or the unavailability of expected information and/or the unavailability of senior management.	✓	
• The prior year's external audit recommendations have been substantially implemented.	✓	

OTHER REPORTING RESPONSIBILITIES

REPORT ON PERFORMANCE INFORMATION

11. I have reviewed the performance information as set out on pages 39 to 42.

Responsibilities of the accounting officer for the performance information

12. The accounting authority has additional responsibilities as required by section 55(2)(a) of the PFMA to ensure that the annual report and audited financial statements fairly present the performance against predetermined objectives of the public entity.

Responsibility of the Auditor-General

13. I conducted my engagement in accordance with section 13 of the PAA read with General Notice 616 of 2008, issued in *Government Gazette* No. 31057 of 15 May 2008.

14. In terms of the foregoing my engagement included performing procedures of an audit nature to obtain sufficient appropriate evidence about the performance information and related systems, processes and procedures. The procedures selected depend on the auditor's judgement.

Audit findings (performance information)

15. I believe that the evidence I have obtained is sufficient and appropriate to report that no significant findings have been identified as a result of my review.

APPRECIATION

16. The assistance rendered by the staff of the Water Research Commission during the audit is sincerely appreciated.

Auditor - General

Pretoria
31 July 2008

AUDITOR-GENERAL

Statement of Financial Position

Water Research Commission Consolidated
Annual Financial Statements for the year ended 31 March 2008

Figures in Rand		Group		Company	
	NOTE(S)	2008	2007	2008	2007
Assets					
Non-current assets					
Property, plant and equipment	2	11,188,876	10,756,266	2,497,354	2,064,744
Intangible assets	3	1,358,287	1,088,803	1,358,287	1,088,803
Investments in subsidiary	4	-	-	755,939	755,939
Loans to group company	5	-	-	6,236,607	6,357,103
Other financial assets	6	47,584,427	41,834,476	47,584,427	41,834,476
		60,131,590	**53,679,545**	**58,432,614**	**52,101,065**
Current assets					
Trade and other receivables	9	16,270,146	29,760,570	16,492,796	29,971,270
Cash and cash equivalents	10	88,535,614	47,195,759	87,543,054	46,460,060
		104,805,760	**76,956,329**	**104,035,850**	**76,431,330**
Total assets		**164,937,350**	**130,635,874**	**162,468,464**	**128,532,395**
Net Assets and Liabilities					
Capital and reserves					
Other reserves		20,667,136	14,631,397	20,667,136	14,631,397
Accumulated surplus		75,806,834	60,396,481	73,394,748	58,349,007
		96,473,970	**75,027,878**	**94,061,884**	**72,980,404**
Liabilities					
Non-current liabilities					
Finance lease obligation	11	216,890	489,308	216,890	489,308
Retirement benefit obligation	8	24,253,011	21,538,407	24,253,011	21,538,407
		24,469,901	**22,027,715**	**24,469,901**	**22,027,715**
Current liabilities					
Finance lease obligation	11	348,089	601,294	348,089	601,294
Trade and other payables	13	41,401,869	30,885,302	41,345,069	30,829,297
Provisions	12	2,243,521	2,093,685	2,243,521	2,093,685
		43,993,479	**33,580,281**	**43,936,679**	**33,524,276**
Total Liabilities		**68,463,380**	**55,607,996**	**68,406,580**	**55,551,991**
Total Net Assets and Liabilities		**164,937,350**	**130,635,874**	**162,468,464**	**128,532,395**

Statement of Financial Performance

Water Research Commission Consolidated
Annual Financial Statements for the year ended 31 March 2008

Figures in Rand		Group		Company	
	NOTE(S)	2008	2007	2008	2007
Revenue	15	132,586,999	121,182,599	131,761,643	120,453,194
Other income		(878,244)	1,558,634	(654,985)	1,768,854
Operating expenses		(123,130,079)	(117,359,519)	(123,789,629)	(117,934,212)
Operating surplus	16	**8,578,676**	**5,381,714**	**7,317,029**	**4,287,836**
Investment revenue	17	8,846,334	6,650,232	9,743,369	7,513,090
Finance costs	18	(2,014,657)	(1,351,596)	(2,014,657)	(1,351,596)
Surplus for the year		**15,410,353**	**10,680,350**	**15,045,741**	**10,449,330**

Statement of Changes in Net Assets

Water Research Commission Consolidated
Annual Financial Statements for the year ended 31 March 2008

Figures in Rand

	Other reserves	Accumulated surplus	Total capital and reserves
Group			
Balance at 01 April 2006	**5,405,427**	**49,716,131**	**55,121,558**
Changes in net assets			
Fair value of available-for-sale financial assets	9,225,970	-	9,225,970
Net income (expenses) recognised directly in capital and reserves	9,225,970	-	9,225,970
Surplus for the year	-	10,680,350	10,680,350
Total recognised income and expenses for the year	9,225,970	10,680,350	19,906,320
Total changes	9,225,970	10,680,350	19,906,320
Balance at 01 April 2007	**14,631,397**	**60,396,481**	**75,027,878**
Changes in net assets			
Fair value of available-for-sale financial assets	6,035,739	-	6,035,739
Net income (expenses) recognised directly in capital and reserves	6,035,739	-	6,035,739
Surplus for the year	-	15,410,353	15,410,353
Total recognised income and expenses for the year	6,035,739	15,410,353	21,446,092
Total changes	6,035,739	15,410,353	21,446,092
Balance at 31 March 2008	**20,667,136**	**75,806,834**	**96,473,970**
Company			
Balance at 01 April 2006	**5,405,427**	**47,899,677**	**53,305,104**
Changes in capital and reserves			
Fair value of available-for-sale financial assets	9,225,970	-	9,225,970
Net income (expenses) recognised directly in capital and reserves	9,225,970	-	9,225,970
Surplus for the year	-	10,449,330	10,449,330
Total recognised income and expenses for the year	9,225,970	10,449,330	19,675,300
Total changes	9,225,970	10,449,330	19,675,300
Balance at 01 April 2007	**14,631,397**	**58,349,007**	**72,980,404**
Changes in capital and reserves			
Fair value of available-for-sale financial assets	6,035,739	-	6,035,739
Net income (expenses) recognised directly in capital and reserves	6,035,739	-	6,035,739
Surplus for the year	-	15,045,741	15,045,741
Total recognised income and expenses for the year	6,035,739	15,045,741	21,081,480
Total changes	6,035,739	15,045,741	21,081,480
Balance at 31 March 2008	**20,667,136**	**73,394,748**	**94,061,884**

Cash Flow Statement

Water Research Commission Consolidated
Annual Financial Statements for the year ended 31 March 2008

Figures in Rand		Group		Company	
	NOTE(S)	2008	2007	2008	2007
Cash flows from operating activities					
Cash receipts from customers		145,199,170	105,186,064	144,470,993	104,870,901
Cash paid to suppliers and employees		(110,022,156)	(103,722,393)	(110,568,371)	(104,642,996)
Cash generated from operations	21	35,177,014	1,463,671	33,902,622	227,905
Interest income		8,846,334	6,650,232	9,743,369	7,513,090
Finance costs		(1,880,810)	(1,130,806)	(1,880,810)	(1,130,806)
Net cash from operating activities		**42,142,538**	**6,983,097**	**41,765,181**	**6,610,189**
Cash flows from investing activities					
Purchase of property, plant and equipment	2	(159,514)	(207,191)	(159,514)	(207,191)
Sale of property, plant and equipment	2	-	45,866	-	45,866
Purchase of other intangible assets	3	(269,484)	(197,353)	(269,484)	(197,353)
Loans to group companies repaid		-	-	120,496	155,961
Sale of financial assets		285,788	236,645	285,788	236,645
Net cash from investing activities		**(143,210)**	**(122,033)**	**(22,714)**	**33,928**
Cash flows from financing activities					
Finance lease payments		(659,470)	(810,344)	(659,470)	(810,344)
Total cash movement for the year		**41,339,858**	**6,050,720**	**41,082,997**	**5,833,773**
Cash at the beginning of the year		47,195,759	41,145,039	46,460,060	40,626,287
Total cash at end of the year	**10**	**88,535,617**	**47,195,759**	**87,543,057**	**46,460,060**

Accounting Policies

Water Research Commission Consolidated
Annual Financial Statements for the year ended 31 March 2008

1. BASIS OF PREPARATION

The financial statements have been prepared in accordance with the South African Statements of Generally Accepted Accounting Practices (GAAP) including any interpretations of such Statements issued by the Accounting Practices Board, with the effective Standards of Generally Recognised Accounting Practices (GRAP) issued by the Accounting Standards Board replacing the equivalent GAAP Statement as follows:

