WATER RESEARCH COMMISSION

ANNUAL REPORT 2012 | 2013

Registered name:	Water Research Commission
Physical address:	491, 18th Avenue Rietfontein Pretoria, 0002
Postal address:	Private bag X03 Gezina Pretoria, 0031
Telephone number:	+27 12 330 0340
Fax number:	+27 12 331 2565
Email address:	info@wrc.org.za
Website address:	www.wrc.org.za
External auditors:	Auditor-General of South Africa
Bankers:	Standard Bank
Company/Board Secretary:	Ms Reshmili Lutchman

TABLE OF CONTENTS

SECTION A: GENERAL INFORMATION

SECTION B: PERFORMANCE INFORMATION

SECTION C: GOVERNANCE

SECTION D: HUMAN RESOURCE MANAGEMENT

SECTION E: WRC CONSOLIDATED FINANCIAL STATEMENTS

SECTION F: ERF SEWE-NUL-SES RIETFONTEIN (PTY) LTD CONSOLIDATED FINANCIAL STATEMENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATION / ACRONYMS

AGSA	Auditor-General of South Africa
BBBEE	Broad Based Black Economic Empowerment
CEO	Chief Executive Officer
CFO	Chief Financial Officer
DST	Department of Science and Technology
DWA	Department of Water Affairs
EDC	Endocrine Disrupting Chemical
FMS	Fund Management System
HCD	Human Capital Development
HRAP	High Rate Algal Pond
IP	Intellectual Property
IWA	International Water Association
KPA	Key Performance Area
KSA	Key Strategic Area
MDGs	Millennium Development Goals
MEC	Member of Executive Council
MTEF	Medium Term Expenditure Framework
NFEPA	National Freshwater Ecosystem Priority Areas
NWRS 2	National Water Resource Strategy Two
PDI	Previously disadvantaged individual
PFMA	Public Finance Management Act
R&D	Research and Development
SAICE	South African Institution of Civil Engineering
SMME	Small Medium and Micro Enterprises
SCM	Supply Chain Management
TR	Treasury Regulations
WaterKCAP	Water Knowledge and Capacity Building programme
WEROP	Wave Energy Reverse Osmosis Pump
WISA	Water Institute of Southern Africa
WR2012	Water Resources 2012 (study)
WRA	Water Research Act
WSA	Water Services Act
WRC	Water Research Commission
YWP	Young Water Professionals

SECTION A:
GENERAL INFORMATION

CHAIRPERSON'S ADDRESS

As Chairperson of the Water Research Commission (WRC), I would like to express the satisfaction of the newly-appointed Board with the performance of WRC during the 2012/13 financial year, and with the leadership offered to the WRC by CEO, Dhesigen Naidoo, and his management team.

The new Board took office in July 2012 and immediately engaged, with depth and thoroughness, in the strategic focus, aims and objectives of the WRC. In this process, we have worked closely and well with the management team of the WRC, forging a strong relationship in the process.

Let me also take this opportunity to acknowledge the work of the outgoing Board and to recognise their contribution to ensuring that the WRC performed well both financially and in terms of delivering on its water research mandate. This year, as with previous years, the WRC has achieved excellent results.

Thus, as the new Board, we took over an organisation that was financially sound and well run. As a result, we were able to focus more on key issues of strategy and direction, in addition to ensuring compliance to legislative and corporate governance requirements.

During the year the Board put considerable energy, together with the WRC management team, into reviewing the corporate strategy of the organisation, and ensuring that it was appropriately meeting both its legal mandate and serving the development objectives of the state. A key issue in this process was the focus on research for development, as captured in the corporate strategy's main concept of the Knowledge Tree. Several aspects were considered to be of particular importance in promoting a 'research for development' focus: ensuring that the research is appropriately focused on key developmental issues in the water sector (while recognising that the budget will not stretch to covering all of the issues); ensuring effective uptake of the research through research processes that engage fully with those that are likely to use or implement the results of the research in future; and adopting research dissemination approaches that improve access to the results of research for key decision-makers at all levels.

As part of this process, then, the key performance indicators of the WRC were reviewed to measure not just the production of new knowledge, but also its translation into implementation. A particular challenge that the Board and the management team have begun to address is how to increase the funding available to the WRC. While the WRC is fortunate to have a steady income resulting from the research levy on water use, this income is not sufficient to meet the increasing need for water-related research, particularly as pressure on our scarce water resources increases. The WRC is, therefore, exploring various other options, including the possibility of support from the national budget. The WRC has also been building strategic relationships with other departments, particularly the Department of Science and Technology (DST), and looking to the possibility of additional funding through such partners.

In addition, the Board has worked closely with management and the Department of Water Affairs (DWA) in the amendment of the now somewhat outdated Water Research Act in order to bring it in line with current governance best practice and with the contemporary context of South Africa.

BARBARA SCHREINER | CHAIRPERSON

As we move forward into 2013/14, we will seek to deepen and consolidate the work initiated during 2012/13. Over and above maintaining and improving the corporate governance of the WRC, we will work on the following: the consolidation of the focus on the Knowledge Tree; the deeper embedding of the concept of uptake into the research process and its acceptance and understanding by the broader research community; leveraging increased funding for the WRC to expand its research base; working with DWA to ensure the promulgation of the Water Research Amendment Bill; and building links between the WRC and other water research organisations in the south, in particular to improve the exchange and uptake of water research knowledge.

I would like to express, on behalf of the WRC, our thanks to the Minister of Water and Environmental Affairs, Ms Edna Molewa, for her leadership and direction in the water sector, and for her clear understanding of the important role that the WRC plays in the development of South Africa. The Chairperson of the Portfolio Committee on Water and Environment Adv. Johnny de Lange, has also been extremely supportive of the work of the WRC, for which we are very grateful. I would also like to thank the WRC CEO and his management team, as well as the operational support staff of the WRC and Board, and, indeed, all of the staff of the WRC for their hard work and commitment, and the energy that they put into ensuring that the WRC remains at the cutting edge of water-related research in South Africa.

In conclusion, let me say that the WRC has a critical role to play in ensuring that we produce the requisite knowledge to ensure that water plays a central role in improving the lives of people living in South Africa, particularly poor women and men, and in supporting the developmental state in meeting its objectives. With a dedicated Board, a creative and energised management team, and the combined knowledge and expertise of the water research community in South Africa, we are, and will continue to make this happen.

Barbara Schreiner

Chairperson of the Board

CEO'S ADDRESS

South Africa has never had the luxury of water abundance. It was a critical nationwide drought threatening South Africa's socio-economic development that led to the formation of the WRC more than four decades ago.

Today, water remains a critical component of the development scenario of the country, especially as it is scarce and unevenly distributed both geographically and seasonally. As the country continues to grapple with complex water issues the importance of policy, strategy and implementation based on sound science becomes clear. The WRC remains at the centre of South African water research.

Rather than look at the country's water situation as a potential for disaster, the WRC has sought to find opportunity in it, contributing to the structuring of a strategy that allows South Africa to develop an international competitive advantage based on a sound foundation of research and development.

After four decades of serving South Africa's water knowledge needs, the WRC moved forward during the year under review into a new phase guided by four key streams. The first stream is an increased investment in the multiplier effect, aimed at increasing the impact of the research funded by the Commission. This is being achieved using the mechanism of the 'WRC Knowledge Tree' (Figure 1), which, in addition to the knowledge products and publications from the WRC research portfolio, aims to:

- inform policy- and decision-making;
- contribute to sustainable development solutions;
- develop products and services for the real economy;
- actively contribute to human capital development;
- directly empower communities; and
- enable the national transformation project.

The roots of the **WRC Knowledge Tree are firmly embedded in the WRC tradition of investing in sound and relevant research.** During 2012/13, the WRC completed

Figure 1. The WRC Knowledge Tree

85 research projects in an ongoing portfolio of over 300. More than 450 students were involved in WRC projects in the past financial year. In many areas of research support it is evident that students who participated in earlier WRC projects are now leading Commission-funded research.

The second stream guiding the WRC in its new approach is that research concentration for accelerated knowledge and solutions development, particularly through the development of 'WRC Lighthouses' – transdisciplinary, multi-departmental and inter-institutional megaprojects that examine priority water issues across the innovation value chain. Five lighthouse programmes were launched during the year under review: climate change, water–energy–food nexus, the green village,

MR DP NAIDOO | CEO

water governance, and water-sensitive urban design. The third stream involves **further diversification of the research philosophy** to expand the number of projects in the portfolio that move from the classical independent-observer scientific approach to an action-research paradigm. The latter entails the broadening of our scope to one that actively involves communities in research design and project implementation as key partners, enabling interventions to be scaled up and maintained post-project.

The final stream is that of **partnership**. To stretch the impact of the Water Research Fund the WRC has sought to increase its partnerships in various domains. These include research partnerships, implementation partnerships and innovation value chain partnerships. This partnership approach, both locally and internationally, is an important way of increasing the body of knowledge on water matters and achieving synergy between the needs and capabilities of various partner bodies.

One way of expressing these partnerships is through the WRC Dialogue series, launched during the year under review. The WRC Dialogues are platforms where partners from all spheres come together to share their understanding and experiences of the challenges, thereby building a stronger foundation for developing solutions going forward.

The year 2012/13 saw the WRC turning several water-related challenges into opportunities through innovations, such as the beneficiation of olive industry wastewater and the recovery of nutrients and water from brewery effluent. In addition, the Commission has again, through careful management and due diligence, been able to meet the targets in all major domains of performance. On the international front, the WRC continues to be an important and respected player in water management, both globally as well as in the African region. The sound and faithful partnership with the DWA has been pivotal in these successes.

The WRC started its next financial year amid the United Nations Year of International Water Cooperation. I look forward together with the WRC team, the South African water research community and other strategic partners, to steering the Commission to greater heights in pursuit of becoming a globally recognised leader in providing innovative solutions for sustainable water management, meeting the changing needs of society and the environment.

In conclusion, I would like to, on behalf of the WRC, register our gratitude to the WRC Board for their invaluable, sound guidance in this enterprise, and offer our appreciation to the Minister and Deputy Minister for their inspirational leadership and support.

Dhesigen Naidoo

Chief Executive Officer

STRATEGIC OVERVIEW

This section outlines the strategic intent of the WRC over the period 2013/14 to 2017/18. This comprises the WRC's contribution to achieving several Government Outcomes as well as five strategic outcome oriented goals, which are based on the operationalisation of the WRC Knowledge Tree.

Vision

To have highly informed water decision-making through science and technology at all levels, in all stakeholder groups, and innovative water solutions through research and development for South Africa, Africa and the world.

Mission

To be a global water knowledge node and South Africa's premier water knowledge centre active across the innovation value chain that:

- informs policy and decision making;
- creates new products, innovation and services for socio-economic development;
- develops human capital in the water science sector;
- empowers communities and reduces poverty;
- supports the national transformation and redress project; &
- develops sustainable solutions and deepens water research and development in South Africa, Africa and the developing world.

Values

- A culture of learning and sharing
- Innovation and creativity
- Integrity and fairness
- A spirit of professionalism and service orientation
- Facilitating empowerment and social change
- Good governance

Strategic outcome-oriented goals

Contributing towards achieving Government Outcomes

As a national public agency, the WRC actively strives to support the Government of South Africa in achieving its strategic outcomes, with particular reference to the Annual Performance Plan of the DWA, the performance agreement of the Minister of Water and Environmental Affairs, as well as water-related targets of other government departments, such as Agriculture, Forestry and Fisheries, Science and Technology, Human Settlements and so-forth. The following goals and outcomes are particularly relevant to the work of the Commission.

Goal 1	Contribute to Government Outcome 6
Goal Statement	The WRC will actively strive to align its projects and activities with achieving an efficient, competitive and responsive economic infrastructure network.

Goal 2	Contribute to Government Outcome 7
Goal Statement	The WRC will actively strive to align its projects and activities with achieving vibrant, equitable and sustainable rural communities and food security for all.

Goal 3	Contribute to Government Outcome 9
Goal Statement	The WRC will actively strive to align its projects and activities with achieving a responsive, accountable, effective and efficient local government system.

Goal 4	Contribute to Government Outcome 10
Goal Statement	The WRC will actively strive to align its projects and activities with achieving protection and enhancement of the country's environmental assets and natural resources.

STRATEGIC OVERVIEW

Achieving the six goals of the WRC Knowledge Tree

A fundamental guiding framework and corporate planning tool for the WRC's operations at the beginning of its fifth decade is the construct of the WRC Knowledge Tree. The tree metaphor reflects strength in foundation (i.e., 'roots' firmly embedded in sound knowledge) and strong growth (i.e., 'branches and leaves' growing vigorously from this knowledge). It also acts as a yardstick with which to measure the WRC's impact in key domains.

Each of the Knowledge Tree strategic outcome-oriented goals provides a specific priority categorisation for the WRC's projects and activities. Each has its own kind of contribution to the Government Outcomes, either directly or indirectly. The goals are not mutually exclusive. For example, a 'new product' may be a 'sustainable development solution' that 'empowers communities' and 'informs policy and decision making'.

The guiding principle is that every WRC project will strive to achieve as many of the WRC Knowledge Tree outcomes as reasonably possible. This applies within the project, to post-project actions, and to follow-on projects.

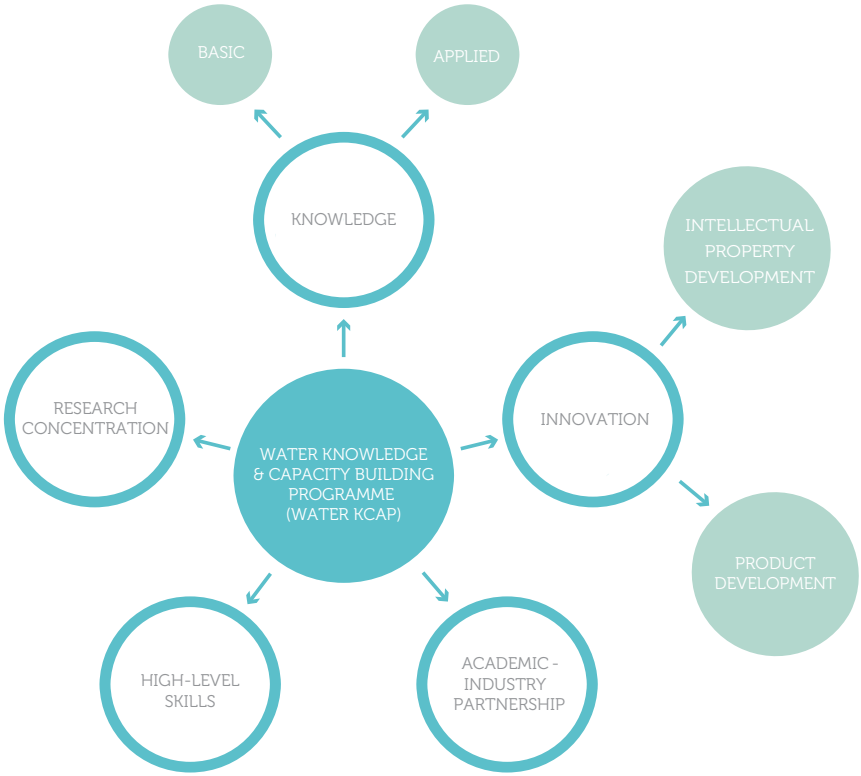


Figure 2. Water Knowledge and Capacity Building programme (WaterKCAP)

Knowledge Tree outcome oriented goals

Strategic Outcome-Oriented Goal 1	Inform policy and decision-making
Goal Statement	The WRC will reinforce its efforts to commission appropriate research projects to actively inform both policy development by Government partners and decision-making by all parties in the water sector. Particular effort will be made to communicate to appropriate audiences through Ministerial, technical and policy briefs on WRC-funded research projects or programmes of research.

Strategic Outcome-Oriented Goal 2	Develop new products and services for economic development
Goal Statement	The WRC will continue to capitalise on those projects that have potential to develop new intellectual property or to introduce innovations which create new or improved technologies, products and services to be used in the real economy. These activities will span the innovation value chain, from intellectual property (IP) mining of the existing WRC portfolio to performing due diligence on new products and services, appropriate intellectual property protection, further product development, and commercialisation.

Strategic Outcome-Oriented Goal 3	Enhance human capital development (HCD)
Goal Statement	The WRC will strive for high student participation in its projects (Figure 2). Although the emphasis will continue to be on postgraduate degrees, inclusion of undergraduates will also be investigated. There will also be particular emphasis on previously-disadvantaged individuals (PDIs) and women.

Strategic Outcome-Oriented Goal 4	Empower communities
Goal Statement	The WRC and its partners will increase emphasis on projects that (a) have a direct impact on the lives and livelihoods of communities through water-related interventions, and (b) build sufficient capacity to assist with the post-project sustainability of those interventions.

Strategic Outcome-Oriented Goal 5	Promote transformation and redress
Goal Statement	The WRC's five-year Corporate Plan has transformation and redress as a central driver, both within the organisation as well as in the project portfolio. The goal is necessarily cross-cutting in that it drives the 'human capital development' and 'empowerment of communities' goals.

Strategic Outcome-Oriented Goal 6	Drive sustainable development solutions
Goal Statement	Sustainable development is a core principle driving all WRC projects and activities. Consistent with the WRC's vision, there is specific focus on sustainable development solutions. This is done by addressing the enabling principles of sustainable development, namely, protection of water resources, optimal water use, equity between generations, current equitable access, environmental integration, and good governance.

LEGISLATIVE AND OTHER MANDATES

The WRC serves as the R&D partner of the sector leader, the Department of Water Affairs (DWA), as part of the Ministry of Water and Environmental Affairs, and provides the sector with knowledge and capacity to ensure sustainable management of water resources and to enhance water services.