Standard of GRAP	Replaced Statement of GAAP
GRAP 1:Presentation of financial statements	AC101: Presentation of financial statements
GRAP 2:Cash flow statements	AC103: Accounting policies, changes in accounting estimates and errors
GRAP 3:Accounting policies, changes in accounting estimates and errors	AC118: Cash flow statements

Currently the recognition and measurement principles in the above GRAP and GAAP Statements do not differ or result in material differences in items presented and disclosed in the financial statements. The implementation of GRAP 1, 2 & 3 has resulted in the following changes in the presentation of the financial statements:

a.Terminology differences:

Standard of GRAP	Replaced Statement of GAAP
Statement of financial performance	Income statement
Statement of financial position	Balance sheet
Statement of changes in net assets	Statement of changes in equity
Net assets	Equity
Surplus/deficit	Profit/loss
Accumulated surplus/deficit	Retained earnings
Contributions from owners	Share capital
Distributions to owners	Dividends

b. The cash flow statement can only be prepared in accordance with the direct method.

c. Specific information has been presented separately on the statement of financial position such as:
   i. Receivables from non-exchange transactions, including taxes and transfers;
   ii. Taxes and transfers payable;
   iii. Trade and other payables from non-exchange transactions;

d. Amount and nature of any restrictions on cash balances is required.

Paragraph 11 - 15 of GRAP 1 has not been implemented due to the fact that the local and international budget reporting standard is not effective for this financial year. Although the inclusion of budget information would enhance the usefulness of the financial statements, non-disclosure will not affect the objective of the financial statements.

The annual financial statements have been prepared on the historical cost basis, and incorporate the principal accounting policies set out below. These accounting policies are consistent with the previous period.

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:

Available-for-sale financial assets

The group 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 group 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

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.

Provisions

Provisions were raised and management determined an estimate based on the information available. Additional disclosure of these estimates of provisions are included in note 12 - Provisions.

Property, plant and equipment

Property, plant and equipment are stated at cost less accumulated depreciation and impairment losses. Estimates are used in the determination of the useful lives, residual values and the expected pattern of consumption of the future economic benefits embodied in the assets.

1.2 Property, plant and equipment

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.

The initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located is also included in the cost of property, plant and equipment.

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

Item	Average useful life in years
Furniture and fixtures	36
Office equipment	34
IT equipment	14
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.

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-end.

Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item shall be depreciated separately.

The depreciation charge for each period is recognised in surplus or deficit unless it is included in the carrying amount of another asset.
The gain or loss arising from the derecognition of an item of property, plant and equipment are included in surplus or deficit when the item is derecognised. The gain or loss arising from the derecognition of an item of property, plant and equipment is determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item.

1.3 Intangible assets

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.

Intangible assets are initially recognised at cost.

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.

No value is attributed to internally developed patents. Costs incurred on patents, whether purchased or created by the entity, are charged to the statement of financial performance during the period in which they are incurred.

Depreciation of developed computer software commences when the software is ready for intended use.

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

In the entity's separate annual financial statements, investments in subsidiary 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

The entity classifies financial instruments, or their component parts, on initial recognition as a financial asset, a financial liability or an equity 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.

Loans to (from) group company

These include loans to holding companies, fellow subsidiaries, subsidiaries, joint ventures and associates 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.

Loans to (from) group company are classified as loans and receivables.

Trade and other receivables

Trade receivables are measured at initial recognition at fair value, and are subsequently measured at amortised cost using the effective interest rate method. 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.

Trade and other receivables are classified as loans and receivables.

Trade and other payables

Trade payables are initially measured at fair value, and are subsequently measured at amortised cost, using the effective interest rate method.

Cash and cash equivalents

Cash and cash equivalents comprise cash on hand and demand deposits, and other short-term highly liquid investments that are readily convertible to a known amount of cash and are subject to an insignificant risk of changes in value. These are initially and subsequently recorded at fair value.

Cash includes cash on hand, deposits held on call with Corporation for Public Deposits and bank balances.

Available for sale financial assets

These financial assets are non-derivatives that are either designated in this category based on the purpose for which it were required or not classified elsewhere.

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.

The entity assesses at each reporting date whether there is objective evidence that a financial asset or a group of financial assets is impaired. In the case of equity securities classified as available for sale, a significant or prolonged decline in the fair value of the security below its cost is considered as an indicator that the securities are impaired. If any such evidence exists for available-for-sale financial assets, the cumulative loss – measured as the difference between the acquisition cost and the current fair value, less any impairment loss on that financial asset previously recognised in surplus or loss - is removed from net assets and recognised in the statement of financial performance. Impairment losses recognised in the statement of financial performance on equity instruments are not reversed through the statement of financial performance.

Impairment losses recognised in surplus or deficit for equity investments classified as available-for-sale are not subsequently reversed through surplus or deficit. Impairment losses recognised in surplus or deficit for debt instruments classified as available-for-sale are subsequently reversed if an increase in the fair value of the instrument can be objectively related to an event occurring after the recognition of the impairment loss.

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

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 interest rate implicit in the lease.

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 on the remaining balance of the liability.

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. This liability is not discounted.
Any contingent rents are expensed in the period they are incurred.

1.7 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 amount of the asset.

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 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.
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

Defined contribution plans

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

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 entity 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.

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 are subsequently 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.

1.10 Revenue

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.

The Department of Water Affairs and Forestry, Rand Water and Umgeni Water Boards collect levy income. The rate of the levy is approved by the Minister of Water Affairs and Forestry on an annual basis. Revenue recognition of levy income represents amounts received and receivable from the Department of Water Affairs and Forestry, Rand Water and Umgeni Water Boards. Provision is made for estimated uncollectable levies by way of an impairment charge. Levy income not yet received is accrued for based on information supplied by the relevant Water Boards.

1.11 Leverage income

The WRC 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.

1.12 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.

1.13 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.

1.14 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. Payments made by the Water Research Commission on research projects are expensed as and when research services have been delivered as specified in the research contracts.

1.15 Standards not yet effective

As explained in note 1 of the Accounting Policies, the basis of accounting is South African Statements of Generally Accepted Accounting Practice (GAAP) with the effective standards of Generally Recognised Accounting Practices (GRAP) issued by the Accounting Standards Board replacing the equivalent GAAP Statement. The following GAAP Statements, with their estimated effect on the financial statements, have been issued but are not yet effective as at 31 March 2008:

Amendment to

IFRS 2(AC 139) IFRS 2 - Share-based Payment: Vesting Conditions and Cancellations
IASB Issue date: January 2008
APB Issue date: February 2008

Effective date: 1 January 2009
This standard is expected to be implemented by the entity in the next 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: January 2008
APB Issue date: February 2008
Effective date: 1 July 2009
This standard is expected to be implemented by the entity in the next 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 8(AC 145) Operating Segments
IASB Issue date: November 2006
APB Issue date: February 2007
Effective date: 1 January 2009
This standard is expected to be implemented by the entity in the next 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 1(AC 101) Presentation of Financial Statements
IASB Issued date: September 2007
APB Issue date: February 2008
Effective date: 1 January 2009
This standard is expected to be implemented by the entity in the next 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.

IAS 23(AC 114) Borrowing Costs
IASB Issue date: March 2007
APB Issue date: August 2007
Effective date: 1 January 2009
This standard is expected to be implemented by the entity in the next 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 27(AC 132)* Consolidated and Separate Financial Statements
IASB Issue date: January 2008
APB Issue date: February 2008
Effective date: 1 July 2009
This standard is expected to be implemented by the entity in the next 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.

Amendments to
IAS 32(AC 125)
IAS 1(AC 101) Financial Instruments: Presentation and Presentation of Financial Statements: Puttable Financial Instruments and Obligations Arising on Liquidation
IASB Issue date: February 2008
Not yet approved by APB
Effective date: 1 January 2009
This standard is expected to be implemented by the entity in the next 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 12(AC 445) Service Concession Arrangements
IFRIC Issue date: November 2006
APB Issue date: February 2007
Effective date: 1 January 2008
This standard is expected to be implemented by the entity in the next 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
IFRIC Issue date: June 2007
APB Issue date: August 2007
Effective date: 1 July 2008
This standard is expected to be implemented by the entity in the next 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
IFRIC Issue date: July 2007
APB Issue date: August 2007
Effective date: 1 January 2008
This standard is expected to be implemented by the entity in the next 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.

*These revisions have made consequential amendments to IAS 28(AC 110) – Investments in Associates and IAS 31(AC 119) – Interests in Joint Ventures.

In addition to the above, the following GRAP standards have been approved but are not yet effective:

GRAP 4 – The Effects of changes in Foreign Exchange Rates
GRAP 5 – Borrowing Costs
GRAP 6 – Consolidated and Separate Financial Statements
GRAP 7 – Investments in Associate
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 the reporting date
GRAP 16 – Investment Property
GRAP 17 – Property Plant and Equipment
GRAP 18 – Segment Reporting
GRAP 19 – Provisions, Contingent Liabilities and Contingent Assets
GRAP 23 – Revenue from Non-exchange Transactions (Taxes and Transfers) GRAP 24 – Presentation of Budget Information in Financial Statements
GRAP 100 – Non-current Assets held for Sale and Discontinued Operations GRAP 101 – Agriculture
GRAP 102 – Intangible Assets

The effective dates of the above standards are not yet known. The effect of adopting these GRAP Standards when they become effective is not expected to have a significant impact on the financial statements as the principles are similar to those already applied under the equivalent Statements of SA GAAP.

Notes to the Annual Financial Statements

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2. PROPERTY, PLANT AND EQUIPMENT

Group	2008			2007		
	Cost/ Valuation	Accumulated depreciation	Carrying value	Cost/ Valuation	Accumulated depreciation	Carrying value
Buildings	8,691,522	-	8,691,522	8,691,522	-	8,691,522
Furniture and fixtures	1,350,222	(247,748)	1,102,474	1,323,649	(621,255)	702,394
Motor vehicles	68,975	(43,614)	25,361	68,975	(40,890)	28,085
Office equipment	766,927	(125,771)	641,156	757,590	(463,469)	294,121
IT equipment	1,851,455	(1,123,092)	728,363	2,310,731	(1,270,587)	1,040,144
Total	**12,729,101**	**(1,540,225)**	**11,188,876**	**13,152,467**	**(2,396,201)**	**10,756,266**

Company	2008			2007		
	Cost/ Valuation	Accumulated depreciation	Carrying value	Cost/ Valuation	Accumulated depreciation	Carrying value
Furniture and fixtures	1,350,222	(247,748)	1,102,474	1,323,649	(621,255)	702,394
Motor vehicles	68,975	(43,614)	25,361	68,975	(40,890)	28,085
Office equipment	766,927	(125,771)	641,156	757,590	(463,469)	294,121
IT equipment	1,851,455	(1,123,092)	728,363	2,310,731	(1,270,587)	1,040,144
Total	**4,037,579**	**(1,540,225)**	**2,497,354**	**4,460,945**	**(2,396,201)**	**2,064,744**

Reconciliation of property, plant and equipment - Group - 2008

	Opening Balance	Additions	Depreciation	Total
Buildings	8,691,522	-	-	8,691,522
Furniture and fixtures	702,394	26,573	373,507	1,102,474
Motor vehicles	28,085	-	(2,724)	25,361
Office equipment	294,121	9,337	337,698	641,156
IT equipment	1,040,144	123,604	(435,385)	728,363
	10,756,266	**159,514**	**273,096**	**11,188,876**

Reconciliation of property, plant and equipment - Group - 2007

	Opening Balance	Additions	Disposals	Depreciation	Total
Buildings	8,691,522	-	-	-	8,691,522
Furniture and fixtures	752,825	63,927	(865)	(113,493)	702,394
Motor vehicles	30,531	-	-	(2,446)	28,085
Office equipment	389,816	17,050	-	(112,745)	294,121
IT equipment	1,679,585	126,214	(32,877)	(732,778)	1,040,144
	11,544,279	**207,191**	**(33,742)**	**(961,462)**	**10,756,266**

Figures in Rand

Reconciliation of property, plant and equipment - Company - 2008

	Opening Balance	Additions	Depreciation	Total
Furniture and fixtures	702,394	26,573	373,507	1,102,474
Motor vehicles	28,085	-	(2,724)	25,361
Office equipment	294,121	9,337	337,698	641,156
IT equipment	1,040,144	123,604	(435,385)	728,363
	2,064,744	**159,514**	**273,096**	**2,497,354**

Reconciliation of property, plant and equipment - Company - 2007

	Opening Balance	Additions	Disposals	Depreciation	Total
Furniture and fixtures	752,825	63,927	(865)	(113,493)	702,394
Motor vehicles	30,531	-	-	(2,446)	28,085
Office equipment	389,816	17,050	-	(112,745)	294,121
IT equipment	1,679,585	126,214	(32,877)	(732,778)	1,040,144
	2,852,757	**207,191**	**(33,742)**	**(961,462)**	**2,064,744**

Revaluations

The property has been valued at R26,8m by Reinertsen International Valuation Services, as an independent valuer, on 9 April 2008.

Other information

Fair value of property, plant and equipment carried at cost	26,800,000	15,000,000	-	-

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**	**-**	**-**

A register containing the information required by paragraph 22(3) of Schedule 4 of the Companies Act is available for inspection at the registered office of the entity.

The carrying amount of IT equipment includes an amount of R464,109 (2007: R1,927,178) in respect of assets held under finance leases by the Water Research Commission.

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3. INTANGIBLE ASSETS

Group	2008			2007		
	Cost/ Valuation	Accumulated amortisation	Carrying value	Cost / Valuation	Accumulated amortisation	Carrying value
Computer software	1,358,287	-	1,358,287	1,088,803	-	1,088,803

Company	2008			2007		
	Cost/ Valuation	Accumulated amortisation	Carrying value	Cost / Valuation	Accumulated amortisation	Carrying value
Computer software	1,358,287	-	1,358,287	1,088,803	-	1,088,803

Reconciliation of intangible assets - Group - 2008

	Opening Balance	Additions	Total
Computer software	1,088,803	269,484	1,358,287

Reconciliation of intangible assets - Group - 2007

	Opening Balance	Additions	Total
Computer software	891,450	197,353	1,088,803

Reconciliation of intangible assets - Company - 2008

	Opening Balance	Additions	Total
Computer software	1,088,803	269,484	1,358,287

Reconciliation of intangible assets - Company - 2007

	Opening Balance	Additions	Total
Computer software	891,450	197,353	1,088,803

4. INVESTMENTS IN SUBSIDIARY

Name of company	Held by	% holding 2008	% holding 2007	Carrying amount 2008	Carrying amount 2007
Erf 706 Rietfontein (Proprietary) Limited	Water Research Commission	100.00 %	100.00 %	755,939	755,939

Figures in Rand	Group		Company	
	2008	2007	2008	2007
5. LOANS TO GROUP COMPANY				
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.	-	-	7,900,577	8,096,663
Erf 706 Rietfontein (Proprietary) Limited The unsecured loan bears interest at prime plus 2% with no fixed terms of repayment.	-	-	2,484,251	2,408,661
Subtotal	-	-	10,384,828	10,505,324
Impairment of loans to subsidiaries	-	-	(4,148,221)	(4,148,221)
	-	-	**6,236,607**	**6,357,103**
6. OTHER FINANCIAL ASSETS				
Available for sale				
Old Mutual	42,602,243	36,957,945	42,602,243	36,957,945
Momentum Wealth	4,982,184	4,876,531	4,982,184	4,876,531
	47,584,427	**41,834,476**	**47,584,427**	**41,834,476**

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	47,584,427	41,834,476	47,584,427	41,834,476

Fair values are determined annually at reporting date.

The entity has not reclassified any financial assets from cost or amortised cost to fair value, or from fair value to cost or amortised cost during the current or prior year.

There were no gains or losses realised on the disposal of held to maturity financial assets in 2008 and 2007, 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 entity does not hold any collateral as security.