Constitutional mandate

While the WRC is not specifically mentioned in the South African Constitution (Act No. 108 of 1996), as an organ of state it is bound to the Bill of Rights contained within the Constitution, which is applicable to all laws. In the execution of its mandate, the WRC upholds several key principles of the Bill of Rights, most notably section 27(1)(b) that gives everyone the right to access sufficient water. The WRC regards the ready availability of water knowledge and understanding as critically important to the adoption of effective and innovative strategies for equitable water service provision, management and use.

In additional, section 16 of the Constitution, which addresses freedom of expression, including the right to academic freedom and freedom of scientific research, also applies to the work of the WRC. The development of the WRC's media strategy will directly speak to the way in which freedom of expression is aligned with principles of scientific integrity and accountability.

Legislative mandate

The WRC is governed by the Water Research Act (WRA), Act No. 34 of 1971, which outlines the purpose and mandated objectives of the organisation. The WRC also operates and accounts for its activities in accordance with the Public Finance Management Act (PFMA), Act No. 1 of 1999, and is listed as a national public entity in Schedule 3A of this Act.

The mandated objectives of the WRC are also in accordance with the requirements of the policies of the DWA for the Water Services Act (Act No. 108 of 1997) and the National Water Act (Act No. 36 of 1998). Key legislative frameworks and their applicability to the WRC are highlighted below:

Water Research Act (Act No. 34 of 1971 as amended)
The principal aim of the WRA is to provide for the promotion of research in connection with water affairs. The Act requires the establishment of the WRC and the Water Research Fund, and sets the framework within which the WRC operates. It also provides for the establishment of the WRC as a Schedule 3A public entity, thereby requiring compliance with the PFMA Act (Act No. 1 of 1999) and Treasury Regulations.

The WRC's mandate as set out in this Act highlights the following functions to be carried out by the organisation:

- Promote co-ordination, co-operation and communication in the area of water research and development
- Establish water research needs and priorities Stimulate and fund water research according to priority
- Promote the effective transfer of information and technology
- Enhance knowledge and capacity building within the water sector

National Water Act (Act No. 36 of 1998)

The objective of the National Water Act (NWA) is to ensure that South Africa's water resources are protected, used, developed, conserved, managed, and controlled in a sustainable and equitable manner, for the benefit of all persons. The NWA also provides for the pricing strategy for water use charges, the quantum and mechanism for the calculation of a charge, payable by some or all raw water users, set for research purposes by the WRC.

Water Services Act (Act No. 108 of 1997)

The objective of the Water Services Act (WSA) is to provide for the right of access to water supply and sanitation by setting national standards and norms. Section 156, read in conjunction with Part B of Schedule 4 of the Constitution of the Republic of South Africa (Act No. 108 of 1996), vests the executive authority and responsibility to support and strengthen the capacity of municipalities to manage their own affairs, to exercise their powers and to perform their functions.

Planned legislative mandates

Water Research Amendment Bill

In line with the review of the current water-related legislation, the WRA is also being amended, including textual improvements and name changes; further provisions regarding the appointment of members of the WRC Board and its CEO; the governance of the WRC; and the alignment of the Act with applicable legislation. The draft amendment bill is well considered and incorporates all of the comments that have been offered to date. The bill, in the manner in which it sets out the compliance clauses, captures a good balance between creating an enabling environment and ensuring the correct legislative checks and balances.

Government Outcomes

In addition to the above-mentioned legislative mandates, the WRC also adopts the South African Government's Outcome-based approach in its commitment to influencing socio-economic development and achieving high impact. In so doing, the WRC aims to support Government's Outcomes and Outputs through its research portfolio. The WRC will continue to support DWA in its call for mainstreaming of water as the basis to enable and catalyse economic growth and sustainable development. The WRC is therefore actively involved in key DWA initiatives, including the legislative and policy review, the institutional realignment programme as well as the revision of the National Water Resource Strategy (NWRS). The outcomes of WRC-funded research projects provide scientific knowledge which informs initiatives such as the water pricing strategy and water infrastructure management.

ORGANISATIONAL STRUCTURE

CHIEF FINANCIAL OFFICER

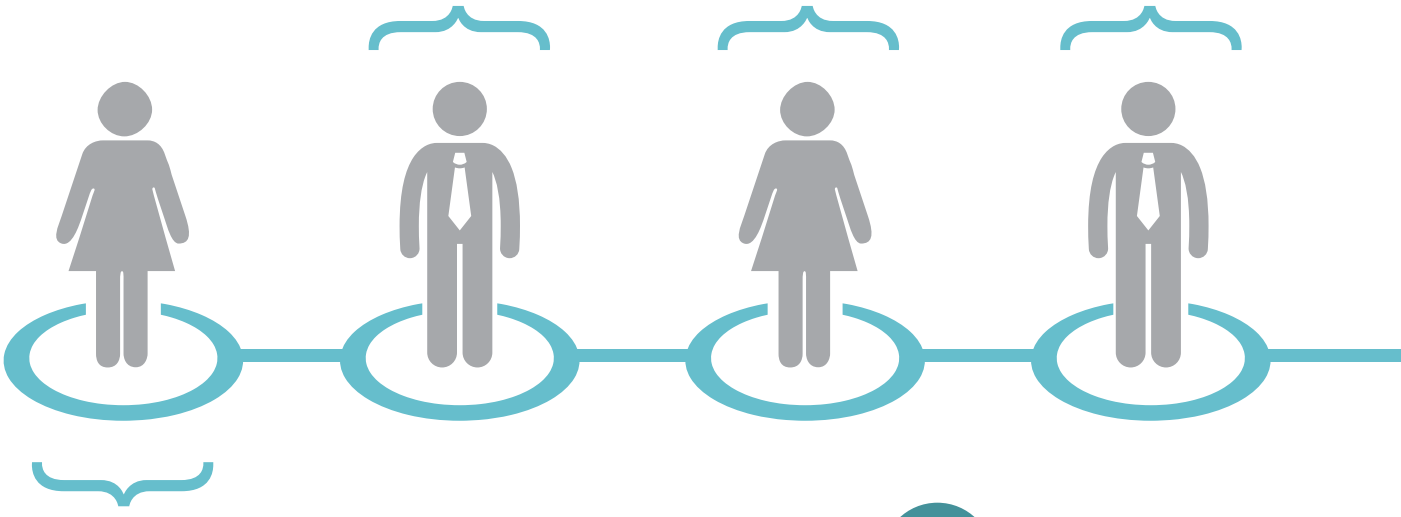
Group Assistant
Financial Manager
Financial Officer (2)
Creditors & Payroll Officer

EXECUTIVE MANAGER WATER RESOURCE MANAGEMENT

Group Assistant
Research Manager (4)
Coordinator (2)

EXECUTIVE MANAGER WATER USE & WASTE MANAGEMENT

Group Assistant
Research Managers (3)
Coordinators (2)
WIN-SA Knowledge Ext Officer



EXECUTIVE MANAGER HUMAN RESOURCES & ADMINISTRATION

Head of Compliance
Building Manager
Receptionist
Cleaners (4)
Admin Support Assistant
Administrative Coordinator
Compliance & Reporting Officer
IT Manager
IT Officer
IT Assistant

CHIEF EXECUTIVE OFFICER

Personal Assistant

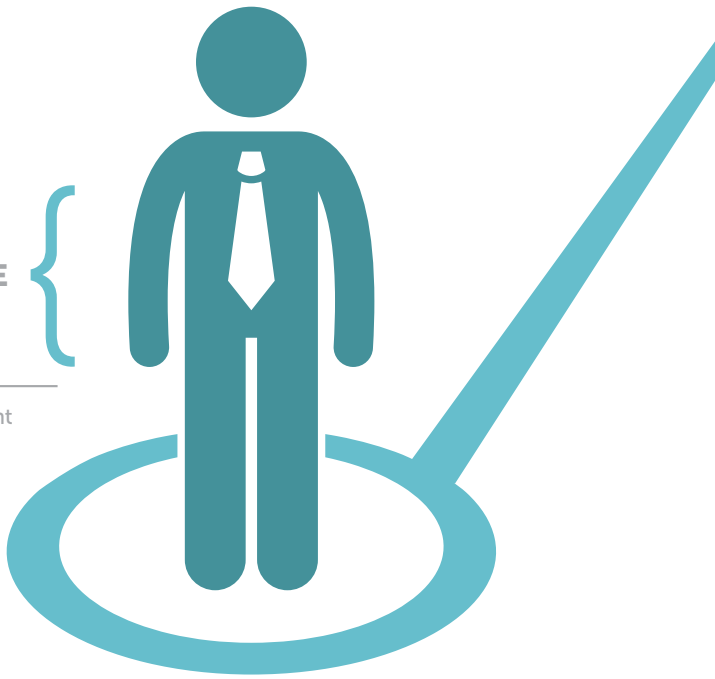


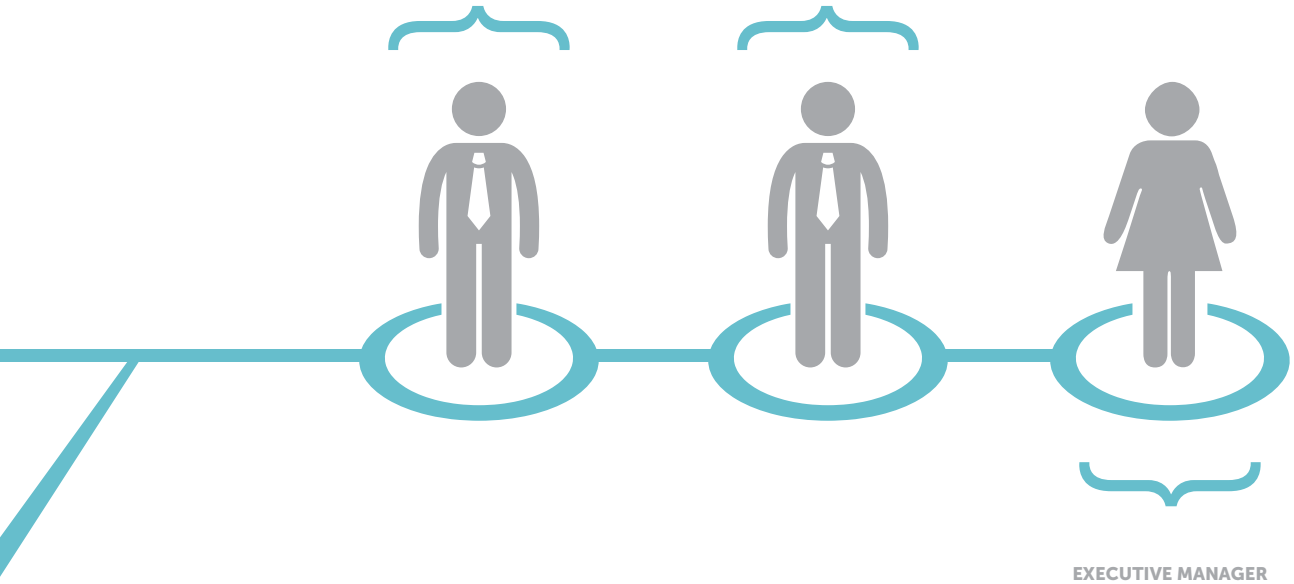
Figure 3: WRC organisational structure

EXECUTIVE MANAGER WATER-LINKED ECOSYSTEMS

Group Assistant
Research Manager
Coordinator

EXECUTIVE MANAGER WATER UTILISATION IN AGRICULTURE

Group Assistant
Research Manager
Coordinator



EXECUTIVE MANAGER BUSINESS DEVELOPMENT, MARKETING & COMMUNICATION

Group Assistant
Business Systems Manager
Scientific Editor
Desktop Designer
Stakeholder Liaison
Printing and Publishing Officer
PR/Events Coordinator
Printing and Publishing Support
Knowledge Quality Officer
Public Understanding of Science Officer

HIGHLIGHTS OF 2012/13

Deeply rooted in South African water society, the WRC not only endeavours to ensure that its commissioned research remains real and relevant to the country's water scene, but that the knowledge generated from this research contributes positively to uplifting our communities, reducing inequality and growing our economy while safeguarding our natural resources.

The WRC Knowledge Tree is robust, its foundations firmly embedded in the wisdom gained over forty years of funding water-related research, and its strong branches spread out over the breadth of the South African water sphere. In addition to the knowledge products and publications from the WRC research portfolio, the Commission aims to inform policy and decision-making; contribute to sustainable development solutions; develop products and services for the economy; actively contribute to human capital development; directly empower communities; and enable the national transformation project.

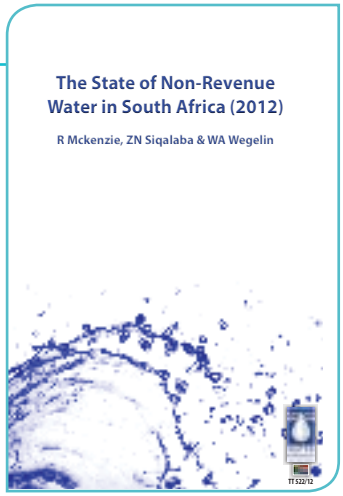
The projects and initiatives described in the next few pages offer a non-exhaustive range of highlights of the WRC's efforts to meet these goals over the past financial year.

Informing policy and decision making

Counting the lost drops

The State of Non-Revenue Water in South Africa (2012) was launched by the Minister of Water and Environmental Affairs, Edna Molewa, on 20 March, 2013, at a WRC Dialogue event held during National Water Week, where the challenges around curbing municipal water loss were discussed by a range of stakeholders.

In the most comprehensive and detailed study of its kind, data were gathered from 132 municipalities throughout South Africa, representing 75% of the total volume of municipal water supply. This is the first time that the country has a single, representative estimate of non-revenue water. Sadly, the battle against non-revenue water has not achieved great victories overall. The study indicated that South Africa's present level of non-revenue water is in the order of 37% – equal to the world average. Of this percentage, a quarter is considered to be losses through physical leakage.



Exploring Pretoria's life-giving fountains

The WRC's Hydrogeological Heritage Overview project has recorded Pretoria's development around its groundwater sources, including historical abstraction volumes and water quality. With groundwater usually being a hidden resource, Pretoria's springs offer a rare visual glimpse of the Cinderella of water resources in South Africa. The project has illustrated the role that groundwater can play in meeting not only rural but also urban water demands.

HIGHLIGHTS OF 2012/13

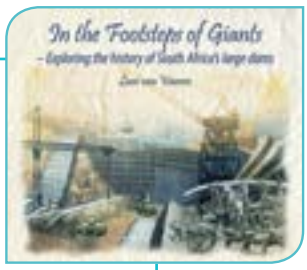
Quantifying SA's water resources

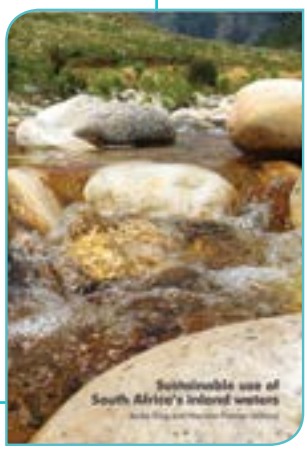
Having been involved in South Africa's water resource assessments for more than two decades, the WRC is again the lead funding agent for the latest study, Water Resources 2012 (WR2012). The assessment includes an update of all hydrological data, further enhancement to existing hydrological models, revised groundwater data and a monthly time series of present-day flow, among others.

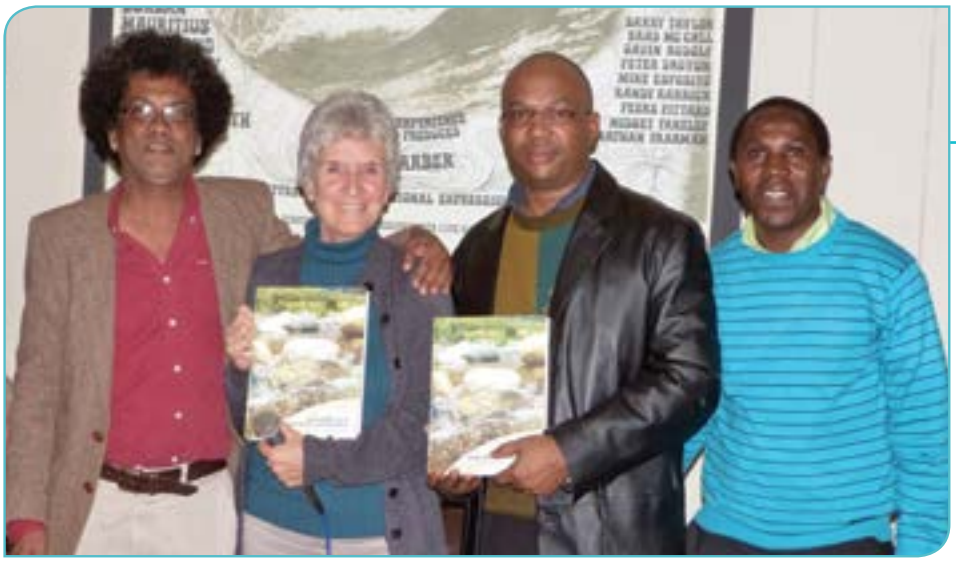
For the first time, WR2012 is also creating a publicly-accessible, Web-based and interactive reporting system, to continually quantify both the surface and groundwater resources of South Africa.