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7. FINANCIAL ASSETS BY CATEGORY

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

Group - 2008

	Loans and receivables	Fair value through profit or loss - held for trading	Fair value through profit or loss - designated	Available for sale	Total
Other financial assets	-	-	-	47,584,427	47,584,427
Trade and other receivables	16,270,146	-	-	-	16,270,146
Cash and cash equivalents	-	88,535,614	-	-	88,535,614
	16,270,146	**88,535,614**	**-**	**47,584,427**	**152,390,187**

Group - 2007

	Loans and receivables	Fair value through profit or loss - held for trading	Fair value through profit or loss - designated	Available for sale	Total
Other financial assets	-	-	-	41,834,476	41,834,476
Trade and other receivables	29,760,570	-	-	-	29,760,570
Cash and cash equivalents	-	47,195,759	-	-	47,195,759
	29,760,570	**47,195,759**	**-**	**41,834,476**	**118,790,805**

Company - 2008

	Loans and receivables	Fair value through profit or loss - held for trading	Fair value through profit or loss - designated	Available for sale	Total
Loans to group companies	6,236,607	-	-	-	6,236,607
Other financial assets	-	-	-	47,584,427	47,584,427
Trade and other receivables	16,492,797	-	-	-	16,492,797
Cash and cash equivalents	-	87,543,054	-	-	87,543,054
	22,729,404	**87,543,054**	**-**	**47,584,427**	**157,856,885**

Company - 2007

	Loans and receivables	Fair value through profit or loss - held for trading	Fair value through profit or loss - designated	Available for sale	Total
Loans to group companies	6,357,103	-	-	-	6,357,103
Other financial assets	-	-	-	41,834,476	41,834,476
Trade and other receivables	29,971,270	-	-	-	29,971,270
Cash and cash equivalents	-	46,460,060	-	-	46,460,060
	36,328,373	**46,460,060**	**-**	**41,834,476**	**124,622,909**

Figures in Rand	Group		Company	
	2008	2007	2008	2007

8. RETIREMENT BENEFITS

Defined contribution plan - pension and provident schemes

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 1.7).

The assets of these funds are held in administered 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 2008. 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 both active and retired employees. All eligible employees are members of the defined benefit 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 2008. 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).

Carrying value

Present value of the defined contribution/benefit obligation-partially or wholly funded	(30,277,011)	(27,608,407)	(30,277,011)	(27,608,407)
Fair value of plan assets	6,024,000	6,070,000	6,024,000	6,070,000
	(24,253,011)	**(21,538,407)**	**(24,253,011)**	**(21,538,407)**

Movements for the year - pension fund

Opening balance	511,000	435,000	511,000	435,000
Net expense recognised in the statement of financial performance	35,000	76,000	35,000	76,000
	546,000	**511,000**	**546,000**	**511,000**

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

Interest cost	332,000	322,000	332,000	322,000
Actuarial (gains) losses	45,000	82,000	45,000	82,000
Expected return on plan assets	(342,000)	(328,000)	(342,000)	(328,000)
	35,000	**76,000**	**35,000**	**76,000**

Figures in Rand	Group		Company	
	2008	2007	2008	2007

8. Retirement benefits continued

Key assumptions used - pension fund

Assumptions used on last valuation on 31 March 2008.

Discount rates used	9.30%	7.70%	9.30%	7.70%
Expected rate of return on assets	10.80%	9.00%	10.80%	9.00%
General inflation rate	6.80%	5.00%	6.80%	5.00%
Expected increase in salaries	7.80%	6.00%	7.80%	6.00%
Movements for the year - provident fund				
Opening balance	264,000	221,000	264,000	221,000
Net expense recognised in the statement of financial performance	44,000	43,000	44,000	43,000
	308,000	**264,000**	**308,000**	**264,000**

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

Interest cost	166,000	160,000	166,000	160,000
Actuarial (gains) losses	48,000	45,000	48,000	45,000
Expected return on plan assets	(170,000)	(162,000)	(170,000)	(162,000)
	44,000	**43,000**	**44,000**	**43,000**

Key assumptions used - provident fund

Assumptions used on last valuation on 31 March 2008.

Discount rates used	9.30%	7.70%	9.30%	7.70%
Expected rate of return on assets	10.80%	9.00%	10.80%	9.00%
General inflation rate	6.80%	5.00%	6.80%	5.00%
Expected increase in salaries	7.80%	6.00%	7.80%	6.00%
Movements for the year - medical aid fund				
Opening balance	20,763,407	19,565,904	20,763,407	19,565,904
Benefits paid	(782,051)	(810,194)	(782,051)	(810,194)
Net expense recognised in the statement of financial performance	3,417,655	2,007,697	3,417,655	2,007,697
	23,399,011	**20,763,407**	**23,399,011**	**20,763,407**

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

Current service cost	710,169	652,657	710,169	652,657
Interest cost	1,685,066	1,467,444	1,685,066	1,467,444
Actuarial (gains) losses	1,022,420	(112,404)	1,022,420	(112,404)
	3,417,655	**2,007,697**	**3,417,655**	**2,007,697**

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Figures in Rand	Group		Company	
	2008	2007	2008	2007
Key assumptions used - medical aid fund				
Assumptions used on last valuation on 31 March 2007				
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%	8.00%	9.00%	8.00%
Medical aid inflation rate	8.00%	7.00%	8.00%	7.00%

9.TRADE AND OTHER RECEIVABLES

Water research levies	10,629,922	29,009,492	10,871,004	29,249,763
VAT	8,678	11,309	-	-
Computer loans	4,842	14,652	4,842	14,652
Other receivables	5,626,704	725,117	5,616,950	706,855
	16,270,146	**29,760,570**	**16,492,796**	**29,971,270**

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

Trade and other receivables impaired

As of 31 March 2008, trade and other receivables of R - (2007: R 334,846) were impaired and provided for. The amount of the provision was R (18,659,257) as of 31 March 2008 (2007: R 18,659,257).

Reconciliation of provision for impairment of trade and other receivables

Opening balance	18,659,257	18,324,411	18,659,257	18,324,411
Provision for impairment	-	334,846	-	334,846
	18,659,257	**18,659,257**	**18,659,257**	**18,659,257**

The creation and release of provision for impaired receivables have been included in operating expenses in the statement of financial performance (note 16). 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 entity does not hold any collateral as security.

10. CASH AND CASH EQUIVALENTS

Cash and cash equivalents consist of:				
Cash on hand	1,029	571	1,029	571
Bank balances	51,959,798	42,961,863	50,967,238	42,226,164
Short-term deposits	36,574,787	4,233,325	36,574,787	4,233,325
	88,535,614	**47,195,759**	**87,543,054**	**46,460,060**

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

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Annual Financial Statements for the year ended 31 March 2008

Figures in Rand	Group		Company	
	2008	2007	2008	2007
11. FINANCE LEASE OBLIGATION				
Minimum lease payments due				
- within one year	475,526	731,211	475,526	731,211
- in second to fifth year inclusive	171,916	554,756	171,916	554,756
	647,442	1,285,967	647,442	1,285,967
less: future finance charges	(82,463)	(195,365)	(82,463)	(195,365)
Present value of minimum lease payments	**564,979**	**1,090,602**	**564,979**	**1,090,602**
Present value of minimum lease payments due				
- within one year	348,089	601,295	348,089	601,295
- in second to fifth year inclusive	216,890	489,307	216,890	489,307
	564,979	**1,090,602**	**564,979**	**1,090,602**
Non-current liabilities	216,890	489,308	216,890	489,308
Current liabilities	348,089	601,294	348,089	601,294
	564,979	**1,090,602**	**564,979**	**1,090,602**

It is entity policy to lease certain equipment under finance leases.

The average lease term was 3 years and the average effective borrowing rate was 14% (2007: 15%).

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

12. PROVISIONS

Reconciliation of provisions - Group - 2008	Opening Balance	Additions	Total
Provision for leave	2,093,685	149,836	2,243,521

Reconciliation of provisions - Group - 2007	Opening Balance	Utilised during the year	Total
Provision for leave	2,236,004	(142,319)	2,093,685

Reconciliation of provisions - Company - 2008	Opening Balance	Additions	Total
Provision for leave	2,093,685	149,836	2,243,521

Reconciliation of provisions - Company - 2007	Opening Balance	Utilised during the year	Total
Provision for leave	2,236,004	(142,319)	2,093,685

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

Figures in Rand	Group		Company	
	2008	2007	2008	2007

13. TRADE AND OTHER PAYABLES

Trade payables	41,401,869	23,625,022	41,345,069	23,569,017
Amounts due to Research Contractors	-	7,246,319	-	7,246,319
Outstanding cheques	-	13,961	-	13,961
	41,401,869	**30,885,302**	**41,345,069**	**30,829,297**

14. FINANCIAL LIABILITIES BY CATEGORY

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

Group - 2008

	Financial liabilities at amortised cost	Fair value through profit or loss - held for trading	Fair value through profit or loss - designated	Total
Trade and other payables	41,401,868	-	-	41,401,868

Group - 2007

	Financial liabilities at amortised cost	Fair value through profit or loss - held for trading	Fair value through profit or loss - designated	Total
Trade and other payables	30,885,304	-	-	30,885,304