Capturing past lessons for tomorrow's challenges

The WRC launched two historically important publications during the past year. The first, *In the Footsteps of Giants – Exploring the History of South Africa's Large Dams,* investigates the history of the country's most iconic bulk water resource infrastructure. The book provides a useful platform to examine some of the drivers of development of South Africa's water infrastructure, an infrastructure which has been celebrated around the world. The second book launched by the WRC during 2012/13 was *Sustainable Use of South Africa's Inland Waters*. This book provides a history around the conceptualisation of the ecological Reserve. The book also sets out opportunities and challenges in relation to methods and implementation of the Reserve in South Africa, while discussing issues with regards to the implementation of the NWA. *Sustainable Use of South Africa's Inland Waters* was launched at the Southern African Society of Aquatic Scientists (SASAqS) conference held in St Francis Bay, Eastern Cape, from 1–5 July 2012.







Seen at the launch of Sustainable Use are Rodney February (WWF-SA); Drs. Jackie King and Harrison Pienaar and WRC's Dr. Stanley Liphadzi.

Keeping a finger on the pulse of SA water R&D

In a first for South Africa, the WRC funded a study to obtain a quantitative account of key R&D trends in the water sector (Figure 4). South Africa's water research output was ranked 19th in the world, while the country's research output as a whole is ranked 33rd. Identification of the producers of research in the water field indicates that South Africa's research needs are distributed to a variety of centres, creating subcritical groups. Environmental sciences were identified as the most important sub-discipline in the field of water resources. The focused support of the WRC was identified, to a large extent, to be the driving force behind the success of water-related research in South Africa. One of the recommendations from the study is that Government uses the WRC's success as an example for implementation and institutionalisation of R&D in other areas of national priority.

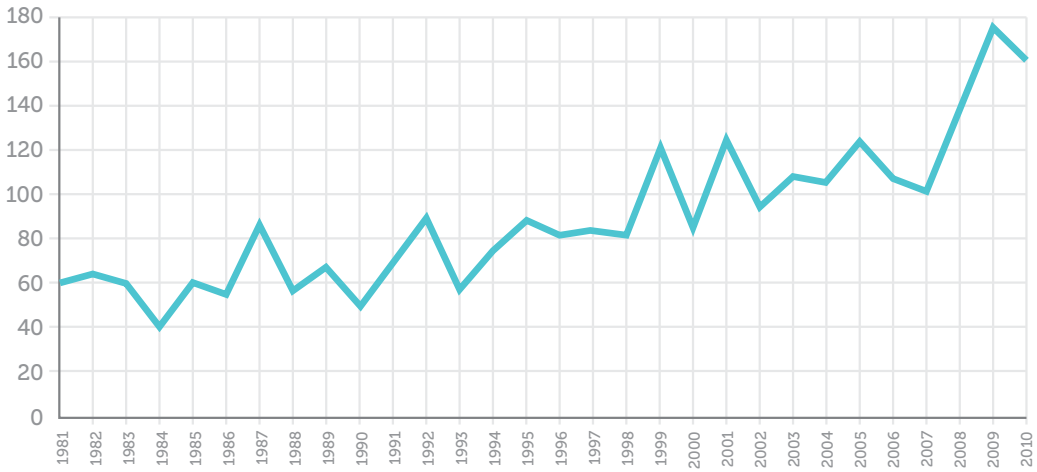


Figure 4: Number of SA water research publications 1981–2010.

Understanding human health risks

The WRC is funding a suite of health-related studies, which promises to generate new knowledge that will inform decision-making around water and health issues. One of the studies completed during the year under review was aimed at developing a guide to correct sampling and sample preparation techniques in the context of endocrine-disrupting chemicals (EDC). This project also produced the overall introductory chapter for the current series of EDC management volumes (of which the sampling guide is one) under development by the WRC.

HIGHLIGHTS OF 2012/13

Empowering South African communities

Improving sanitation across Africa (SFRA)

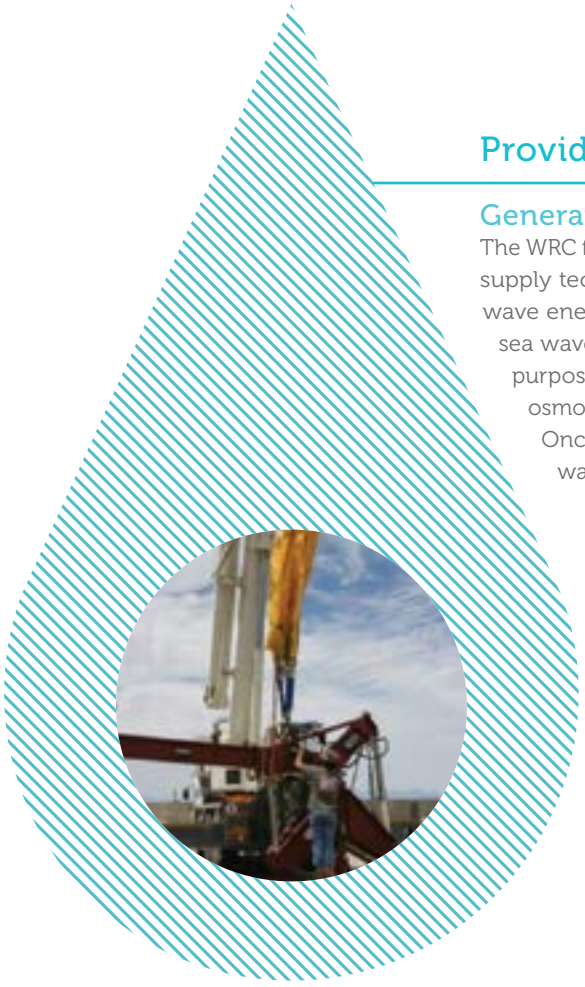
The WRC was awarded a grant of R20-million by the Bill & Melinda Gates Foundation to establish and execute a sanitation research capacity building programme for African research institutions. The fund is a direct result of the gap identified between Africa and the rest of the world in terms of research and innovation (knowledge creation), due to the lack of dedicated sources of funding and support. As a result, the fund has been established to stimulate competency and capacity in the area of sanitation in the African region, to support solutions and scaling up. The fund will ensure participation of up to ten institutions from respective countries in the eastern and southern African region.

Ensuring food safety

The health risks associated with the use of contaminated irrigation water on agricultural products are of special concern in South Africa. The WRC solicited a research project to investigate the link between irrigation water quality and food safety. The research found that the microbial pollution levels of rivers and fresh produce, monitored at selected sites over a period of three to four years, were of an unacceptable standard and did not meet either the international or national water quality guidelines for safe irrigation or human consumption. It was concluded that there is a high risk of exposure to pathogens when water from certain rivers is used to irrigate produce that is consumed raw or without any further processing. Various recommendations for further research were made, ranging from distribution profiles of pathogenic bacteria, seasonal variations and irrigation water monitoring, and development of effective quality assurance measures for detection of enteric viruses, to investigation of effective on-farm treatment options for contaminated irrigation water.

Investigating the fishing potential of dams

Nandoni Dam in Limpopo is reaching a stage where the level of fishery that the impoundment can sustain needs to be determined in order that the management target can be effectively set. The research conducted during this project provided the necessary information regarding the fishing potential of the dam. While Lake Nandoni was found to be an excellent habitat for fish, concerns have been expressed over pollution levels entering the dam and a special workshop was conducted with the surrounding communities as to potential health concerns when consuming fish from the dam.



Providing sustainable solutions

Generating clean energy and water for communities

The WRC funded the development of a prototype for an alternative water supply technology that works with nature rather than against it. The wave energy reverse osmosis pump (WEROP) generates energy from sea wave action to allow for the desalination of seawater for drinking purposes. This is the country's first ocean-going wave energy reverse osmosis pump. The test unit was successfully operated for two years. Once scaled up, it will be among the world's first off-grid drinking water systems.

HIGHLIGHTS OF 2012/13

Identifying those at risk of climate change impacts

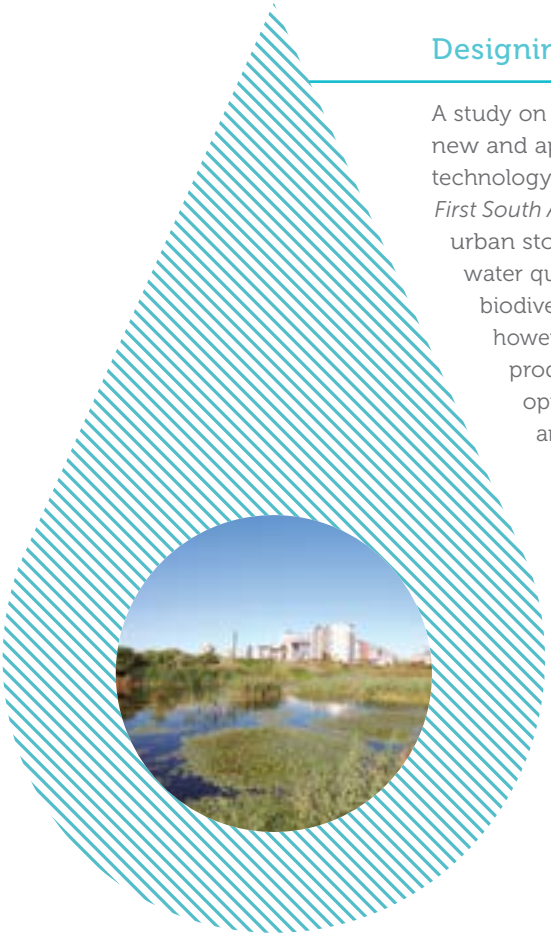
As global research increasingly points to the significant potential consequences of climate change for South Africa, attention is turning to helping communities adapt to possible impacts. WRC-funded research investigated how to identify vulnerable communities, as these should be primary targets for climate change adaptation strategies. The project aimed to identify which communities are most sensitive to climate change due to their socio-economic status, to investigate how able those communities are to respond to the risks imposed on them, and to define what the risks are that these communities are most exposed to. The methodology was tested in two catchments: uMngeni and Berg. Among others, the research showed that low income and education levels as well as high population densities made communities extremely vulnerable to the potential effects of climate change.

Safely eradicating invasive alien fish

The WRC led extensive surveys undertaken before and after the use of piscicide to permanently remove alien invasive fish from a section of the Rondegat River, one of the Western Cape's most critically important rivers for fish conservation. This was the first time such a project had been attempted in South Africa. Surveys covered fish, invertebrate and amphibian populations and were carried out over a two-year period. No significant changes in ecosystem health could be attributed to the piscicide operations and the fundamental conclusion of the monitoring programme was that the river rehabilitation has been a success, in that all of the alien smallmouth bass appear to have been removed from the treatment area without significant long-term damage to other wildlife.

Contributing to dam design

The Berg River Dam, in the Western Cape, is equipped with the first multi-level draw-off environmental flood release outlet in South Africa, and can release flows of up to 200 m^3/s. The outlet is controlled by a radial gate and is protected by a vertical emergency gate. Commissioning tests of the emergency gate in 2008 found that large volumes of air were expelled from the air supply shaft designed to reduce expected negative pressures in the conduit during emergency gate closure. A consequent WRC study investigated this phenomenon. The problem was determined to be one of air blowback in the air shaft rather than continuous air release. A number of modified configurations were tested and recommendations were made for future design.



Designing water-friendly cities

A study on water-sensitive urban design set out to identify and develop new and appropriate guidelines for the use of alternative stormwater technology in South Africa. The project resulted in, amongst others, the *First South African Guideline for Sustainable Drainage Systems*. Sustainable urban stormwater design focuses on water quantity management; water quality treatment; enhanced amenity; and the maintenance of biodiversity. The approach has been widely adopted internationally; however, there is still some resistance to its use in South Africa. These products are intended to assist practitioners to identify and flag opportunities where the use of design approach is appropriate, and may add to the value of the urban environment.

HIGHLIGHTS OF 2012/13

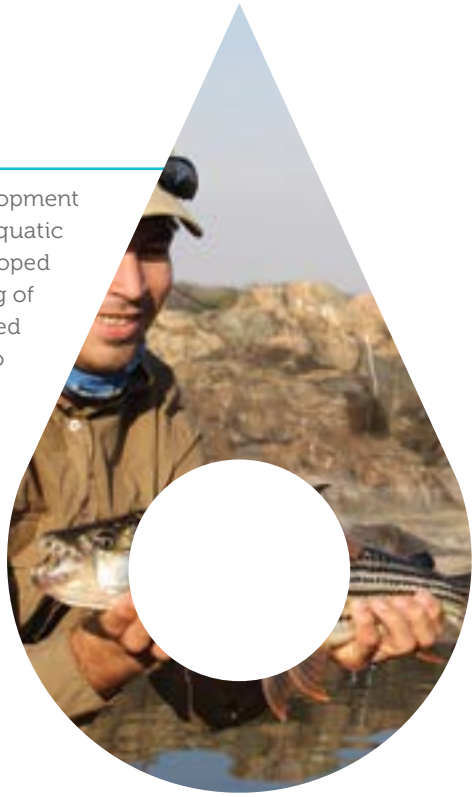
New innovations for economic development

Managing olive industry wastewater

A previous WRC project investigated a hybrid membrane-based system for simultaneous recovery of valuable products and purification of wastewater, to the extent that wastewater could be recycled back into the olive production process. This process has been successfully demonstrated at laboratory scale. The latest WRC project developed a scaled-up system through the construction and commissioning of a dedicated containerised wastewater treatment plant and research facility on-site at Buffet Olives farm, in the Western Cape. The plant, a stand-alone skid-mounted, end-of-pipe system, served as a demonstration model for commercialisation and roll-out to other farms.

Bringing SA scientists closer to aquatic life

The WRC has commissioned a series of studies which has led to the development of a locally produced biotelemetry system to monitor the behaviour of aquatic organisms in South Africa. The technology has now been successfully developed and tested in the field. The system makes use of remote and manual tracking of monitoring systems as well as smart tags or transceivers. The latter is attached to the organism being monitored. Once tagged, the animals are released to re-establish their normal behavioural patterns. With remote and manual monitoring systems researchers can now monitor the continuous behaviour of the animal for at least a year. Studies carried out using the system have generated useful information.



Determining the cost of water treatment

WRC-funded research has led to the development of WATCOST – a software model for establishing and predicting the cost-efficiency of a range of small-scale water treatment technologies that are used in water supply schemes. The model also provides guidelines for the selection of decentralised versus centralised water supply. This allows for economic comparison between different water treatment and supply options to be considered for a water supply scheme.

Closing the loop on brewery effluent

The high-rate algal pond (HRAP)/wetland system is an environmentally sustainable method of treating brewery effluent that allows for the recovery of water and nutrients from the wastewater. The low-energy, low maintenance system is driven mainly by gravity and the sun's energy. In a WRC-funded project the HRAP and wetland system consistently brought most water quality parameters tested within or close to the DWA general limits for the discharge of industrial effluent into a natural water resource. Furthermore, the treatment/recovery process involved the production of downstream products such as algae, fish feed, fresh vegetables and healthy fish. This project also saw the first attempt at optimising the use of industrial effluent as an inorganic source of fertiliser for hydroponic vegetable production. This integrated system is ideal for brewery-type industries that have land on which to drive a beneficiation project with their local communities to provide opportunities for small business empowerment.

HIGHLIGHTS OF 2012/13

Transforming South African society

Extending a hand to extension officers

It is generally recognised that extension officers provide the link between research output and solving the perceived problems which farmers experience. WRC-funded research had determined that the current level of training presented by tertiary organisations to extension workers for the tasks that they have to perform on irrigation schemes is inappropriate in the majority of cases. This formed the basis for this project, which developed and interactively tested learning material for the capacitating of extensionists in the promotion of efficient use of irrigation water by smallholder farmers. The learning material developed covers all areas of irrigation agriculture, in support of tertiary training organisations such as agricultural colleges and universities of technology.

Tackling food insecurity and malnutrition

In an important WRC study the nutritional water productivity of foodstuffs was determined. The result is an index for a given food product that includes nutrient-based output per unit water use. This knowledge can be used to promote the production of those food products that may contribute to closing the nutrient gaps in vulnerable communities while simultaneously leaving a sustainable water footprint.

Stronger focus on water and gender

In the water domain the impact of gender imbalances is found throughout the system and in all circumstances. However, as with most other discrimination, it is most pronounced in contexts of scarcity and hardship. In response, the WRC Gender and Water work plan is operating in four dimensions, namely, expanding and deepening dialogue, developing mechanisms and studies to inform policy at all levels; and improving the water and gender balance through gender-specific research projects.

Assessing the contribution of water use to value chains in agriculture

Access to agricultural water plays a necessary role in increasing productivity, but access to water alone is not a sufficient condition to enhance productivity and alleviate poverty. A WRC-funded project applied value-chain analysis to optimise economically beneficial water use in agriculture and towards integrating commercial and emerging farmers in the mainstream economy. Three cases were undertaken: the case of raisin producers from Eksteenskuil in the Northern Cape, the case of vegetable producers from Zanyokwe Irrigation Scheme, and the case of maize and vegetable producers from Thabina Irrigation Scheme. The results from the analyses of the distribution of water use along the value chains show that the bulk of all of the water that is used along the value chain is used at farm level to produce food products. The results from the study show that the obstacles that contribute to the exclusion of emerging farmers from participating in commercial agri-food chains are very much integrated. A coordinated approach has to be followed to overcome the obstacles.

HIGHLIGHTS OF 2012/13

Building capacity in the water and science sectors

Supporting SA's future water engineers

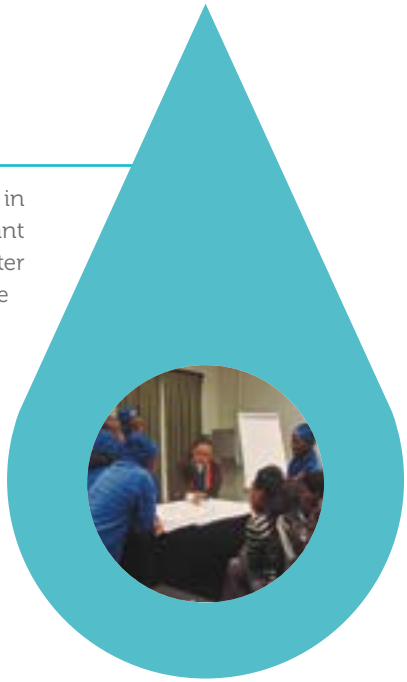
During the year under review the WRC became the main sponsor of the Aqualibrium Schools Water Competition, hosted by the South African Institution of Civil Engineering (SAICE). The competition, which celebrated its ninth year in 2012, tasks school teams to design a model water distribution network, to distribute three litres of water equally between three points on a grid using two different diameter pipes and connection pieces. Apart from raising learners' awareness of water issues in general, the competition strengthens Government initiatives aimed at encouraging learners to take mathematics and science at school and to pursue a career in the water sector.

Exposing girl learners to water science

The WRC 'adopted' four girl learners during the year as part of Government's Techno Girls initiative that introduces girls to careers in Mathematics, Science and Technology fields. The initiative identifies high achieving 15–18-year-old school girls from previously disadvantaged communities. The girls are placed in corporate mentorship and skills development programmes. The WRC Techno Girls, Rachel Phiri, Ofentse Mazibuko, Tshiamo Moahloli and Harmony Molefi, are all from Babina Phuti Junior Secondary School.

Youth Water Summit

The WRC participated in the Youth Water Summit 2012, held in Ekurhuleni in July where it exhibited and disseminated relevant information and facilitated development of the Draft Youth in Water Strategy for AMCOW (African Ministers' Council on Water). The theme for this year's summit was 'Meaningful participation of Africa's youth in water resource management can contribute to sustainable development'. The Summit drew around 500 young people from across Africa who shared ideas and gained a better understanding of the water resource management issues challenging the continent.



Uniting water stakeholders

WISA 2012 Biennial Conference

The WRC was once again one of the sponsors of the biennial conference of the Water Institute of Southern Africa (WISA), considered a highlight on the South African water calendar. This year's conference, held in Cape Town from 6–10 May 2012, attracted over 1 800 delegates and 120 exhibitors. Several WRC-funded projects were presented, and the WRC exhibition stand was well attended.

HIGHLIGHTS OF 2012/13

National Hydrology Symposium 2012

The WRC was the main organiser and sponsor of the 16th National Hydrology Symposium held at the University of Pretoria from 1–3 October 2012. The conference was presented by the South African National Committee of the International Association of Hydrological Sciences (SANCIAHS). The event offered a unique opportunity for students to rub shoulders with some of the greatest names in the South African hydrology sector. With the theme 'Hydrology in a changing environment: Science and policy interface', the symposium paid particular attention to the management of the country's finite water resources in the face of potential climate change impacts.

International keynote speaker Christopher Dunn of the US Army Corps of Engineers with WRC Research Manager, Wandile Nomquphu.

National Hydrology Symposium Gold winner for best presentation, George van Zijl; silver winner for best presentation, George Waswa; best poster winner, Faith Jumbi, and silver winners for best presentation, Mathew Becker and Lauren Bulcock.

Second International Faecal Sludge Management Conference

The WRC was one of the main organisers of the International Faecal Sludge Management Conference, held in Durban from 29–31 October 2012, in partnership with the Bill & Melinda Gates Foundation, eThekwini Municipality, Irish Aid and others. The conference focused on the management and sustainability of dry on-site sanitation systems in the developing world. The event, attended by more than 350 delegates, representing 47 countries, showcased around 50 technologies and innovations for improved sanitation and wastewater management.

First International Conference on Freshwater Governance for Sustainable Development

The WRC, in collaboration with the DWA and various international and local water institutions, hosted the First International Conference on Freshwater Governance for Sustainable Development, in the Drakensberg, from 5–7 November 2012. The conference, which was attended by more than 400 delegates, from 29 countries, covered various topics within the themes of water-related legislation, regulatory environments, human and environmental rights, markers and measures of good governance, transboundary governance and adaptive management, among others.

International guest speaker, Prof Ali Mazrui, of the State University of New York at Birmingham, and WRC CEO, Dhesigen Naidoo.

Chair of the Parliamentary Portfolio Committee on Water and Environmental Affairs, Adv. Johnny de Lange, delivering the opening address.

HIGHLIGHTS OF 2012/13

Awards and accolades

GreenMatter Senior Fellows Award

During the year under review Executive Manager: Business Development, Marketing and Communications, Dr Inga Jacobs, received the GreenMatter Senior Fellows Award. GreenMatter is a public–private initiative championing the development of quality biodiversity and related skills. The Senior Fellows award recognises the contributions of sector leaders and supports their on-going work to help support human capital development in the sector. During the year under review, Dr Jacobs was also elected President of the Water Institute of Southern Africa (WISA)–International Water Association (IWA) Young Water Professionals (YWP).

DST Women in Science Awards

The current under-representation of women in scientific and engineering fields remains an important challenge to address in South Africa. Two WRC-funded women researchers were recognised for their outstanding achievements, through the DST Women in Science Awards 2012. Alison Lewis, a professor in the Department of Chemical Engineering at the University of Cape Town, was the winner in the Physical and Engineering Sciences Category. Prof Lewis's research highlights crystallisation as a tool to purify metals such as platinum, palladium and rhodium, as well as its potential to treat contaminated water, such as acid mine drainage.

Runner-up in the same category was Leslie Petrik, an associate professor leading the environmental and nano-science group in the University of the Western Cape's Department of Chemistry. Through funding from the WRC and other institutions, Prof Petrik has focused mainly on environmental remediation and nanotechnologies for water purification and waste remediation, with a specific emphasis on how nanotechnology may be beneficially applied in this field.

JD Roberts Award

WRC-funded researcher, Dr Kevin Wall of the CSIR, was awarded the 2012 JD Roberts Award. Dr Wall received the award for his leading role in developing innovative solutions for alternative housing, infrastructure asset management and the maintenance of sanitation systems. With funding from the WRC, Dr Wall has worked to apply franchising models to the supply and maintenance of sanitation infrastructure. The franchising model has since been implemented in 400 schools in the Eastern Cape.

South Africa's top water researcher

University of KwaZulu-Natal hydrologist and WRC researcher, Prof Roland Schulze, was voted South Africa's top water researcher in the Water Research Futures Survey completed by the University of Cape Town's Aqua d'UCT organisation on behalf of the South African water industry. Prof Schulze, who has been involved in WRC-funded research since the Commission's inception more than 40 years ago is a world-renowned expert on climate change and global warming issues.

Setting the trend for public participation

Research NGO, the Association for Water and Rural Development (AWARD) partially funded by the WRC, were acknowledged as a Runner-up with Distinction at the first Southern African Core Values Awards for Public Participation, held on 28 November 2012.

HIGHLIGHTS OF 2012/13

WRC Dialogue Series

During the year under review the WRC launched the WRC Dialogue Series, a series of discussion-based events on topical water issues affecting the South African public with the aim of bringing stakeholders from all spheres of the water sector together, including academia, government (all levels), civil society and industry, to share their understanding and experiences, in order to build a stronger foundation for developing the solutions and interventions toward a better water scenario for South Africa and its development. The WRC Dialogues are guided by the principles of transparency, openness and honesty; plurality of perspective and inclusivity; mutual respect; a commitment to problem solving and mutual accountability; as well as knowledge sharing. The value of the WRC as convenor of these events lies in its ability to be a neutral knowledge broker as South Africa's premier water knowledge resource.

14 August 2012

New opportunities for water-related jobs and asset creation

28 August 2012

Eutrophication management

28 September 2012

Water: Our heritage & legacy

1 October 2012

Exploring water data coordination

2 October 2012

Point-of-use water systems and their efficacy

8 October 2012

Once is not enough,
Water reuse & recycling

18 October 2012

The value of ecosystems to livelihoods

9 November 2012

Water governance and human rights

22 February 2013

Our water history and the future of its preservation

8 February 2013

Promoting water leadership in South Africa's shared river basins

20 March 2013

National dialogue on the state of non-revenue water

28 March 2013

COP-18 and launch of Climate and Water Atlas

SECTION B:
PERFORMANCE INFORMATION

PERFORMANCE INFORMATION

STATEMENT OF RESPONSIBILITY FOR PERFORMANCE INFORMATION FOR THE YEAR ENDED 31 MARCH 2013

In my opinion, the performance information fairly reflects the actual achievements against planned objectives, indicators and targets as per the strategic and annual performance plan of the public entity for the financial year ended 31 March, 2013.

The Water Research Commission's performance information for the year ended 31 March, 2013 has been examined by the external auditors and their report is presented on page 142.

The performance information of the entity set out on page 42 to page 107 was approved by the Board.

These statements are signed on behalf of the WRC by:

Dhesigen Naidoo

WRC Chief Executive Officer

OVERVIEW OF PERFORMANCE

Overview of Performance

Service delivery environment

The 2012/13 financial year symbolised the beginning of a growth period in terms of transformative impact at the WRC. Additionally, the WRC celebrated its 42nd year of existence in 2013, after undergoing several institutional reforms, which included the ushering in of a new Board and CEO, and further underpinned by the introduction of the Water Research Amendment Bill.

At the national level, public consultation around the revised National Water Resource Strategy (National Water Resource Strategy 2 or NWRS2) in 2012, together with the New Growth Path and the National Development Plan 2030, sets the scene for the water sector in this planning period.

The fifth decade of the WRC also began in an interesting international context. Characteristics of the next five years for which the WRC prepared in 2012/13 include: the rising intensity of the global climate change dialogue post-COP-18 and the increased realisation of the dire impacts of variable climate and extreme weather events around the world, together with the further embedding of a national-level institutionalisation of a Green Economy, including the expected finalisation and implementation of South Africa's Climate Change Response Strategy. The battle of human population growth against a background of decreasing resource availability and increasing biodiversity loss remains high on the agenda. This all happens within the context of a continued global economic challenge, where even the relatively rapid growth rates of Africa and the Asian giants still struggle to catalyse a significant global economic recovery. The important marker of 2015 looms large, and has focused the mind on the achievement of the Millennium Development Goals (MDGs).

The WRC has organised its Corporate Plan to respond very directly to these challenges and opportunities through its research portfolio, impact areas of the WRC Knowledge Tree, its burgeoning thematic WRC Lighthouses, and multiple other key initiatives. This section outlines the numerous achievements in these domains in the 2012/13 financial year.

In order to assist users of the Annual Report to gain an understanding of the challenges, successes and other factors that might impact on a public entity's performance, it is necessary to provide an overview of the context within which the public entity operated during the year under review, and sought to implement its corporate plan and annual performance plan.

Organisational environment

During the 2012/13 financial year, the WRC developed its five-year Corporate Plan, characterised by three important elements. Firstly, it has been an on-going and iterative process. Secondly, it has been consultative, incorporating discussions and considerations from DWA and WRC stakeholders in various forums. Thirdly, it has employed both forecasting and back-casting approaches to the development of strategic objectives, involving an analysis of the WRC's current positioning in the sector as well as a reflection on developments and potential developments in the external and organisational environment that could have an impact on the five-year planning cycle. All of this has taken place under the guidance of the WRC Board. The WRC's high-level organisational structure (Figure 5) was reviewed, and achievements in these domains are reported below.

Figure 5: Organisational outline

KEY POLICY DEVELOPMENTS AND LEGISLATIVE CHANGES

There have been no policy developments or legislative changes affecting WRC operations during the period under review; however, the finalisation of the NWRS 2, as well as the Water Research Amendment Bill due in 2013/14, as well as the revision of the NWA, WSA and the policy review, will have significant implications for the WRC (to be reported in 2013/14).

STRATEGIC OUTCOME-ORIENTED GOALS

The research portfolio for 2012/13 was set on the basis of the WRC's Corporate Plan. The schematic presentation in Figure 6 outlines the research portfolio addressed during the year under review. The WRC continued to invest in the creation of knowledge via its four research-related key strategic areas (KSAs). These areas are: Water Resource Management, Water-Linked Ecosystems, Water Use and Waste Management, and Water Utilisation in Agriculture. A further development in 2012/13 has been the reorientation of KSA 5: Business Development, Marketing and Communications to provide strategic direction to the business development, communication, marketing and branding goals of the WRC, with an emphasis on research uptake and knowledge dissemination.

WATER RESOURCE MANAGEMENT

- Water resource assessment and planning
- Water quality management
- Water resource protection
- Water resources and climate
- Water resource institutional arrangements

WATER LINKED ECOSYSTEMS

- Ecosystem processes
- Ecosystem management and utilisation
- Ecosystem rehabilitation

WATER USE AND WASTE MANAGEMENT

- Water services - Institutional and management issues
- Water supply and treatment technology
- Sustainable municipal wastewater and sanitation
- Sustainable and integrated industrial water management
- Mine-water treatment and management
- WaterSmart Fund

WATER UTILISATION IN AGRICULTURE

- Water utilisation for food and fibre production
- Water utilisation for fuelwood and timber production
- Water utilisation for poverty reduction and wealth creation in agriculture
- Water resource protection and reclamation in agriculture

Figure 6. Key strategic research areas and thrusts

KEY PERFORMANCE AREAS

Key performance areas

The key performance areas (KPAs) are based on the strategic context and the challenges identified above, as well as specific strategic risk areas as identified by the Board and Management. The KPAs address both internal and external issues. These KPAs were developed with the aim of assisting the WRC in serving the country in accordance with its mandate, supporting Government objectives as presented in Government's Outcomes while supporting the Commission's strive toward excellence, i.e. functioning as a relevant and effective water-centred knowledge hub. The WRC identified four key areas of performance, namely, knowledge generation, knowledge dissemination and capacity building, financial perspectives, and support systems and processes.

Knowledge generation

The objectives and indicators presented in this KPA reflect the core business of the WRC, i.e., supporting knowledge generation by funding relevant research. This is directly linked to Government's Outcomes.

The WRC aims to continue to provide South Africa with knowledge that will support Government delivery. The Commission, through the provision of such knowledge, also aims to enhance the activities of the water sector in a manner that will support economic growth and sustainable development and improve quality of life for all South Africans. Another key objective of WRC-funded research is the sustainable management of the country's water resources and natural environment, and protecting the country's rich natural biodiversity.

Table 1 provides an overview of the number of targeted research projects (new and finalised) and new innovations for the year under review. New innovations will provide novel technologies, processes, methodologies and approaches that could support the addressing of South Africa's water issues, if appropriately deployed along the impact value chain.

Table 1. Achievements against the knowledge generation indicators

Indicator	Target 2012/13	Achieved 2012/13
Initiating new research projects addressing water management	78	81[a]
Finalised projects	80	85[b]
New innovations	17	18[c]

Notes on variance:

[a] It should be noted that the WRC, through its funding constraints, can only fund one third of the quality proposals received each year. Whenever there is a saving or a new source of funds new projects are initiated. An additional project was initiated due to increased fund availability coming from a new leverage source which was a court decision, while another two projects were initiated from savings.

[b] This reflects a 100% achievement of the 2012/13 target. In addition a further 5 projects that were not finalised in previous years were now finalised as a special effort to clear the backlog.

[c] An unplanned innovation opportunity emerged during a research project.

Knowledge dissemination and capacity building

This KPA aims to improve the WRC's contribution towards capacity building as well as to enhance the sharing and dissemination of WRC-funded research findings, i.e., knowledge-sharing and dissemination functions. This KPA is linked to Government Outcomes/Outputs related to building skills by addressing the building of future research capacity and improving knowledge dissemination. The objectives of this KPA are to:

- **Improve the WRC's contribution towards the water-centred knowledge base** in South Africa, including capacity building of students supported through research projects funded by the WRC.

- **Enhance the WRC knowledge-sharing activities and positioning** through knowledge dissemination and sharing (measured against the number of knowledge-sharing events, including workshops and publications such as the *Water Wheel* and *Water SA*, and technical and policy briefs).

KEY PERFORMANCE AREAS

Table 2. Targeted and achieved knowledge dissemination and capacity building indicators

Objective	Indicators	Target 2012/13	Achieved 2012/13
Improve knowledge dissemination	To enhance public understanding of water research (measured as volumes/cumulative numbers of issues of the *Water Wheel*).	6	7[a]
	To cumulatively increase the number of technical and policy briefing notes.	30	38[b]
	To improve the dissemination of water research (measured as volumes/ cumulative number of issues of *Water SA*).	4	5[c]
	To engage the sector in knowledge-sharing events (number of workshops).	20	37[d]
Enhance research capacity	To increase the number (cumulative) of students supported by research projects.	400	494[e]

Notes on variance:

[a] A special edition was published, which brought the total to 7.

[b] An additional 8 briefing notes were produced for the additional projects and significant deliverables.

[c] A fifth issue was produced which constituted a special edition emanating from the International Conference on Groundwater.

[d] The large number of additional workshops was due to a change in strategic direction to have more engagement of stakeholders with WRC research products.

[e] This was due to both students showing an increased interest in WRC projects and an ability of those projects to accommodate additional students.

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, as presented below. The overarching objectives have been translated into a number of indicators as follows:

- Improving financial performance
  - Income growth (income growth is measured as meeting the Leverage income budgetary target of 10% of total income)
  - Research ratio (measured as research funding and support as a percentage of total income)
  - Cash-flow management (measured against availability of cash for effective operation)

- Improving financial management
  - High-quality budget planning and reporting (measured as the percentage deviation between actual and budget at year-end)
  - Audit results (measured as a percentage of the previous year's internal audit queries addressed and a clean vs. qualified audit)
  - Roll-over of research funds (measured as the deviation from the budgetary figure for roll-over of research project funds)

Table 3 indicates the targeted and achieved financial indicators.