Company - 2008

	Financial liabilities at amortised cost	Fair value through profit or loss - held for trading	Fair value through profit or loss - designated	Total
Trade and other payables	41,345,070	-	-	41,345,070

Company - 2007

	Financial liabilities at amortised cost	Fair value through profit or loss - held for trading	Fair value through profit or loss - designated	Total
Trade and other payables	30,829,299	-	-	30,829,299

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Figures in Rand	Group		Company	
	2008	2007	2008	2007
15. REVENUE				
Water research levies	118,952,659	108,536,525	118,415,732	108,019,916
Rental Income	277,233	212,206	-	-
Leverage income	13,357,107	12,433,868	13,345,911	12,433,278
	132,586,999	**121,182,599**	**131,761,643**	**120,453,194**
16. OPERATING SURPLUS				
Operating surplus for the year is stated after accounting for the following:				
Operating lease charges				
Premises				
• Contractual amounts	-	50,791	1,754,723	1,670,332
Equipment				
• Contractual amounts	133,591	99,614	133,591	99,614
	133,591	**150,405**	**1,888,314**	**1,769,946**
Profit on sale of property, plant and equipment	-	12,124	-	12,124
Depreciation on property, plant and equipment	(273,093)	961,463	(273,093)	961,463
Employee costs	24,303,247	21,436,485	24,303,337	21,422,287
Research and development	85,274,339	81,805,383	85,274,339	81,805,383
17. INVESTMENT REVENUE				
Interest revenue				
Listed financial assets - available for sale	347,164	947,443	347,164	947,443
Loan to subsidiary (financial asset - loan and receivable)	-	-	899,504	864,038
Bank (financial asset - held for trading)	4,470,279	1,501,745	4,467,810	1,500,565
Interest charged on trade and other receivables (financial asset - loan and receivable)	3,798,536	3,905,744	3,798,536	3,905,744
Other interest	229,440	293,898	229,440	293,898
Computer loans (financial asset - loan and receivable)	915	1,402	915	1,402
	8,846,334	**6,650,232**	**9,743,369**	**7,513,090**
18. FINANCE COSTS				
Trade and other payables (financial liability held at amortised cost) -	1,880,810	1,130,806	1,880,810	1,130,806
Finance leases	133,847	220,790	133,847	220,790
	2,014,657	**1,351,596**	**2,014,657**	**1,351,596**

Figures in Rand	Group		Company	
	2008	2007	2008	2007

19. TAXATION

No provision has been made for 2008 tax as the entity is exempted from income tax in terms of Section 10(1)(cA)(i) of the Income Tax Act.

20. AUDITORS' REMUNERATION

Fees	762,479	762,014	762,479	745,534

21. CASH GENERATED FROM OPERATIONS

Surplus before taxation	15,410,353	10,680,350	15,045,741	10,449,330
Adjustments for:				
Depreciation and amortisation	(273,093)	961,463	(273,093)	961,463
Profit on sale of assets	-	(12,124)	-	(12,124)
Interest received	(8,846,334)	(6,650,232)	(9,743,369)	(7,513,090)
Finance costs	2,014,657	1,351,596	2,014,657	1,351,596
Movements in retirement benefit assets and liabilities	2,714,604	1,316,502	2,714,604	1,316,502
Movements in provisions	149,836	(142,319)	149,836	(142,319)
Changes in working capital:				
Trade and other receivables	13,490,424	(17,049,545)	13,478,474	(17,339,022)
Trade and other payables	10,516,567	11,007,980	10,515,772	11,155,569
	35,177,014	**1,463,671**	**33,902,622**	**227,905**

22. RELATED PARTIES

Relationships				
Subsidiaries	Refer to note 4			
Related party balances				
Loan accounts - Owing by related parties				
Erf 706 Rietfontein (Proprietary) Limited			6,236,607	6,357,103
Related party transactions				
Interest received from related parties				
Erf 706 Rietfontein (Proprietary) Limited			(899,505)	(864,038)
Rent paid to related parties				
Erf 706 Rietfontein (Proprietary) Limited			1,754,732	1,619,541
Administration fees received from related parties				
Erf 706 Rietfontein (Proprietary) Limited			(223,258)	(210,220)
Municipal expenses paid to related parties				
Erf 706 Rietfontein (Proprietary) Limited			255,626	246,750

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Figures in Rand	Group		Company	
	2008	2007	2008	2007

23. DIRECTOR'S EMOLUMENTS

Total Directors Emoluments

Fees for services as directors	351,546	333,205	351,546	333,205
Basic salary	5,229,861	4,361,935	5,229,861	4,361,935
Bonuses and performance payments	304,761	345,945	304,761	345,945
Travel allowance	593,704	587,804	593,704	587,804
	6,479,872	**5,628,889**	**6,479,872**	**5,628,889**

Executive

2008	Salary	Bonus and performance payments	Travel allowances	Total
Dr R Kfir - Chief Executive Officer	924,084	94,618	80,004	1,098,706
Mr NB Patel - Chief Financial Officer	624,973	-	90,000	714,973
Dr GR Backeberg	569,332	42,399	64,800	676,531
Mr JN Bhagwan	680,845	42,399	90,000	813,244
Ms E Karar	685,607	40,547	83,000	809,154
Dr SA Mitchell	668,307	42,399	68,400	779,106
Ms R Frank	615,489	-	67,500	682,989
Dr H Snyman	112,041	-	8,000	120,041
Dr KA Eales	349,183	-	42,000	391,183
Dr KC Pietersen	-	42,399	-	42,399
	5,229,861	**304,761**	**593,704**	**6,128,326**

2007	Salary	Bonus and performance payments	Travel allowances	Total
Dr R Kfir - Chief Executive Officer	816,327	69,861	80,004	966,192
Mr NB Patel - Chief Financial Officer	231,886	-	36,000	267,886
Dr GR Backeberg	524,587	46,014	64,800	635,401
Mr JN Bhagwan	499,387	46,014	90,000	635,401
Ms E Karar	493,704	-	72,000	565,704
Dr SA Mitchell	520,987	46,014	68,400	635,401
Ms R Frank	267,775	-	15,000	282,775
Dr I Msibi	294,298	46,014	44,100	384,412
Mr A Rampershad	213,597	46,014	27,500	287,111
Dr KC Pietersen	499,387	46,014	90,000	635,401
	4,361,935	**345,945**	**587,804**	**5,295,684**

Figures in Rand	Group		Company	
	2008	2007	2008	2007

Non-executive

2008	Fees for services as directors	Total
Dr SJ Khoza - Chairperson	217,546	217,546
Prof F Otieno - Vice-chairperson	26,000	26,000
Mr D Naidoo	6,000	6,000
Ms MM Matsabu	28,000	28,000
Ms VGM Mkaza	18,000	18,000
Prof EM Stack	20,000	20,000
Mr M Sirenya	12,000	12,000
Mr JN Campbell	2,000	2,000
Prof JA Adams	14,000	14,000
Dr DJ Merrey	8,000	8,000
	351,546	**351,546**

2007	Fees for services as directors	Total
Dr SJ Khoza - Chairperson	194,205	194,205
Prof F Otieno - Vice-chairperson	24,000	24,000
Ms MM Matsabu	26,000	26,000
Ms VGM Mkaza	17,000	17,000
Prof EM Stack	20,000	20,000
Mr M Sirenya	26,000	26,000
Mr JN Campbell	6,000	6,000
Prof JA Adams	16,000	16,000
Dr DJ Merrey	4,000	4,000
	333,205	**333,205**

24. CHANGE IN ESTIMATE

Property, plant and equipment

The remaining useful life expectations of some asset items differed from previous estimates. This resulted in a revision of some of the previous estimates which was accounted for as a change in accounting estimate. The effect of this revision has decreased the depreciation charges for the current period by R 1,154,670.

25. RISK MANAGEMENT

The entity's activities expose it to a variety of financial risks: market risk (including interest rate risk and price risk), credit risk and liquidity risk. The risks that the entity is exposed to are minimal and management has sound controls in place to mitigate them.

Liquidity risk

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 reporting date to the 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.

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Figures in Rand	Group		Company	
	2008	2007	2008	2007

25. Risk management continued

Group

At 31 March 2008	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Trade and other payables	**41,430,021**	-	-	-

At 31 March 2007	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Trade and other payables	**30,732,877**	-	-	-

Company

At 31 March 2008	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Trade and other payables	**41,373,221**	-	-	-

At 31 March 2007	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Trade and other payables	**30,676,872**	-	-	-

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. 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 - 2008	Group - 2007	Company - 2008	Company - 2007
Deposits with banks	1,800	1,800	1,800	1,800
Corporation for Public Deposits	36,572,987	4,231,524	36,572,987	4,231,524
Computer loans	4,842	14,651	4,842	14,651

Foreign exchange risk

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

Figures in Rand		Group		Company	
	NOTE(S)	2008	2007	2008	2007

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.