Table 3. Achievements against the indicators related to financial perspectives

Objective	Indicators	Target 2012/13	Achieved 2012/13
Improve financial performance	Maintain income growth (Income growth is measured as meeting the leverage income budgetary target of 10% of total income). Maintain high level of research ratio (measured as research funding and support as percentage of total income). Improve cash-flow management (measured against availability of cash for effective operation).	10% 74% R30 m.	10% 74% More than R30 m. per month was achieved throughout the year[a]
Enhance effective financial management	Improve quality budget planning and reporting (measured as the percentage deviation between actual and budget at year-end). Improve response to audit results (measured as a percentage of the previous year's. • Internal Audit - internal audit queries addressed • External Audit – AG report	10% 70% (internal audit) Unqualified report (external)	4% 80% achieved (67% fully resolved & a further 13% partially resolved)
	Roll-over of research funds (measured as the deviation from the budgetary figure for roll-over of research funds.	20%	5%[c]

Notes on variance:

[a] Improved cash-flow through better co-operation with DWA as regards levy payments.

[b] The improvement in the deviation from 10% to 4% was as a result of increased efficiency in financial management.

[c] This decrease in the roll-over from 20% to 5% was achieved through improved management of project deliverables.

KEY PERFORMANCE AREAS

Support systems and processes

Table 4. Targeted and achieved support systems indicators

Performance area	Indicators	Target 2012/13	Achieved 2012/13
Fund management system	Expand system to include short-term research projects	50% of short-term projects are on the system	66% of short-term projects are on the system[a]
Human resources	Improve equity Enhance staff skills	80% of appointment EE 4 in-house training and 14 external training courses	4 18[b]
Research community-stakeholders	WRC 101 induction offering	2	4[c]

Notes on variance:

[a] All new short-term research projects were captured on the Fund Management System (FMS), and a significant percentage of the backlog was addressed.

[b] Four further training courses were accommodated to upskill staff in the fourth quarter.

[c] A WRC 101 was added for Research and Finance Offices to assist with the administration of WRC projects, and a further WRC 101 was held to increase geographical access to capacity building for WRC research leaders.

PROGRAMMATIC SUMMARY OF RESEARCH

The following section represents a summary of the WRC's programmatic research portfolio per KSA.

KSA 1: Water Resource Management

Objectives

The ultimate objectives of the research in this KSA are to grow and maintain appropriate scientific capacity, and to develop efficient and effective knowledge tools that meet the changing needs of water resource management in South Africa, in which the human dimension is very central.

Scope

Apart from the problems of water resource limitations and induced scarcity, South Africa has specific challenges relating to inequities in the physical, social, administrative as well as institutional access to this important resource. This applies especially to the poor and disempowered majority, whose ability to pay for water is limited and who don't have water allocations. In this KSA the main focus during 2012/13 was from the perspective of enhancing local water management and water management institutions in implementing water allocation reform.

Demands placed on water resources arise from a combination of factors: growth and development, increased human and animal populations, increased urbanisation, and climate change and variability. Strategies for reducing demand, increasing efficiency on a catchment basis, and creating new sources of water resources from, for example, desalination, fog harvesting, targeted recycling, reuse, artificial recharge, etc., provided complementary strategies within the NWRS that can form part of Outcome 6 of Government's key focus for 2014, namely, 'an efficient, competitive and responsive economic infrastructure network', which relates directly to water resource assessments, planning and development of infrastructure. Output 4: 'Maintenance and supply availability of our bulk water infrastructure', is directly addressed by these strategies.

This KSA also placed large emphasis on research around water and climate change, as the latter can exacerbate competition over scarce or inequitably-allocated resources. Water resource assessments are expected to benefit from improvements in the accuracy and detail of hydrological measurements and how these are interpreted in water resource simulations as well as other tools for water resource decision making. The extent to which interpolations and extrapolations can be used in modelling real water regimes will depend heavily on accurate and reliable data at appropriate spatial and temporal scales. The KSA invested considerably in enhancing the estimates for quantifying water use and water availability.

Thrusts

Thrust 1: Water Resource Institutional Arrangements

This thrust focused on articulating the thinking for the new roles and responsibilities of the various stakeholders, based on catchment and water management area boundaries. The marked shift from central management of resources to a more localised scale is critical to the main founding concepts of integrated water resource management (IWRM). This thrust supported research on tools and methodologies for IWRM decision support.

PROGRAMMATIC SUMMARY OF RESEARCH

Thrust 2: Water Resource Assessment and Planning

This thrust focused on developing a scientific understanding of the hydrological cycle (and inter-linkages) in order to promote systematic water assessment and planning. The thrust promoted better understanding of the variability of the quantity and quality of water available for use and development in South Africa.

Thrust 3: Water Quality Management

This thrust acknowledged the significant water quality problems in our natural water resources. Water quality is generally reflected in concentrations of substances and micro-organisms, physico-chemical attributes, and radioactivity, as well as biological responses to these. Within each of the programmes in this thrust, research focused on two broad fronts, namely, consolidation and knowledge transfer, and alertness to emerging issues. The primary aim was to distil effective decision support for management of our water quality problems. High priority issues investigated included those of national concern, those for which the frequency or probability of adverse conditions occurring is high, and the consequences are severe, and so on.

Thrust 4: Water Resource Protection

Reliable supply of good quality water is required for the health and environmental, social and economic well-being of the country. There are significant gaps in our knowledge on how to protect our water resources in an integrated manner. Thrust 4 focused on research relating to protecting the water resources, by reducing the quantity of harmful materials reaching the water resources. Broadly, research in this thrust focused on the generation of knowledge and understanding of the catchment processes and land use activities that influence the quality and quantity, negatively or positively, of the water resources. Scientific, technological and institutional approaches that helped to characterise and address these problems include: (1) assessment, monitoring and prediction; (2) tools and control strategies; (3) innovation to assist with prediction and control; and (4) implementation and technology transfer options.

Thrust 5: Water Resources and Climate

Global environmental change, including climate change, has potential deleterious effects on systems, resources and society. These also superimpose on existing stressors such as unsustainable use of water, deteriorating water quality, land use and demographic changes in time and space. The resultant lack of access to water of acceptable quality is also likely to have undesirable impacts on economic growth, food security, health, ecosystem goods and services, as well as community livelihoods.

South Africa is vulnerable to these effects. Adaptation that reduces this vulnerability is critical. Accordingly, this thrust focused on developing understanding of global climate change and hydro-climatic variability impacts, crafting methodologies for vulnerability assessments and development of appropriate adaptation options and solutions at various scales. Research also included developing appropriate quantitative understanding, tools and strategies for managing the impacts of climate variability and change as well as human interventions on the hydrological cycle and related water resources. These aimed to support the development of policy responses, at regional, national or catchment scale, to existing and emerging problems.

KSA 2: Water-Linked Ecosystems

Objectives

The main objective of this KSA is the provision of knowledge to enable good environmental governance so as to ensure the sustainable utilisation and management of water; and to develop an understanding of the ecological processes underlying the delivery of goods and services from the water-linked ecosystems in a water-scarce country during a time of demographic and climate change.

During the year under review this was achieved through the following (secondary) objectives which aimed to:

- Develop an understanding of the ecological processes underlying the delivery of goods and services
- Develop the knowledge to sustainably manage, protect and utilise aquatic ecosystems
- Transfer the knowledge to appropriate end-users through the development of innovative tools and methods for effective knowledge dissemination
- Promote utilisation of research output and innovations in policy making, development and business planning; the knowledge cycle should include or be connected to both generators and users of the knowledge
- Strategically align research with the WRC mandate and Government Outcomes and other priorities
- Promote good science and build capacity in both research and management to sustainably manage aquatic ecosystems

The overall objective was achieved by expanding the scope of the research portfolio, developing technologies and methodologies, adaptive management processes and capacity to protect the resource and to sustain the flow of goods and services in a time of both demographic and climatic change in the African context.

PROGRAMMATIC SUMMARY OF RESEARCH

Scope

Over the past ten years KSA2 has been at the forefront of conducting fundamental research that has not only established the causal effect of human activities on water quality and aquatic ecosystem health, but has worked with different stakeholders to disseminate and transfer research outputs from the KSA to policy makers and water resource managers. In cognisance of the complex and evolving needs of the society and communities that the KSA's R&D serves, it was necessary for KSA 2 to adapt its portfolio to remain relevant and appropriate.

Thrusts

Thrust 1: Ecosystem Processes

This thrust included research addressing the biophysical processes, form and function of ecosystems. This understanding will assist those managing the resource (water services, crop and aquaculture, biodiversity, etc.) to maximise socio-economic benefits in a sustainable manner. The aim was to generate knowledge to inform policy and management.

Thrust 2: integrated ecosystem management

This thrust included research which specifically addressed the management of ecosystems for sustainable utilisation and provision of the ecosystem benefits that people depend on. Central to this is the need to manage the social and economic requirements of society from ecosystems and the implementation of policy and legislation. Capacity was built to implement the research findings.

Thrust 3: Ecosystem Rehabilitation, Remediation, and Restoration

This thrust addressed the rehabilitation, restoration and remediation of the aquatic environment (including both the abiotic and the biotic components) which has been degraded through anthropogenic activities, with the view to restoring, as far as possible, process, form and function in order to provide the stream of goods and services that a healthy aquatic ecosystem should provide. This was done in terms of both relevant international conventions and national legislation, and sought to restore biodiversity where possible. Support was provided in building the capacity to implement the research findings.

Thrust 4: Sustainable Ecosystem Utilisation and Development

This research portfolio investigated issues relating to ecosystem goods and services. The research addressed the management of ecosystems for sustainable utilisation for the provision of the ecosystem benefits that people depend on. Central to this is the need to manage the social and economic requirements of society from ecosystems and the implementation of policy and legislation. Support was provided in building the capacity to implement the research findings. The thrust was used to demonstrate the actual value of ecosystems to society's livelihoods and well-being, including business.

Thrust 5: Ecosystems and Global Change

The thrust addressed research to improve our understanding of the connectivity between land, water, atmosphere and people.

KSA 3: Water Use and Waste Management

Objectives

The primary objective of this KSA is to provide knowledge that ensures reliable, affordable and efficient water use and waste management services to enhance the quality of life, and to contribute to economic growth and improved public health.

The secondary objectives are to:

- Improve the management of water services in both rural and urban areas
- Develop appropriate technologies for improving the quality and quantity of our water supplies for both domestic use and industrial applications
- Develop new approaches to manage and enhance hygiene and sanitation practices
- Provide appropriate, innovative and integrated solutions to water and waste management in the industrial and mining sectors
- Develop applications for improved treatment of wastewater and effluent and improve processes for enabling increased reuse thereof
- Improve health, economic and environmental conditions, while supporting the development of appropriate technologies and socially-focused management practices related to water and effluent management

Scope

The KSA focuses mainly on the municipal, industrial and mining water sectors. It aims 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. This KSA also supports studies on institutional and management issues.

In recent years the focus of the KSA has been on supporting the implementation of various pieces of legislation that impact on the provision of sustainable water services. The support was in the form of unpacking and understanding key elements within legislation and the impact on the water services sector. The result has been a bias towards developing guidelines and tools to assist new and emerging municipalities and politicians to understand their responsibilities, which also included repackaging information of a technical nature.

Developing innovative processes and technologies for water purification and reuse, and treatment of wastewater from domestic to industrial and mining activities, has been, and is, of even greater importance to our country, especially in the light of problems related to the deteriorating quality of our water resources and the rising costs and reliability of energy. Considering the emerging challenges, research in the KSA continued to focus on greater innovation and development of cutting-edge technologies to respond to the issues of poor O&M, competency and capacity constraints, reuse, energy efficiency, climate change constraints, emerging contaminants and the aspect of drinking water quality.

Thrusts

Thrust 1: Water Services – Institutional and Management Issues

The efficient functioning of water service institutions and their viability is key to sustaining water services in rural and urban areas. The focus of this thrust was to address strategic research aspects related to policy issues, institutional reform, regulation, infrastructure management, operations and maintenance, sanitation (stormwater, sewerage and on-site sanitation), water-related competencies and capacity required for the strengthening of water institutions (water services providers, water services authorities, water boards, national departments) in providing sustainable water services.

PROGRAMMATIC SUMMARY OF RESEARCH

Thrust 2: Water Supply and Treatment Technology

The provision and supply of affordable and reliable water, of sufficient quality and quantity for domestic and economic (industrial/commercial and mining) activities, remain continuous challenges. Research support for these activities was the focus of this thrust. Linked to water supply is the all-important aspect of the protection of human health. The objective of this thrust was to develop innovative technologies, processes and procedures that address aspects related to bulk water supply, water treatment technology, distribution and water quality.

Thrust 3: Sustainable Municipal Wastewater and Sanitation

This thrust focused on the development of technologies and systems that optimise the full wastewater and sanitation services chain in the municipal (domestic) sector. This included the reticulation, treatment and management of the residues. The challenge is to implement fitting solutions for a particular application that will remain functional throughout the intended lifespan of the installed infrastructure. The need for innovative technologies and solutions is recognised as we prepare for the future – achieving more stringent effluent discharge standards, developing acceptable non-waterborne sewerage solutions, reliable treatment of ever-increasing high-strength domestic wastewater, and informing future policy.

Thrust 4: Sustainable and Integrated Industrial Water Management

Water is a strategic issue to the industrial sector. While water usage by the industrial sectors is not as great as, e.g., agricultural or domestic consumption, the impacts of the pollutants in industrial wastes and effluents on health and the environment can be significant, costly and long-lasting. The aim of this thrust was to quantify water use and waste production, predict impacts (risks) over the short-, medium- and long-term, and develop and apply methods of prevention, minimisation, reuse, recycle, recovery and beneficiation. This thrust also aimed to provide appropriate, innovative and integrated solutions for water efficiency and waste management for industries. In addition, Thrust 4 established the governance, policy and regulatory environment that currently exists and the enabling environment that will be required to change behaviours to conserve water, grow the economy, and protect society and the environment.

Thrust 5: Mine Water Treatment and Management

The usage of water in mining and mineral processing/refining produces high volumes of solid wastes and liquid effluents. Some mining activities generate acid mine drainage (AMD) or other mining-impacted waters. This thrust aimed to provide appropriate, innovative and integrated solutions to water use and waste management in the mining sector. Future operations will almost exclusively take place in water-scarce regions (e.g. Waterberg, Eastern Limb) and their development will require reallocation of already stretched resources through, e.g., improved water demand and water conservation management. Additional priorities will include brine handling, biological sulphur compound transformation and aversion of future impacts. Linkages (including memoranda of understanding) with organisations such as Coaltech, ESKOM and SASOL provide scope for the scale-up and demonstration of newly developed technologies.

Thrust 6 : Watersmart Fund

Drinking water and commercial activities have a high cost and assurance attached to them, as well as growing competitive demands. The wise and efficient use of this water has a profound impact on our water environment, resources and investments. Thus, this fund supported research, demonstration and development of any innovative idea, technology or process which supports the efficient use, reuse and conservation of our precious water and also improves the related energy efficiency in the domestic, industrial and mining sectors.

KSA 4: Water Utilisation in Agriculture

Objectives

The primary objective of this KSA is to increase national and household food security and to improve the livelihoods of people on a farming, community and regional level through efficient and sustainable utilisation and development of water resources in agriculture. The secondary objectives are to:

- Increase biological, technical and economic efficiency and productivity of water use
- Reduce poverty through water-based agricultural activities
- Increase profitability of water-based farming systems
- Ensure sustainable water resource use through protection, restoration and reclamation practices

Scope

The strategic focus in this KSA, as described in previous years, is on increasing the efficiency and productivity of water use for production of food, forage, fibre, and fuel crops; improving food security; reducing poverty and increasing the wealth of people dependent on water-based agriculture; and ensuring sustainable water resource use. The needs and requirements of present and future generations of subsistence, emergent and commercial farmers is addressed through creation and application of water-efficient production technologies, models and information systems, within the following interrelated sub-sectors of agriculture, namely:

- Irrigated agriculture
- Rain-fed agriculture
- Woodlands and forestry
- Grasslands and livestock watering
- Aquaculture and fisheries

The challenge for applied research is contributing to finding sustainable solutions for water use in agriculture, with priority given to innovative new products which support economic development and inform decision-making for private business and public policies. In the process of undertaking these research projects, the composition of research teams endeavoured to increase representation of Black and female researchers; postgraduate students are trained to improve the expertise of human capital, with research outcomes empowering individuals and groups in rural communities.

Thrusts

Thrust 1: Water Utilisation for Food and Fibre Production

Water productivity can be increased by producing more with the same use of water or by producing the same with less use of water. This requires understanding of water dynamics in the soil-water-plant-atmosphere continuum, the equipment which is used and the method of production which is followed. Research on all these aspects can contribute to higher water use efficiency in agriculture. The emphasis in this programme was on the efficient use of water and management of water quality for irrigation of crops, livestock watering and aquaculture in rivers, ponds and dams.

PROGRAMMATIC SUMMARY OF RESEARCH

Thrust 2: Water Utilisation for Fuelwood and Timber Production

In catchment areas where trees are a prominent feature of land use, runoff and deep percolation of water can be reduced. Management of these so-called streamflow reduction activities necessitates an understanding of the water use by trees and the competitive or complementary relationship of water use by trees and water use by staple food and forage crops. Due to research specialisation, separate attention was given in this programme to increase the efficiency of water use by trees in woodlands and plantations for fuel-wood and timber production. This thrust included one programme, namely on water-efficient production methods and systems in agro-forestry, woodlands and forestry plantations.

Thrust 3: Water Utilisation for Poverty Reduction and Wealth Creation in Agriculture

Poverty, hunger and malnutrition amongst rural people are widely recognised as major problems. These members of rural communities, consisting mainly of women, children and the elderly, are also disadvantaged or marginalised for various social, economic and political reasons. A wide-ranging programme is required to support the sustainable development of rangeland livestock, rain-fed and irrigated crop production. Efficient use of water through a combination of agricultural activities can contribute to improving living conditions. Empowerment of rural people can be promoted further through participatory action research which improves knowledge, farming skills and leadership capabilities.

Commercial farming is a major user of water resources and faces a particular challenge to ensure that this share of water is used effectively and efficiently. There is invariably a close link between efficient use and allocation of water and whole-farming profitability. Water management on farms is also time-dependent and based on incomplete knowledge of changes in the weather, prices and technology. Under these circumstances modelling is a powerful tool to provide decision-support and management advice. The focus in this programme was therefore on developing procedures, methods and models to provide advice to farmers on best management practices and the optimal combination of crop and livestock enterprises within the constraints of water, land and capital resources.

Thrust 4: Water Resource Protection and Reclamation in Agriculture

With cultivation and irrigation, larger quantities of salts present in the soil and lower strata could be mobilised. Increasing salinity levels and higher water tables threaten the sustainable use of soil and water. Knowledge and tools to manage the quantity and quality of water resources for agricultural production are therefore required. The focus of research was on developing methods and models to manage water distribution and prevent water resource degradation.

Agricultural decisions to use land and to conserve rainfall or to abstract water from rivers, dams and boreholes, have wide-ranging impacts on the natural environment. Intensification of crop and livestock production processes can potentially contribute to higher levels of chemical residues of fertilisers, pesticides and herbicides in surface and groundwater. Precautions must be taken as part of the agricultural production process to protect the terrestrial and aquatic ecosystems. This requires an understanding of the negative impacts of agriculture and guidelines for an assessment and mitigation of those impacts.

RESEARCH PROJECT ACTIVITY

During the year under review the WRC managed 305 research projects at various stages of the project life-cycle (Table 5) of which 79% (242 projects) were active projects. The remainder mostly consists of projects that have been finalised and are in the process of being financially closed.

Table 5. Overview of research project activity for the year under review

Financial year	2012/13	2011/12
Total number of projects	305	322
Number of active projects	242	258
Number of new projects	81	74
Number of finalised projects	85	96
Number of directed projects	85	101

New Projects

In 2012/13, the WRC also initiated 81 new projects. A total of 28 projects were initiated under the key strategic area focusing on Water Resource Management (KSA 1); while the key strategic area focusing on Water-Linked Ecosystems (KSA 2) initiated 13 projects. In turn, the key strategic area focusing on Water Use and Waste Management (KSA 3) initiated 32 projects, while the key strategic area focusing on Water Utilisation in Agriculture (KSA 4) initiated 8 projects.

Table 6. Water Resource Management projects initiated in 2012/13

Project no.	Project title
K5/2143	Update resources of South Africa (WR2005): Phase 1
K5/2144	Presence, levels, and potential implications of HIV anti-retrovirals in drinking, treated, and natural waters
K5/2145	Surveillance of viral, faecal indicator bacteria and Vibrio pathogens in the final effluents of wastewater treatment facilities in the Eastern Cape Province: A vehicle for capacity development in microbial water quality science in the Province
K5/2146	The effect of long-term fire frequency and season treatments on the soil hydraulic properties and soil water balance within semi-arid savannah in the Kruger National Park
K5/2147	Pinpointing human infectious disease risks and climate vulnerability; an integrative approach using cholera as a model
K5/2148	Non-parametric multi-site stochastic rainfall generation including climate change – related non-stationarity
K5/2149	Development of an interactive vulnerability map and preliminary screening level monitoring protocol to assess the potential environmental impact of hydraulic fracturing

Table 6. Water Resource Management projects initiated in 2012/13 (continued)

Project no.	Project title
K5/2150	Hydrogeological heritage overview: Upper and Lower Fountains, Pretoria, City of Tshwane
K5/2151	Encouraging citizens' water quality management through sub-catchment forums
K5/2152	Planning for adaptation: Applying scientific climate change projections to local social realities
K5/2153	Screening study to determine the distribution of common brominated flame retardants in water systems in Gauteng
K5/2154	Implementation of a South African National Standard for Water Retaining Structures
K5/2155	Evaluation of the Monthly Stochastic Rainfall Generator in Existing Department of Water Affairs Risk-based Water Resources Yield Assessment Processes
K5/2156	Investigating climate change effects under altered land uses on water yield and downstream ecosystem services
K5/2157	Groundwater yield-reliability analysis and operating rules for rural areas
K5/2158	Favourable zone identification for groundwater development: Options analysis for local municipalities
K5/2159	Using an integrated water quality management model to support the implementation of National Water Act water use authorisations
K5/2160	The selection and validation of sediment toxicity test methods to be included in the National Toxicity Monitoring Programme
K5/2161	Natural resource governance system in South Africa
K5/2162	WRF Rainfall parameterisation and verification
K5/2163	Stratospheric and tropospheric radiative forcing of southern African climate variability and change
K5/2164	A methodology to create a South African river network with hydraulic intelligence
K5/2165	The economics of sustainable aquifer ecosystem services: A guideline for the comprehensive valuation of aquifers and groundwater
K5/2166	Insights towards an improved governance model and practical implementation of rural development and community upliftment projects, centred around the productive use of water
K5/2167	Groundwater remediation technologies manual for South Africa – A theoretical treatise and practical guide
K5/2168	Investigating the occurrence and survival of Vibrio cholera in surface water sources in KwaZulu-Natal Province of South Africa
K5/2169	Microbial pathogens in water resource sediments: Their dynamics, risks and management
K5/2170	An analysis of paradigms shaping water research in South Africa: Questions for future research

RESEARCH PROJECT ACTIVITY

Table 7. Water-Linked Ecosystems projects initiated in 2012/13

Project no.	Project title
K5/2181	Ecosystem functioning, sustainable utilisation and management of aquatic resources of the Lower Phongolo River and floodplain
K5/2182	Biological temperature thresholds for the ecological Reserve
K5/2183	Trajectories of change of wetlands in the Fynbos Biome: Part A. Habitat transformation, water quality and diatom response
K5/2184	Critical analysis of water quality in South Africa: Historic and current trends
K5/2185	Ecosystem functioning, sustainable utilisation and management of aquatic resources of the Lower Phongolo River and floodplain
K5/2186	Connectivity through allochthony: Reciprocal links between adjacent aquatic and terrestrial ecosystems in South Africa
K5/2187	The resilience of South Africa's estuaries for future water resource development based on a provisional ecological classification of these systems
K5/2188	Nile crocodiles in north-eastern KwaZulu-Natal
K5/2190	The classification of endorheic wetlands (pans) and the effect of acid mine drainage on the hatching success of egg banks of selected invertebrate communities within pans
K5/2191	Identification of wetland processes impact on water resources at catchment scales
K5/2192	Consolidation and optimisation of wetland health assessment methods through development of a Decision Support Tree that will provide guidelines
K5/2200	Development of a methodology to determine the appropriate buffer zone width and type for developments associated with wetlands, watercourses and estuaries (short title: wetland buffer zones)
K5/2281	Develop and test a landscape-based multidisciplinary and multi-sectoral decision support system to support Integrated Water Resource Management in Mpumalanga

Table 8. Water Use and Waste Management projects initiated in 2012/13

Project no.	Project title
K5/2117	Characterisation of indigenous anaerobic ammonium oxidising bacteria grown in micro-aerobic environments
K5/2118	Identifying efficiency and inefficiency in municipal water service provision
K5/2119	Decision-support model for the selection, costing and application of drinking water treatment and supply options to address water shortages and improve water services
K5/2120	Constraints on providing sewerage in South African informal settlements: A study of social and institutional management concerns
K5/2121	Investigation into the cost and water quality aspects of South African desalination and reuse plants
K5/2122	Fate and behaviour of engineered nanomaterials in wastewater treatment systems
K5/2123	Performance and efficacy of integrated algae ponding systems in wastewater treatment for water reuse and cost recovery through biomass valorisation
K5/2124	Point-of-use disinfection systems designed for domestic rainwater harvesting tanks for improved water quality in rural communities
K5/2125	Integration of aquatic chemistry with bio-process models
K5/2126	Capacity building for climate change adaptation and disaster risk reduction in rural South African communities: Tshengiwe, Eastern Cape
K5/2127	Development of risk criteria for water management aspects of mine closure
K5/2128	Application of mineral carbonation processes for brine remediation
K5/2129	Treatment of mine-water using a combination of coal fly ash and flocculants in a jetloop reactor system
K5/2131	Quantifying the fertiliser value of wastewater sludges for agriculture
K5/2132	Advanced oxidative water treatment process for water disinfection using an electrohydraulic discharge reactor and TiO2 immobilised on nanofibres
K5/2133	Social protests and water service delivery in South Africa
K5/2134	Investigation into risks of exposure of workers and households to pathogens through current desludging practices and development of guidelines to minimise risks
K5/2135	Practical guidelines for operation and maintenance of water distribution systems in South Africa
K5/2136	Sanitation subsidies in perspective – How to increase the effectiveness of sanitation subsidies in South Africa
K5/2137	Pour-flush and portapotty sanitation systems

RESEARCH PROJECT ACTIVITY

Table 8. Water Use and Waste Management projects initiated in 2012/13 (continued)

Project no.	Project title
K5/2138	An investigation into the presence and impact of free-living amoebae and amoeba-resistant bacteria on drinking water production, storage and distribution to healthcare institutions in greater Johannesburg, South Africa
K5/2140	Determination of the change in hydraulic capacity in pipelines
K5/2142	A detailed acid-base accounting study of the Karoo formations in the Waterberg coalfield
K5/2193	Self-regulation of the package plants/small wastewater treatment industry: Development of a framework of standards, a conceptual model for a test facility and an accreditation system for each technology provided by suppliers
K5/2195	New housing unit designed for ceramic water filters to be more applicable in rural and peri-urban communities in South Africa
K5/2196	In-field demonstration of a remote, real-time water quality monitoring system
K5/2197	Filter for the removal of suspended solids naturally found in harvested water
K5/2198	Developing a low-flush latrine for application in public schools
K5/2203	Demonstration and scaled-up implementation of pour-flush sanitation in South Africa
K5/2258	A gap analysis of technologies, techniques and capacity for the water and wastewater (domestic and industrial) sector in South Africa
K5/2287	Development and demonstration of a woven fabric immersed membrane bioreactor package plant for decentralised sanitation
K5/2289	Water management efficiency: The development and testing of an optimisation model at selected Eskom sites for an integrated water solution

Table 9. Water Utilisation in Agriculture projects initiated in 2012/13

Project no.	Project title
K5/2171	Nutritional water productivity of indigenous food crops
K5/2172	Current rain-fed and irrigation production of food crops and its potential to meet all-year-round nutritional requirements of rural poor people in North West, Limpopo, KwaZulu-Natal and Eastern Cape provinces
K5/2173	Water use and crop parameters of pastures for livestock grazing management
K5/2174	Scoping study on different on-farm treatment options to reduce the high microbial contaminant loads of irrigation water to reduce the related food safety risk
K5/2175	Evaluation of the risks associated with the use of rainwater, harvested from roof tops, for domestic use and homestead food gardens; and groundwater for domestic use and livestock watering
K5/2177	Up-scaling of rainwater harvesting and conservation on communal crop- and rangeland through integrated crop and livestock production for increased water use productivity
K5/2178	Water use productivity associated with appropriate entrepreneurial development paths in the transition from homestead food gardening to smallholder irrigation crop farming in the Eastern Cape Province
K5/2179	Water use productivity associated with appropriate entrepreneurial development paths in the transition from homestead food gardening to smallholder irrigation crop farming in the Limpopo Province

Completed projects

A total of 85 projects were completed during 2012/13. A total of 21 projects were completed under the key strategic area focusing on Water Resource Management (KSA 1), with another 18 projects completed under the key strategic area focusing on Water-Linked Ecosystems (KSA 2). Under the key strategic area focusing on Water Use and Waste Management (KSA 3) 37 projects were completed. Lastly, 9 projects were completed under the key strategic area focusing on Water Utilisation in Agriculture (KSA 4).

RESEARCH PROJECT ACTIVITY

Table 10. Water Resource Management projects completed in 2012/13

Project no.	Project title
K5/1847	Tropical systems from the southwest Indian Ocean into southern Africa: Impacts, dynamics and projected changes
K5/1849	Management of human-induced salinization in the Berg River catchment and development of criteria for regulating land use in terms of salt-generating capacity
K5/1851	Development and application of global navigational satellite systems methodology for groundwater resource assessment
K5/1904	Research into the nutrient and organic carbon fluxes from small-scale agriculture
K5/1905	Investigation of the fate and transport of selected microorganisms in two simulated aquifer conditions in the laboratory and in the field
K5/1906	A comprehensive short-term heavy rainfall forecasting system for South Africa with first implementation over the Gauteng Province
K5/1913	Modelled sea-surface temperature scenario considerations and southern Africa's seasonal rainfall and temperature predictability
K5/1914	The investigation of unsteady flow conditions at dam bottom outlet works due to air entrainment during gate closure
K5/1916	Research on the hydrogeology of Groundwater Region 10: Karst belt
K5/1933	Guidelines for EDC Management in Water Resources Volume 4: Management options for EDCs in catchments
K5/1951	National water resource planning for operational needs: An update of applied approaches (Phase 1): Integrated modelling for water resource planning and operational management
K5/1960	Extreme events: Past and future changes in the attributes of extreme rainfall and the dynamics of their driving processes
K5/1966	A large-scale study of the human-induced impacts of the microbial and physic-chemical quality of ground- and surface water in the North West Province, South Africa
K5/1967	Investigations into the existence of unique environmental Escherichia coli populations
K5/1968	Assessment of the prevalence of human viral and bacterial pathogens in some recreational beaches and rivers in Amathole District Municipality of the Eastern Cape Province of South Africa
K5/1970	The optimisation of available human, institutional, technical and financial resources to strategically approach deteriorating water quality in South Africa through innovative and collective effort focusing on sources of pollution in prioritised fashion
K5/2020	Delineating quinary catchments for South Africa and modelling their associated hydrology
K5/2023	A method of 3D fracture connectivity determination and its hydrogeological application

Table 10. Water Resource Management projects completed in 2012/13 (continued)

Project no.	Project title
K5/2024	HYLARSMET: A hydrologically consistent land surface model for soil moisture and evapotranspiration modelling over southern Africa using remote sensing and meteorological data
K5/2028	Investigation of effects of climate change on eutrophication and related water quality and secondary impacts on the aquatic ecosystem
K5/2073	Embedding property rights theory in cooperative approaches to the management of aquatic ecosystem services in South Africa

Table 11. Water-linked Ecosystems projects completed in 2012/13

Project no.	Project title
K5/1676	The relationship between periphyton, flow and nutrient status in Western Cape foothill rivers and the implications for management
K5/1797	Application and testing of a strategic adaptive management system for freshwater protection, associated with the implementation of South Africa's water policy
K5/1857	The capability of the Mfabeni Mire to respond to climatic and land-use stresses, and its role in sustaining discharge to downstream and adjacent ecosystems
K5/1873	Decision support software development for integrated flow assessments
K5/1918	Food web interactions in reservoirs
K5/1921	Water quality and wetlands: Defining ecological categories and links with land use
K5/1922	Conservation of tigerfish, Hydrocynus vittatus, in the Kruger National Park with the emphasis on establishing the suitability of the water quantity and quality requirements for the Olifants and Luvuvhu Rivers
K5/1923	Regional wetland processes of the Maputaland Coastal Aquifer on the Zululand Coastal Plain
K5/1924	The application of choice modelling techniques to guide the management of estuaries in South Africa – Case studies at the Kromme, Bushmans, Sundays and Keurbooms estuaries
K5/1925	Establishing the fishery potential of Lake Nandoni in the Luvuvhu River, Limpopo Province
K5/1926	Evapotranspiration from the Nkazana Swamp Forest and the Mfabeni Mire
K5/1927	Identifying relationships between soil processes and biodiversity to improve restoration of riparian ecotones invaded by invasive acacias
K5/1928	An assessment of the current distribution, biodiversity and health of the frogs of the Kruger National Park in relation to physical and chemical factors

RESEARCH PROJECT ACTIVITY

Table 11. Water-linked Ecosystems projects completed in 2012/13

Project no.	Project title
K5/1929	Biomonitoring the fish health of two impoundments in Olifants River, Limpopo province
K5/1930	Review and update of Resource Directed Measures methods for estuaries
K5/1979	Linking of daily and monthly hydrological time series for use in monthly water resources models in support of the determination of ecological water requirements
K5/1983	Development of a sampling guide, volume 2, of the manual of guidelines for the management of EDCs in water resources
K5/2035	Long-term response of specific wetlands to Working for Wetlands rehabilitation