Revenue					
Water research levies		118,952,659	108,536,525	118,415,732	108,019,916
Rental Income		277,233	212,206	-	-
Leverage income		13,357,107	12,433,868	13,345,911	12,433,278
	15	**132,586,999**	**121,182,599**	**131,761,643**	**120,453,194**
Other income					
Administration and management fees received		-	76,448	223,259	286,668
Discount received		137,321	102,544	137,321	102,544
Provision for project creditors		(1,872,266)	1,129,863	(1,872,266)	1,129,863
Other income		742,563	237,655	742,563	237,655
Interest received	17	8,846,334	6,650,232	9,743,369	7,513,090
Gains on disposal of assets		-	12,124	-	12,124
Profit on exchange differences		114,138	-	114,138	-
		7,968,090	**8,208,866**	**9,088,384**	**9,281,944**
Expenses (Refer to page 78)		**(123,130,079)**	**(117,359,519)**	**(123,789,629)**	**(117,934,212)**
Operating surplus	16	**17,425,010**	**12,031,946**	**17,060,398**	**11,800,926**
Finance costs	18	(2,014,657)	(1,351,596)	(2,014,657)	(1,351,596)
Surplus for the year		**15,410,353**	**10,680,350**	**15,045,741**	**10,449,330**

Detailed Statement of Financial Performance

Water Research Commission Consolidated
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Figures in Rand		Group		Company	
	NOTE(S)	2008	2007	2008	2007

The supplementary information presented does not form part of the annual financial statements and is unaudited.

Operating expenses

Administration and management fees		311,913	248,547	310,483	241,052
Auditors remuneration	20	762,479	762,014	762,479	745,534
Bad debts		-	334,845	-	334,845
Bank charges		67,266	70,924	63,304	65,787
Consumables		43,985	48,642	43,985	48,642
Debt collection		-	342,803	-	342,803
Depreciation, amortisation and impairments		(273,093)	961,463	(273,093)	961,463
Discretionary fund		32,143	45,035	32,143	45,035
Employee costs		24,303,247	21,436,485	24,303,337	21,422,287
Entertainment		146,624	154,764	146,624	154,764
IT expenses		667,764	489,415	667,764	489,415
Insurance		121,461	115,729	97,941	85,677
Lease rentals on operating lease		133,591	150,405	1,888,314	1,769,946
Legal expenses		-	1,800	-	-
Levies		-	565	-	-
Motor vehicle expenses		10,661	4,560	10,661	4,560
Patent registrations		1,048,086	877,515	473,498	247,156
Postage		223,132	208,209	223,132	208,209
Printing and stationery		4,682,321	4,144,072	4,672,601	4,141,908
Promotions		327,314	323,622	324,592	321,484
Recruitment costs		120,736	103,597	120,736	103,597
Repairs and maintenance		399,399	294,588	168,637	136,214
Research and development costs		85,274,339	81,805,383	85,274,339	81,805,383
Security		244,203	172,171	-	-
Staff welfare		14,232	14,680	14,232	14,680
Subscriptions		354,082	368,006	354,082	368,006
Telephone and fax		717,703	766,302	713,347	762,387
Training		224,410	158,955	224,410	158,955
Travel - local		2,369,167	2,133,354	2,369,167	2,133,354
Travel - overseas		547,288	574,319	547,288	574,319
Utilities		255,626	246,750	255,626	246,750
		123,130,079	**117,359,519**	**123,789,629**	**117,934,212**

Erf Sewe-Nul-Ses Rietfontein (Pty) Ltd
Annual Financial Statements
for the year ended 31 March 2008

Contents

Report of the Auditor-General

Report of the Auditor-General to Parliament on the Group Financial Statements and performance information of ERF 706 Rietfontein (PTY) LTD for the year ended 31 March 2008.

REPORT ON THE FINANCIAL STATEMENTS

Introduction

1. I have audited the accompanying financial statements of Erf 706 Rietfontein (Pty) Ltd which comprise the statement of financial position as at 31 March 2008, 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 84 to 93.

Responsibility of the accounting officer for the financial statements

2. As required by section 188 of the Constitution of the Republic of South Africa, 1996 read with section 4 of the Public Audit Act, 2004 (Act No. 25 of 2004) (PAA), my responsibility is to express an opinion on these financial statements based on my audit and the Companies Act, 1973 (Act No. 61 of 1973). 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
   - making accounting estimates that are reasonable in the circumstances.

Responsibility of the Auditor-General

3. As required by section 188 of the Constitution of the Republic of South Africa, 1996 read with section 4 of the Public Audit Act, 2004 (Act No. 25 of 2004) (PAA), my responsibility is to express an opinion on these financial statements based on my audit.

4. I conducted my audit in accordance with the International Standards on Auditing and General Notice 616 of 2008, issued in Government Gazette No. 31057 of 15 May 2008. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance on whether the financial statements are free from material misstatement.

5. 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.

6. An audit also includes evaluating the:
   - appropriateness of accounting policies used
   - reasonableness of accounting estimates made by management
   - overall presentation of the financial statements.

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

Basis of accounting

8. The entity's policy is to prepare financial statements on the basis of accounting as determined by National Treasury, as set out in accounting policy note 1 to the financial statements.

Opinion

9. In my opinion the financial statements present fairly, in all material respects, the consolidated and separate financial position of the Erf 706 Rietfontein (Pty) Ltd as at 31 March 2008 and its consolidated and separate financial performance and consolidated and separate cash flows for the year then ended, in all material respects, in accordance with the basis of accounting as described in note 1 and in the manner required by the PFMA and Companies Act.

OTHER MATTERS

Without qualifying my audit opinion, I draw attention to the following matter(s) that relate to my responsibilities in the audit of the financial statements:

Matters of governance

10. The PFMA tasks the accounting officer with a number of responsibilities concerning financial and risk management and internal control. Fundamental to achieving this is the implementation of certain key governance responsibilities, which I have assessed as follows:

MATTER OF GOVERNANCE	YES	NO
AUDIT COMMITTEE		
• The entity had an audit committee in operation throughout the financial year.	✓	
• The audit committee operates in accordance with approved, written terms of reference.	✓	
• The audit committee substantially fulfilled its responsibilities for the year, as set out in section 77 of the PFMA and Treasury Regulation 27.1.8.	✓	
INTERNAL AUDIT		
• The entity had an internal audit function in operation throughout the financial year.	✓	
• The internal audit function operates in terms of an approved internal audit plan.	✓	
• The internal audit function substantially fulfilled its responsibilities for the year, as set out in Treasury Regulation 27.2.	✓	
OTHER MATTERS OF GOVERNANCE		
• The annual financial statements were submitted for audit as per the legislated deadlines, section 55 of the PFMA for public entities.	✓	
• The financial statements submitted for audit were not subject to any material amendments resulting from the audit.	✓	
• No significant difficulties were experienced during the audit concerning delays or the unavailability of expected information and/or the unavailability of senior management.	✓	
• The prior year's external audit recommendations have been substantially implemented.	✓	

OTHER REPORTING RESPONSIBILITIES

REPORT ON PERFORMANCE INFORMATION

11. I have reviewed the performance information as set out on pages 39 to 42.

Responsibilities of the accounting officer for the performance information

12. The accounting authority has additional responsibilities as required by section 55(2)(a) of the PFMA to ensure that the annual report and audited financial statements fairly present the performance against predetermined objectives of the public entity.

Responsibility of the Auditor-General

13. I conducted my engagement in accordance with section 13 of the PAA read with General Notice 616 of 2008, issued in *Government Gazette* No. 31057 of 15 May 2008.

14. In terms of the foregoing my engagement included performing procedures of an audit nature to obtain sufficient appropriate evidence about the performance information and related systems, processes and procedures. The procedures selected depend on the auditor's judgement.

15. I believe that the evidence I have obtained is sufficient and appropriate to provide a basis for the audit findings reported below.

Audit findings (performance information)

16. Separate performance information for Erf 706 Rietfontein (Pty) Ltd is not presented, as it is a wholly owned subsidiary of the Water Research Commission.

APPRECIATION

17. The assistance rendered by the staff of the Water Research Commission during the audit is sincerely appreciated.

Auditor - General

Pretoria
31 July 2008

AUDITOR-GENERAL

Financial Statements

Erf Sewe-Nul-Ses Rietfontein (Pty) Ltd

Approval of Financial Statements

The Directors' Report and Financial Statements set out on pages 83 to 93 were approved by the Board of Directors and were signed on its behalf by:

Dr R Kfir
WRC Chief executive

GENERAL INFORMATION

Directors:
Dr R Kfir
Dr SJ Khoza

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 706 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

General review

(a) To review the business and operations of the company for the above accounting period in general, the directors draw attention to the balance sheet, income statement, equity and cash flow statement 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 facts or circumstances occurred.

Specific matters

(a) The main aim of the company is that of owning the immovable property known as Erf 706 Rietfontein, including all permanent improvements, and to use the property for the purpose of promoting the operations of the Water Research Commission.

(b) No shares were allotted or issued by the company for the year ending 31 March 2008.

(c) No dividends were paid or declared during the accounting period and we have no recommendation to make in respect of dividends (2007 – RNil).

(d) The Directors and certain members of staff of the 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
Dr SJ Khoza

The company is wholly owned by the Water Research Commission.

Balance Sheet

Erf Sewe-Nul-Ses Rietfontein (Pty) Ltd
Annual Financial Statements for the year ended 31 March 2008

Figures in Rand

	NOTE(S)	2008	2007
ASSETS			
Non-Current Assets			
Investment property	2	8,691,522	8,691,522
Current Assets			
Trade and other receivables	4	24,129	29,571
Cash and cash equivalents	5	992,560	735,699
		1,016,689	**765,270**
Total Assets		**9,708,211**	**9,456,792**
Equity and Liabilities			
Equity			
Share capital	6	1	1
Accumulated loss		(4,490,352)	(3,747,087)
		(4,490,351)	**(3,747,086)**
Liabilities			
Non-Current Liabilities			
Other financial liabilities	7	13,894,982	12,907,602
Current Liabilities			
Trade and other payables	8	303,580	296,276
Total Liabilities		**14,198,562**	**13,203,878**
Total Equity and Liabilities		**9,708,211**	**9,456,792**

Income Statement

Figures in Rand

	NOTE(S)	2008	2007
Revenue	10	2,324,453	2,102,196
Operating expenses		(1,062,807)	(1,008,318)
Operating profit	11	**1,261,646**	**1,093,878**
Investment revenue	12	2,469	1,180
Finance costs	13	(2,007,380)	(1,811,602)
Loss for the year		**(743,265)**	**(716,544)**

Statement of Changes in Equity

Erf Sewe-Nul-Ses Rietfontein (Pty) Ltd
Annual Financial Statements for the year ended 31 March 2008

Figures in Rand

	Share capital	Accumulated loss	Total equity
Balance at 01 April 2006	1	**(3,030,543)**	**(3,030,542)**
Changes in equity			
Loss for the year	-	(716,544)	(716,544)
Total changes	-	(716,544)	(716,544)
Balance at 01 April 2007	1	**(3,747,087)**	**(3,747,086)**
Changes in equity			
Loss for the year	-	(743,265)	(743,265)
Total changes	-	(743,265)	(743,265)
Balance at 31 March 2008	1	**(4,490,352)**	**(4,490,351)**

Cash Flow Statement

Figures in Rand

	NOTE(S)	2008	2007
CASH FLOWS FROM OPERATING ACTIVITIES			
Cash receipts from customers		2,319,011	2,151,401
Cash paid to suppliers and employees		(1,044,619)	(915,638)
Cash generated from operations	16	1,274,392	1,235,763
Interest income		2,469	1,180
Finance costs		(2,007,380)	(1,811,602)
Net cash from operating activities		**(730,519)**	**(574,659)**
CASH FLOWS FROM FINANCING ACTIVITIES			
Proceeds from other financial liabilities		987,380	791,603
Net cash from financing activities		**987,380**	**791,603**
Total cash movement for the year		**256,861**	**216,944**
Cash at the beginning of the year		735,699	518,755
Total cash at end of the year	**5**	**992,560**	**735,699**

Accounting Policies

Erf Sewe-Nul-Ses Rietfontein (Pty) Ltd
Annual Financial Statements for the year ended 31 March 2008

1. PRESENTATION OF ANNUAL FINANCIAL STATEMENTS

The annual financial statements have been prepared in accordance with South African Statements of Generally Accepted Accounting Practice, and the Companies Act of South Africa, 1973. The annual financial statements have been prepared on the historical cost basis, and incorporate the principal accounting policies set out below.

These accounting policies are consistent with the previous period.

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 company 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 enterprise, 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

Trade and other receivables
Trade receivables are measured at initial recognition at fair value, and are subsequently measured at amortised cost using the effective interest rate method. Appropriate allowances for estimated irrecoverable amounts are recognised in profit or loss 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.

The carrying amount of the asset is reduced through the use of an allowance account, and the amount of the loss is recognised in the income statement 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 other income in the income statement.

Trade and other receivables are classified as loans and receivables.

Trade and other payables

Trade payables are initially measured at fair value, and are subsequently measured at amortised cost, using the effective interest rate method.

Cash and cash equivalents

Cash and cash equivalents comprise cash on hand and demand deposits, and other short-term highly liquid investments that are readily convertible to a known amount of cash and are subject to an insignificant risk of changes in value. These are initially and subsequently recorded at fair value.

Financial assets at fair value through profit or loss

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.

Investments are measured initially and subsequently at fair value, gains and losses arising from changes in fair value are included in profit or loss for the period.

Derivatives

Derivative financial instruments, which are not designated as hedging instruments, consisting of foreign exchange contracts and interest rate swaps, are initially measured at fair value on the contract date, and are re-measured to fair value at subsequent reporting dates.

Derivatives embedded in other financial instruments or other non-financial host contracts are treated as separate derivatives when their risks and characteristics are not closely related to those of the host contract and the host contract is not carried at fair value with unrealised gains or losses reported in profit or loss.

Changes in the fair value of derivative financial instruments are recognised in profit or loss as they arise.

Derivatives are classified as financial assets at fair value through profit or loss.

Held to maturity

These financial assets are initially measured at fair value plus direct transaction costs.

At subsequent reporting dates these are measured at amortised cost using the effective interest rate method, less any impairment loss recognised to reflect irrecoverable amounts. An impairment loss is recognised in profit or loss when there is objective evidence that the asset is impaired, and 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.

Financial assets that the company has the positive intention and ability to hold to maturity are classified as held to maturity.

1.4 Impairment of assets

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

Irrespective of whether there is any indication of impairment, the company 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 profit or loss. Any impairment loss of a revalued asset is treated as a revaluation decrease.

Goodwill acquired in a business combination is, from the acquisition date, allocated to each of the cash-generating units, or groups of cash-generating units, that are expected to benefit from the synergies of the combination.

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 profit or loss. Any reversal of an impairment loss of a revalued asset is treated as a revaluation increase.

1.5 Share capital and equity

An equity 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 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 profit or loss, using the effective interest rate method.

1.7 Borrowing costs

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

Notes to the Annual Financial Statements

Figures in Rand

	2008	2007

2. INVESTMENT PROPERTY

	2008			2007		
	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

Fair value of investment properties	26,800,000	15,000,000
Details of property		
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**

Details of valuation

The property has been valued at R26,8 m by Reinertsen International Valuation Services, as an independant valuer, on 9 April 2008.
Amounts recognised in profit and loss for the year.

Rental income from investment property	2,031,957	1,831,747
Direct operating expenses from rental generating property	318,962	383,609

3. FINANCIAL ASSETS BY CATEGORY

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

2008

	Loans and receivables	Fair value through profit or loss - held for trading	Fair value through profit or loss - designated	Held to maturity	Total
Trade receivables	5,697	-	-	-	5,697
Cash and cash equivalents	-	992,560	-	-	992,560
	5,697	**992,560**	**-**	**-**	**998,257**

2007

	Loans and receivables	Fair value through profit or loss - held for trading	Fair value through profit or loss - designated	Held to maturity	Total
Cash and cash equivalents	-	735,699	-	-	735,699

Erf Sewe-Nul-Ses Rietfontein (Pty) Ltd
Annual Financial Statements for the year ended 31 March 2008

Figures in Rand

	2008	2007
4. TRADE AND OTHER RECEIVABLES		
Trade receivables	5,697	-
Deposits	9,754	18,262
VAT	8,678	11,309
	24,129	**29,571**

None of the financial assets that are fully performing have been renegotiated in the last year.
The maximum exposure to credit risk at the reporting date is the fair value of each class of loan mentioned above. The company does not hold any collateral as security.