Table 12. Water Use and Waste Management projects completed in 2012/13

Project no.	Project title
K5/1716	Development of a durable and reliable wave-energy reverse osmosis pump desalination system
K5/1734	Protocol for the quantitative assessment of industrial effluents for discharge permitting
K5/1780	The development and commercial exploitation of a suite of technologies to supplement the Biosure process
K5/1820	Determination of the change in hydraulic capacity in pipelines
K5/1826	Alternative technology for stormwater management
K5/1827	Improving sewerage for South Africa
K5/1833	An assessment of the key factors that influence the environmental sustainability of a large inland industrial complex
K5/1883	Assessment of the prevalence of organic compounds in raw and treated water for potable purposes, their fate in current treatment plants, and compilation of a guideline on best available technology for the removal thereof
K5/1885	Beta-N-Methylamino-L-Alanine bioaccumulation and biomagnification: Health risks and water treatment possibilities
K5/1897	Nanotechnology in water treatment
K5/1900	Pilot application of a dual-stage membrane bioreactor for industrial effluent treatment
K5/1950	Guidelines on the condition assessment of water services infrastructure
K5/1952	Franchising partnerships for operation and maintenance of water services
K5/1953	Developing protocols and guidelines for municipalities to determine the impact or influence of climate change on water services delivery

Table 12. Water Use and Waste Management projects completed in 2012/13 (continued)

Project no.	Project title
K5/1988	Bridging the policy divide: Women in rural villages and the Water for Growth and Development Framework
K5/1991	Nanotechnology solutions for drinking water
K5/1992	Development of a costing model to determine the cost-efficiency and energy efficiency of water treatment technologies and supply options
K5/1994	An independent investigation into the purification capacity of small-scale water purification units manufactured and supplied in South Africa
K5/1995	Full-scale trial to investigate the correlation between modelled and measured residential water demand and wastewater flow based on end-use modelling
K5/1997	Compendium of WC/ WDM interventions
K5/1998	Apparent losses in selected areas in South Africa
K5/2005	The optimisation of waste stabilisation ponds by combining a duckweed-based algal system, together with aerated rock filters
K5/2008	Recovery and beneficiation of nutrients, water and energy from brewery effluent by means of algal assimilation, hydroponics and aquaculture
K5/2010	Pilot-scale treatment of table olive brines: Beneficiation, purification and water recovery for re-use
K5/2012	Extended investigations into recovery of water and salts from multi-component hypersaline brines using eutectic freeze crystallisation
K5/2013	Development of an analytical sensor for the identification, quantification and detection of heavy metal pollution associated with precious metal refinery wastewater
K5/2014	Preparation of magnetic nano composite beads and their application to remediation of mine wastewaters
K5/2015	Evaluating approaches to and benefits to minimising the formation of acid mine drainage through management of the disposal of sulphidic waste rock and tailings
K5/2016	Evaluation of the bucket eradication programme
K5/2017	Evaluation of user acceptance and functioning of mobile communal sanitation facilities – A case study of Cape Town
K5/2086	Assessing the impact of expansion of bulk infrastructure on the capital requirements of water boards
K5/2090	Strategy for large scale roll-out of community-based service provision
K5/2092	Energy efficiency in the South African water industry: A compendium of best practices and case studies

RESEARCH PROJECT ACTIVITY

Table 12. Water Use and Waste Management projects completed in 2012/13 (continued)

Project no.	Project title
K5/2093	Scoping study and research strategy development on currently known and emerging contaminants influencing drinking water quality
K5/2094	Verification and validation of analytical methods for testing the levels of pharmaceutical and personal healthcare products in treated drinking water and sewage
K5/2102	Evaluation of partitioning coefficients for South African soils to inform the National Framework for the Management of Contaminated Land with emphasis on the protection of water resources
K5/2196	In-field demonstration of a remote, real-time water quality monitoring system

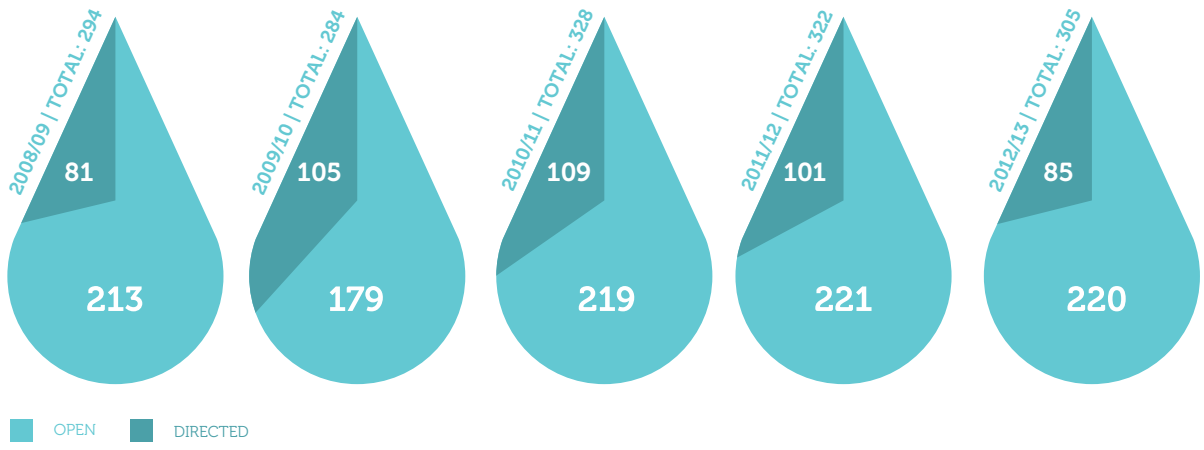
Table 13. Water Utilisation in Agriculture projects completed in 2012/2013

Project no.	Project title
K5/1478	Sustainable techniques and practices for water harvesting and conservation and their effective application in resource-poor agricultural production
K5/1646	Application of rainfall forecasts for agriculturally-related decision-making in selected catchments
K5/1648	Assessment of the social and economic acceptability of rainwater harvesting and conservation practices in selected peri-urban and rural communities
K5/1649	The development of training material for extension in irrigation water management
K5/1773	A quantitative investigation into the link between irrigation water quality and food safety
K5/1778	Awareness creation, implementation plans and guidelines for management of sustainable on-farm and on-scheme water measurement
K5/1779	Assessment of the contribution of water use to value chains in agriculture
K5/1805	The development and testing of an integrated set of models to evaluate the financial/economic impact of irrigation water curtailment decision to participant farm case studies in the Crocodile catchment
K5/1954	A baseline and scoping study on water use and nutrient content of crop and animal food products for improved household food security

The WRC published 151 research reports in this period as well as 3 DVDs. The various funding streams included both open projects, accommodating projects within the broad research strategy of each key strategic area, and directed projects, where research projects are developed in accordance with clear terms of reference, aimed at solving specific problems. Open research projects are mostly long-term, consortia-based, and address multifaceted issues, often calling for more than one research discipline and a substantial budget. About 28% of the total number of projects were directed projects.

Figure 7 provides a schematic representation of the total number of research projects per annum for the past five years. The average number of projects per year remains around 300.

Figure 7. Total number of open and directed research projects per annum for the past five years



RESEARCH PROJECT ACTIVITY

Over the past 5 years the WRC has completed 378 research projects (Figure 8) indicating a significant contribution to knowledge in the water sector. An average number of 76 projects were completed per year, for the past 5 years. Over the same 5-year period 356 new projects (Figure 9) were initiated, ensuring the continuous contribution of new knowledge to the sector. An average number of 71 new projects were started per year, for the past 5 years.

Figure 8. New and cumulative number of projects completed over the past five years

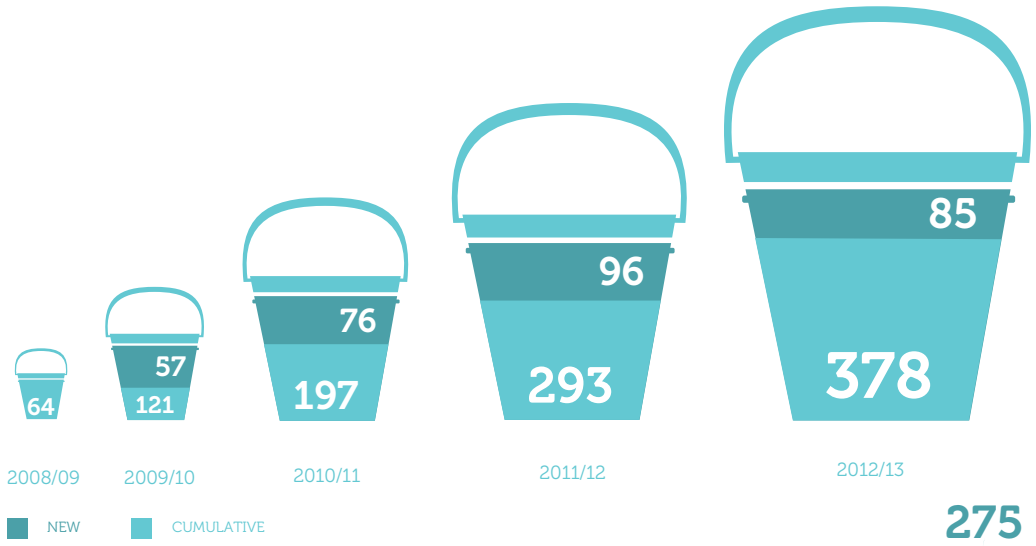
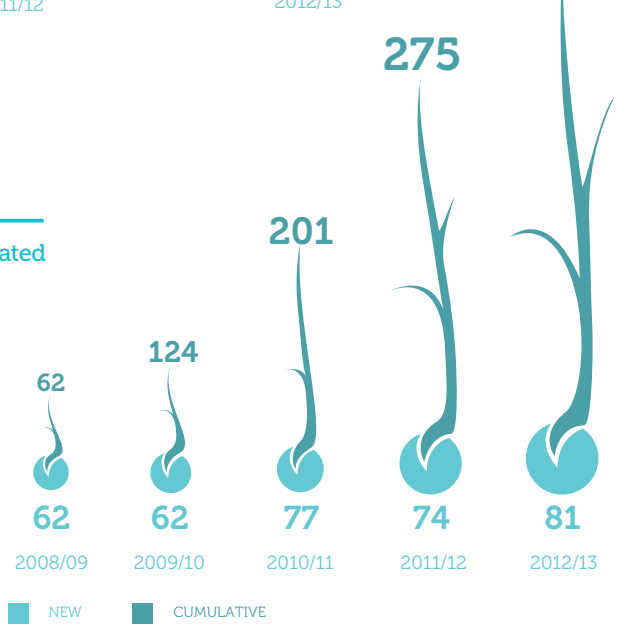


Figure 9. New and cumulative number of projects initiated over the past five years



Innovative solutions for the water sector

The development of innovative solutions to address South Africa's water challenges is a priority for the WRC. In 2012/13, a total of 18 innovations were reported across the KSAs.

> The key strategic area **Water Resource Management** provided one new innovative approach to support water management.

Developing global navigational satellite systems methodology for groundwater resource assessment

A groundwater project in Hermanus provided a unique opportunity to link the municipality's groundwater-monitoring system to an experiment where regional, space-based monitoring and continuous assessment was undertaken of the deep groundwater resource, augmenting the conventional methods of water-resource monitoring. The aims of the WRC-funded project were to demonstrate the use of high-precision global navigation satellite system (GNSS) technology as a tool for groundwater resource monitoring and assessment; to develop the methodology for relating GNSS measurements of aquifer behaviour; and to build South African capacity to establish the hydro-geodetic technical infrastructure and implement the data-processing methods required for groundwater resource monitoring.

> The key strategic area Water-Linked Ecosystems provided four new innovative approaches to support ecosystem management and biodiversity protection.

Linking of daily and monthly hydrological time series for use in monthly water resource models

Water resource model development and model application in South Africa has focused on monthly time-step models, probably because monthly hydrology has been readily available through on-going research initiatives since the 1970s. However, ecologists involved in determining the ecological water requirements of rivers and estuaries are increasingly requesting estimates of flood frequencies and magnitudes from hydrologists and water resource modellers. While daily hydrology models are available in South Africa, these models have seldom (if ever) been used in ecological water requirement studies, while development on the monthly water resource models to support ecological studies continues. This project developed a methodology to disaggregate monthly time series into daily time series using the ACRU daily hydrology model to provide the daily variability while maintaining the statistical signature of the original monthly time series. The method was subsequently tested on four pilot catchments: Sabie, Upper Breede, Mokolo and Seekoei.

RESEARCH PROJECT ACTIVITY

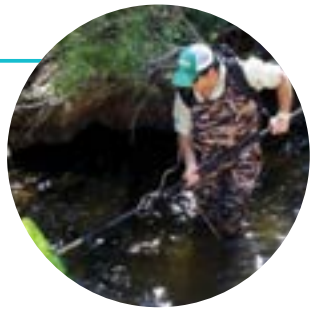
Conservation of tigerfish in the Kruger National Park

Considered rare in South Africa, tigerfish is a flagship species widely distributed in the north-eastern region of South Africa. This species is actively targeted and utilised by angling and subsistence fishing communities, and also used as an indicator species by resource and water quality managers to transfer ecosystem-related information to the public. The ecological and economic importance and current conservation status of the tigerfish led to this WRC-funded project undertaken by researchers from various institutions. Historically, tigerfish were prevalent in all six major rivers in the Kruger National Park and in areas on the western border of the park; however, this distribution has drastically reduced. This study addressed all the factors that might influence the health and conservation status of tigerfish, with the aim of contributing to a management strategy to protect this top predator within the Kruger National Park.

Establishing the fishery potential of Lake Nandoni

Nandoni Dam, in Limpopo, is ideally situated to allow for both commercial fish harvesting and aquaculture. Recognising the need for sustainable utilisation based on sound knowledge of the fishery potential of the impoundment, the Limpopo Department of Economic Development, Environment and Tourism requested the research project, which was funded by the WRC and led by the University of Venda. To determine whether fish can be harvested sustainably, an assessment was undertaken to determine the status of the resource and to establish safe levels for sustainable exploitation. Study results indicated that Lake Nandoni provides excellent habitat for fish at this point in time. Not only are most of the water quality characteristics within anticipated parameters but the upper levels of the water column throughout the main body of water in the dam are sufficiently oxygenated. Some concern has been expressed over levels of pollution recorded at the inflow sites, which could lead to the dam becoming eutrophic in future, if no remedial action is taken.

Monitoring the impact and recovery of biota of the Rondegat River



Following careful environmental studies and public consultation a joint project was launched between the Western Cape Government and civil society organisations, with CapeNature as the implementing agent, to remove alien bass species from a stretch of the Rondegat River using the piscicide, rotenone. To monitor environmental aspects of the project, the WRC funded independent surveys covering the fish, invertebrate and amphibian populations, which were carried out before and after chemical treatment of the river. The surveys were conducted over a two-year period from May 2010 to May 2012. The project forms part of a key thrust of the WRC which is focused on reducing threats to indigenous species, thereby restoring ecosystem functions and processes to improve biodiversity.

The key strategic area Water Use and Waste Management provided nine new innovative approaches to support water management and water services.

WEROP

This WRC-funded project developed a prototype of an alternative water supply technology that works with nature rather than against it. Called the wave energy reverse osmosis pump, or WEROP, the system uses wave energy to desalinate seawater for domestic use. The system is potentially unique in the world while the know-how around operating it is totally novel. Primary research was carried out on-site, around the Cape Peninsula, where the WEROP was assembled, launched and tested in order to improve its operation and design. Despite difficult working conditions, the model unit proved to be relatively straightforward to assemble, deploy and operate. Over several months it remained extremely durable, with little corrosion despite the lack of paint, and with little maintenance required. The prototype has now been in the sea for two years. The data have been gathered and the WEROP is being channelled to the TIA for development funding.

WATCOST software model

A software model has been developed for establishing and predicting the cost-efficiency of a range of small-scale water treatment technologies that are used in water supply schemes, as well as to provide guidelines for the selection of decentralised versus centralised water supply. This allows economic comparison between different water treatment and supply options being considered for a water supply scheme(s). The model will also allow costing reports for existing water treatment systems to be created, which assists with budgeting and asset management processes.

Package plant unit for on-site water purification and recovery of products from olive wastewater

A WRC project led to the development of a hybrid-membrane-chromatography package plant unit for on-site water purification and the recovery of antioxidants from olive oil wastewater. This pilot unit and the know-how gained will allow entrepreneurs to provide a commercial case for the responsible management of wastewater to the olive industry.

Woven-fabric immersed-membrane bioreactor package plant

Membrane bioreactors are the next advanced step for improving wastewater treatment. These bioreactors, however, are considered to be expensive and difficult to operate and maintain, especially for smaller rural municipalities. This study looked to provide a simple woven-fabric filter for package plants which will be easy to remove, dry and clean, but affords the owner the opportunity to retain the biomass and improve performance. This system can be evolved to add to smaller rural activated sludge works.

RESEARCH PROJECT ACTIVITY

First South African sustainable urban drainage systems (SuDS) guideline

Guidelines were designed to assist practitioners with the design, operation and maintenance of sustainable urban drainage systems in South Africa. There is unfortunately limited experience and data available locally; therefore the parameters quoted in this guideline have all been collected from international literature. These parameters are dependent on a variety of factors, including, inter alia, climate, pollution composition and concentration, technical design, and maintenance. Local conditions should thus be carefully considered before the use of these values.

The first South African SuDS / WSUD Website

In another innovation linked to the SuDS project, a decision was made to develop a website which could in time be expanded to cover other issues associated with water-sensitive urban design. This approach has a number of advantages: It is possible to link references to their sources; it is possible to continuously update material and correct any errors; and it is possible to collect data on new SuDS projects from the professionals involved. The resulting website can be found at the following address: www.wsud.co.za

Colorimetric probe for the determination of nickel (ii) ions in water

The synthesis of glutathione-stabilised silver/copper nanoparticles (GSH-Ag/Cu alloy NPs) in polymer matrix and colorimetric assay of heavy metal ions was reported. The nanocomposite was fabricated into nanofibres by electrospinning. The freshly synthesised GSH-Ag/Cu alloy NPs are dark green in color due to their intense surface plasmon absorption band. In the presence of $Ni2^{+}$, the green GSH-Ag/Cu alloy NPs fibres were discoloured. Initial metal screening studies have been conducted and from the results this probe is selective towards to $Ni2^{+}$ ions.