5. CASH AND CASH EQUIVALENTS		
Cash and cash equivalents consist of:		
Bank balances	992,560	735,699

The maximum exposure to credit risk at the reporting date is the fair value of cash and cash equivalents mentioned above.

6. SHARE CAPITAL		
Authorised		
4,000 Ordinary shares of R1 each	4,000	4,000
Issued		
1 Ordinary share of R1 each	1	1

7. OTHER FINANCIAL LIABILITIES		
Water Research Commission - Held at amortised cost		
Loan No.1 The unsecured loan bears interest and is repayable in equal monthly instalments of R60,000 over 13 years.	11,410,731	10,498,941
Loan No.2 The unsecured loan bears interest at prime plus 2% with no fixed terms of repayment.	2,484,251	2,408,661
	13,894,982	**12,907,602**
Non-current liabilities		
At amortised cost	**13,894,982**	**12,907,602**

8. TRADE AND OTHER PAYABLES		
Trade payables	282,117	269,849
Deposits received	21,463	26,427
	303,580	**296,276**

Figures in Rand

	2008	2007

9. FINANCIAL LIABILITIES BY CATEGORY

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

2008

	Financial liabilities at amortised cost	Fair value through profit or loss - held for trading	Fair value through profit or loss - designated	Total
Trade and other payables	282,117	-	-	282,117

2007

	Financial liabilities at amortised cost	Fair value through profit or loss - held for trading	Fair value through profit or loss - designated	Total
Trade and other payables	269,849	-	-	269,849

10. REVENUE

Municipal expense recoveries	281,301	269,859
Rent received	2,031,956	1,831,747
Sundry income	11,196	590
	2,324,453	**2,102,196**

11. OPERATING PROFIT

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

Employee costs	(90)	14,198

12. INVESTMENT REVENUE

Interest revenue

Bank	2,469	1,180

13. FINANCE COSTS

Non-current borrowings	2,007,380	1,811,602

14. TAXATION

No provision has been made for 2008 tax as the company has no taxable income.

15. AUDITORS' REMUNERATION

Fees	-	16,480

Erf Sewe-Nul-Ses Rietfontein (Pty) Ltd
Annual Financial Statements for the year ended 31 March 2008

Figures in Rand

	2008	2007
16. CASH GENERATED FROM OPERATIONS		
Loss before taxation	(743,265)	(716,544)
Adjustments for:		
Interest received	(2,469)	(1,180)
Finance costs	2,007,380	1,811,602
Changes in working capital:		
Trade and other receivables	5,442	49,205
Trade and other payables	7,304	92,680
	1,274,392	**1,235,763**

17. RELATED PARTIES

Relationships

Holding company	Water Research Commission

Related party transactions

Interest paid to related parties		
Water Research Commission	2,007,380	1,811,602
Municipal expenses received from related parties		
Water Research Commission	255,626	246,750
Rent received from related parties		
Water Research Commission	1,754,732	1,619,541
Administration fees paid to related parties		
Water Research Commission	223,259	210,220

18. RISK MANAGEMENT

Credit risk

Credit risk consists mainly of cash deposits, cash equivalents, derivative financial instruments and trade debtors. The company 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	**2008**	**2007**
ABSA Bank	992,560	735,699

Detailed Income statement

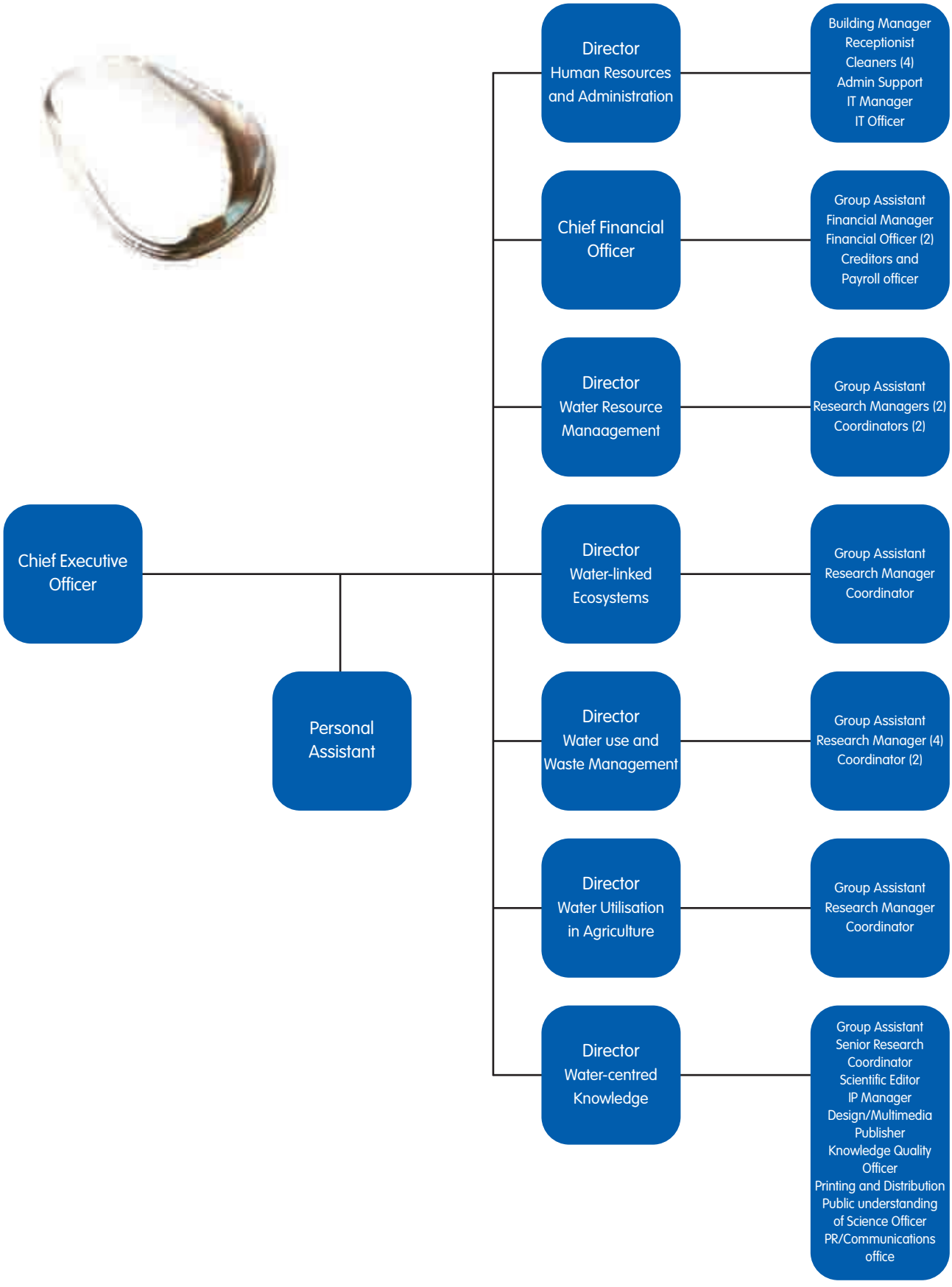
Erf Sewe-Nul-Ses Rietfontein (Pty) Ltd
Annual Financial Statements for the year ended 31 March 2008

Figures in Rand

	NOTE(S)	2008	2007
Revenue			
Municipal expense recoveries		281,301	269,859
Rental Income		2,031,956	1,831,747
Sundry income		11,196	590
	10	**2,324,453**	**2,102,196**
Other income			
Interest received	12	2,469	1,180
Operating expenses			
Administration and management fees		224,689	217,715
Auditors remuneration	15	-	16,480
Bank charges		3,963	5,137
Insurance		23,520	30,052
Levies		-	565
Municipal services and levies		318,962	383,609
Professional fees		-	1,800
Rent - meter readings		2,722	2,138
Repairs and maintenance		230,762	158,374
Security		244,203	172,171
Staff expenditure		(90)	14,198
Sundry expenses		9,720	2,164
Telephone and fax		4,356	3,915
		1,062,807	**1,008,318**
Operating profit	11	**1,264,115**	**1,095,058**
Finance costs	13	(2,007,380)	(1,811,602)
Loss for the year		**(743,265)**	**(716,544)**

Organisational Structure

Erf Sewe-Nul-Ses Rietfontein (Pty) Ltd
Annual Financial Statements for the year ended 31 March 2008



Notes

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