17β-estradiol sensor

A one-step method has been developed for the synthesis and incorporation of gold nanoparticles into electrospun polymer nanofibres for the development of a colorimetric probe which can be used to detect oestrogens in water.

Biomimicry tool for water treatment

The term 'biomimicry' can be defined as the practice of learning from and then emulating natural forms, processes and ecosystems to solve design challenges and create more sustainable designs. The WRC funded a study to exploit knowledge on natural wetlands, their processes and biodiversity to better engineer/design constructed wetlands to meet the challenges of current and emerging pollutants and pathogens. One of the key findings of the research carried out in the first year was that while a wealth of biological information is available, it is not available in a format that can be easily sourced by design engineers. Using the biomimicry methodology, the project team thus prepared a compilation of natural processes and organisms performing water treatment functions and sorted this information under the functions performed. While most examples discussed focused on biotic processes, abiotic processes have also been included in the tool.

The key strategic area **Water Utilisation in Agriculture** provided four new innovative approaches to support water management and to optimise the use of water in agriculture.

Assessment of the contribution of water use to value chains in agriculture

The small number of success stories where emerging farmers are productively operating in commercial agri-food chains, means that the objective to allow farmers to improve their livelihoods through irrigated agriculture is rarely met. It is noted that access to agricultural water plays a necessary role in increasing productivity, but access to water alone is not a sufficient condition to enhance productivity and alleviate poverty. Among others, the project analysed the three levels (micro, macro and meso) that comprise the value chain within which the emerging farmers are participating. The results from the analysis of the distribution of water use along the value chains show that the bulk of all the water that is used along the value chain is used at farm level to produce the food products. Efforts to increase the efficiency with which water is used along the value chain thus should focus the attention on water use at farm level. A number of key success factors were also identified from the results of the study which have great potential to contribute towards the successful participation of emerging farmers in commercial agri-food chains.

Quantitative investigation into the link between irrigation water quality and food safety

There is growing concern about the 'safety status' of South African agricultural produce, especially those that are consumed raw. If these products are contaminated they will impact not only the health of the final consumer but also that of people living next to rivers and producers. This will immediately impact both the national and international 'trading status' and cause a suspension of exports. The source of contamination of the agricultural products was identified as irrigation water that had been contaminated before irrigation took place. The main objective of this solicited research project was to do a quantitative investigation into the link between irrigation water quality and food safety. Based on the results from this research project, the microbial pollution levels of rivers and fresh produce monitored at selected sites across South Africa over a period of several years were of an unacceptable standard and did not meet either the international or national guidelines for safe irrigation or human consumption. Other potential water-borne bacterial, viral and protozoan pathogens were frequently recovered from both the water and the produce. It was concluded that there is a high risk of exposure to pathogens when water from these rivers is used to irrigate produce that is consumed raw or without any further processing.

RESEARCH PROJECT ACTIVITY

Training material for extension in irrigation water management

It is generally recognised that extensionists provide the link between research output and solving the perceived problems which farmers experience. All types of farmers, but specifically smallholder farmers, are dependent on extension services as a source of information and knowledge. The aim of this project was to develop and interactively test learning material for the capacitating of extensionists in the promotion of efficient use of irrigation water by smallholder farmers. The main output of this research project was the development of learning material for the eight learning areas that were identified to form the 'knowledge profile' of the irrigation extensionist. The aim of the learning material is to support tertiary training organisations such as agricultural colleges and universities of technology offering agricultural programmes on NQF Level 5, as well as to support training providers offering short courses in irrigation management. The learning package will help build the necessary skills and competencies required of irrigation extensionists to assist irrigation farmers in the learning process they need to undergo regarding irrigation water management.

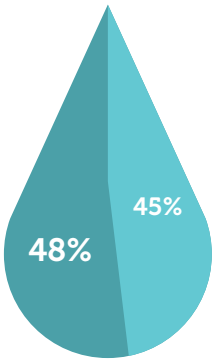
Application of rainfall forecasts for agriculturally-related decision-making

The overall objective of this multi-organisational and multiple-level project was to develop and test techniques and models for translating weather and climate forecasts in South Africa into applications for decision support at a range of spatial scales in both rainfed and irrigated agricultural production and water management, in order to reduce risks associated with the vagaries of day-to-day to seasonal climate variability. The report contains an audit illustrating that there is no lack of climate forecasts available for South Africa. Seven case study applications of weather and climate forecasts are presented. One of the specific objectives of this project was to work towards developing a framework for agrohydrological forecasting for South Africa. This was achieved in two phases, the first being the early stages of the project with emphasis on a research-based framework for an agrohydrological forecasting system for South Africa with the second, building on the first, moving towards an operational agrohydrological forecast framework.

Utilisation of funds by various KSAs

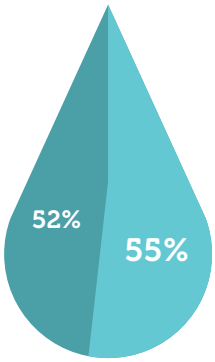
The percentage utilisation of research project funds by the KSAs during 2012/13 (Figure 10) indicates that approximately 48% (in comparison with about 45% for 2011/12) was invested in projects that focused on water resources (including water-linked ecosystems) and approximately 52% (compared with 55% for 2011/12) in projects that focused on water utilisation (including effluent treatment and management, as well as agriculture). This is based on the actual amount paid out as well as accrued for research projects during the financial year under review. The allocation of about 50% of the fund to issues related to resource management and 50% to issues related to water utilisation was a strategic allocation based on the medium- to long-term needs for research. Table 14 shows the planned versus utilised funds for the year under review, compared to the previous financial year.

Figure 10. Percentage of funds utilised for the KSAs in 2012/13



Investments in projects that are focused on water resources.

2011/2012 2012/13



Investments in projects that are focused on water utilisation.

2011/2012 2012/13

Table 14. Distribution of research project funds among KSAs: Planned vs. utilised funds (2011/12 data in brackets)

Key Strategic Area (KSA)	Planned percentage allocation of funds	Percentage of funds utilised for research projects
Water Resource Management	27 (26)	30 (28)
Water-Linked Ecosystems	14 (14)	18 (17)
Water Use and Waste Management	33 (33)	29 (34)
Water Utilisation in Agriculture	26 (27)	23 (21)

The actual utilisation of funds (as a percentage of total funds) by the KSAs closely agreed with the planned allocation, and the deviations observed did not exceed 4%. The overall investment in research projects (knowledge creation) amounted to R116.7 m. This was marginally more than what was reported in the previous year, with an increase of 6% (R110.5 m. for 2011/12).

Total investment in the support of knowledge creation, sharing and dissemination amounted to R144.7 m. This represents an increase of 3% from the previous year (R140.9 m. total investment was reported in 2011/12). Table 15 provides the business efficiency indicators in terms of the budgeted and actual utilisation of research funding. The investment in

RESEARCH PROJECT ACTIVITY

research projects expressed as a percentage of total expenditure was the same as the budgeted ratio and also the same as that of the previous year. The investment in research support expressed as a percentage of total expenditure was the same as the budgeted ratio and 1% lower than that of the previous year. The ratio addressing funding of the creation of new knowledge (research projects only) was 67%, the same as that for 2011/12 and the same as the planned ratio of 67%. The ratio for research support was 74%, compared to 75% in 2011/12, and was the same as the planned ratio of 74%.

Table 15. Research funding: Business efficiency indicators (budgeted and actual)

	2012/13 (budgeted)	2012/13 (actual)	2011/12 (actual)
Research project funding as a percentage of total expenditure*	67%	67%	67%
Research support (research projects and support and technology transfer) as a percentage of total expenditure	74%	74%	75%

*Expenditure does not include provisions for bad debts, bad debt write-offs, movements in employee benefit valuations and non-cash amounts

Leveraging income for the generation, sharing and dissemination of water 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 2012/13 this drive was fairly successful, but substantial amounts were rolled over into 2013/14, e.g., the upfront funding received from the Melinda and Bill Gates Foundation. The WRC income originating from sources other than the levy for 2012/13 amounted to R19.6 m. Leveraged income included funds allocated to a number of KSAs for direct support of research projects and funds provided for capacity building, knowledge sharing and dissemination. 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 for other knowledge-sharing projects. Table 16 presents income indicators for the year under review, compared to the previous financial year. Sources of income other than the levy for 2012/13 amounted to about 13% of the total income.

Table 16. Research funding: Business efficiency indicators (budgeted and actual)

Indicator	2012/13 Budget	2012/13 Actual
Levies as a percentage of total income	87%	84%
Other sources of income as a percentage of total income	13%	16%
Leverage income as a percentage of other income*	77%	80%

*Leverage includes all other income with the exception of interest received.

Building capacity

The WRC aims to provide South Africa with future researchers as well as a source of skilled human capital for other institutions within the water sector. This is done by encouraging project leaders to include students on their projects, enabling them to participate in water research through the various projects supported by the WRC. During the year under review, the WRC continued to place strong emphasis on building research capacity in South Africa as well as supporting a number of related capacity-building initiatives. In many areas of research supported by the WRC, it is evident that students who participated in earlier WRC projects are now leading Commission-funded research projects and/or are serving as members of steering committees as well as representatives of new proposals.

Capacity building trends

During the year under review, the WRC gathered more comprehensive demographic data for the students working on WRC-funded projects. Of the 494 students supported by WRC-funded projects in 2012/13, 207 or 42% were female (Figure 12), which is encouraging as most WRC projects fall within the engineering or science category of research where the involvement of females in general remains low. Figure 13 shows the distribution of the students according to race. The degrees for which students participating in WRC-funded projects were enrolled in the year under review are shown in Figure 14.

Figure 11. Number of Post-graduate students involved in WRC-funded projects :

RESEARCH PROJECT ACTIVITY

Figure 12. Student demographics according to gender in 2012/13

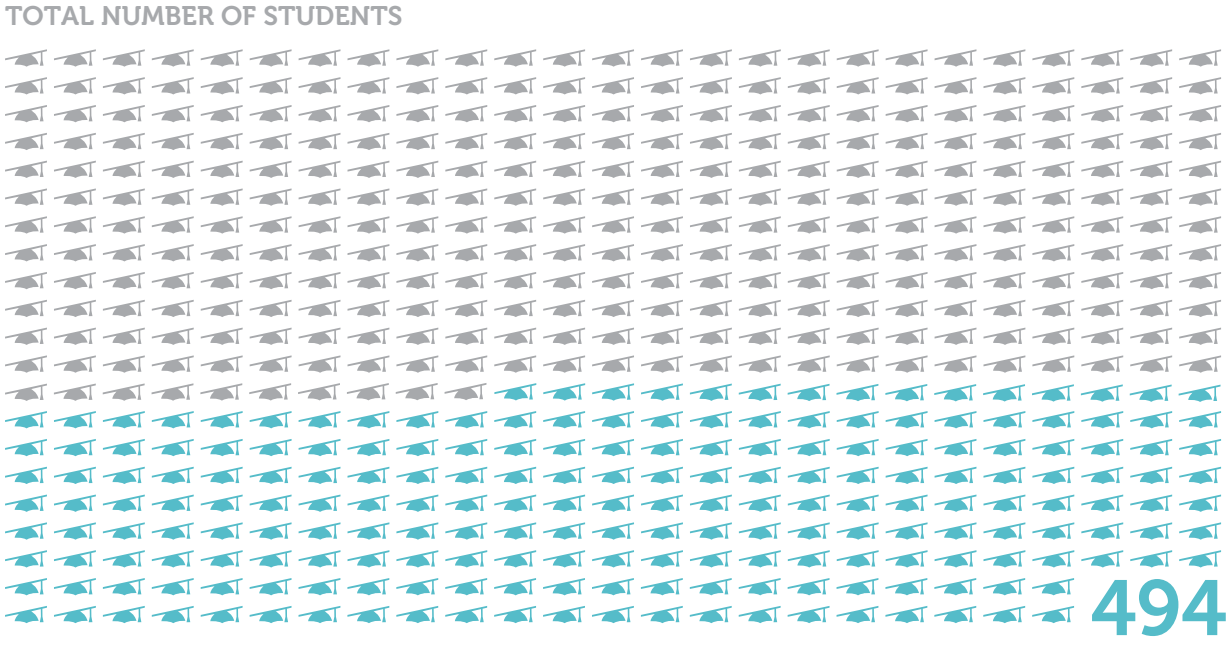
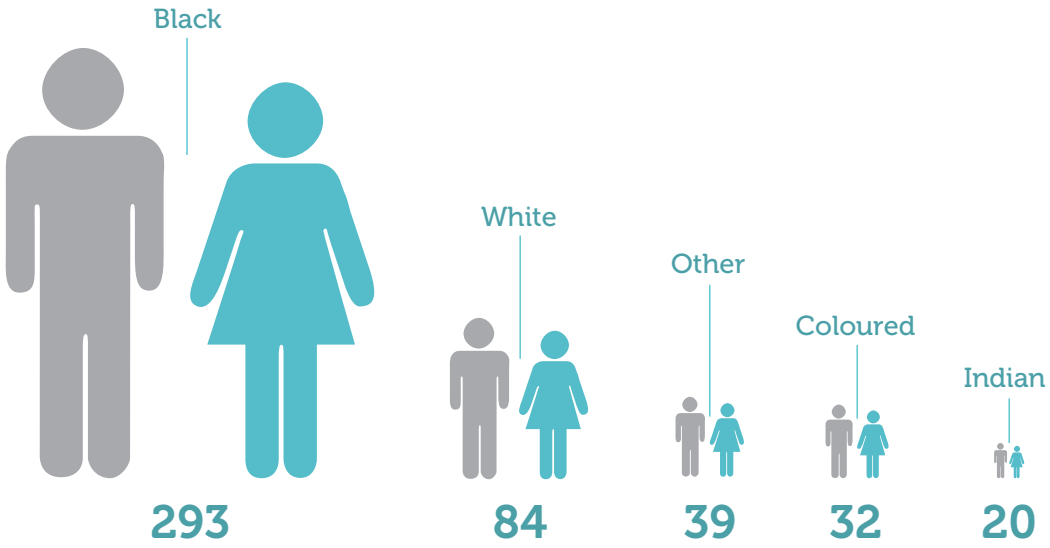
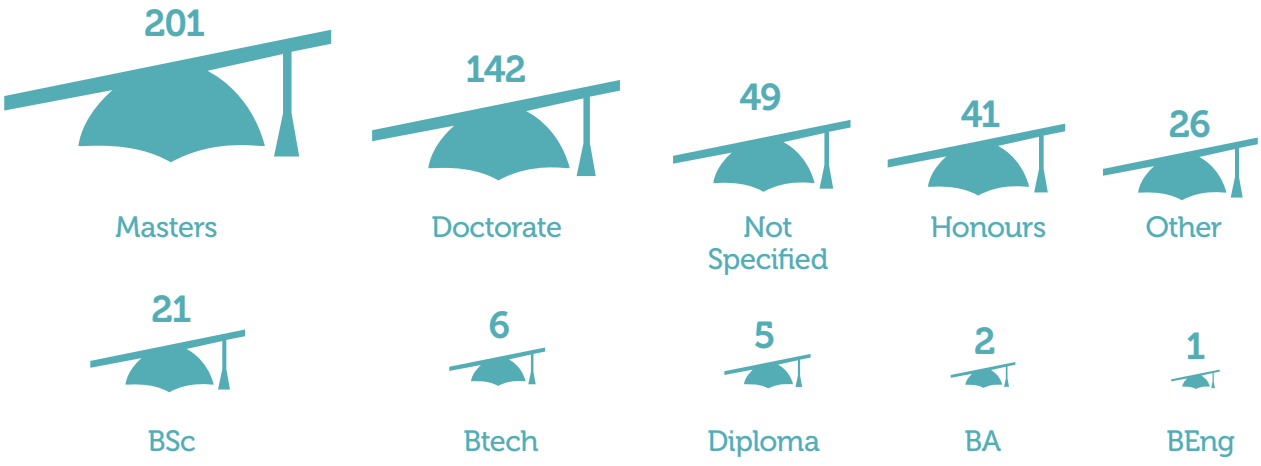


Figure 13. Student demographics according to race in 2012/13



The large number of masters (201 students) and doctorate (142 students) candidates provides a critical mass for the next generation of academics and researchers in the water sector. The wide range of bachelor degrees supported also reflects the WRC's commitment to support a diverse range of disciplines to address water resource challenges in a holistic manner. It is encouraging to note the support provided to a mixture of natural, technical and social science degrees.

Figure 14. Degrees for which students participating in WRC-funded projects were enrolled in 2012/13



RESEARCH PROJECT ACTIVITY

Capacity building by lead organisations in 2012/13

Table 17 reflects the number of previously disadvantaged students involved in WRC-funded projects, as reported for the various lead organisations contracted by the WRC, in the 2012/13 financial year.

Table 17. Number of previously-disadvantaged students (PDI) involved in WRC-funded projects per lead organisation in 2012/13

Institution name	Total PDI
Higher-education institutions	
Cape Peninsula University of Technology	4
Durban University of Technology	7
Nelson Mandela Metropolitan University	5
North West University	6
Rhodes University	21
Tshwane University of Technology	7
University of Cape Town	13
University of Fort Hare	15
University of Johannesburg	9
University of KwaZulu-Natal	36
University of Pretoria	25
University of South Africa	5
University of Stellenbosch	9
University of the Free State	4
University of the Western Cape	17
University of Venda	4
University of the Witwatersrand	2
Subtotal	189

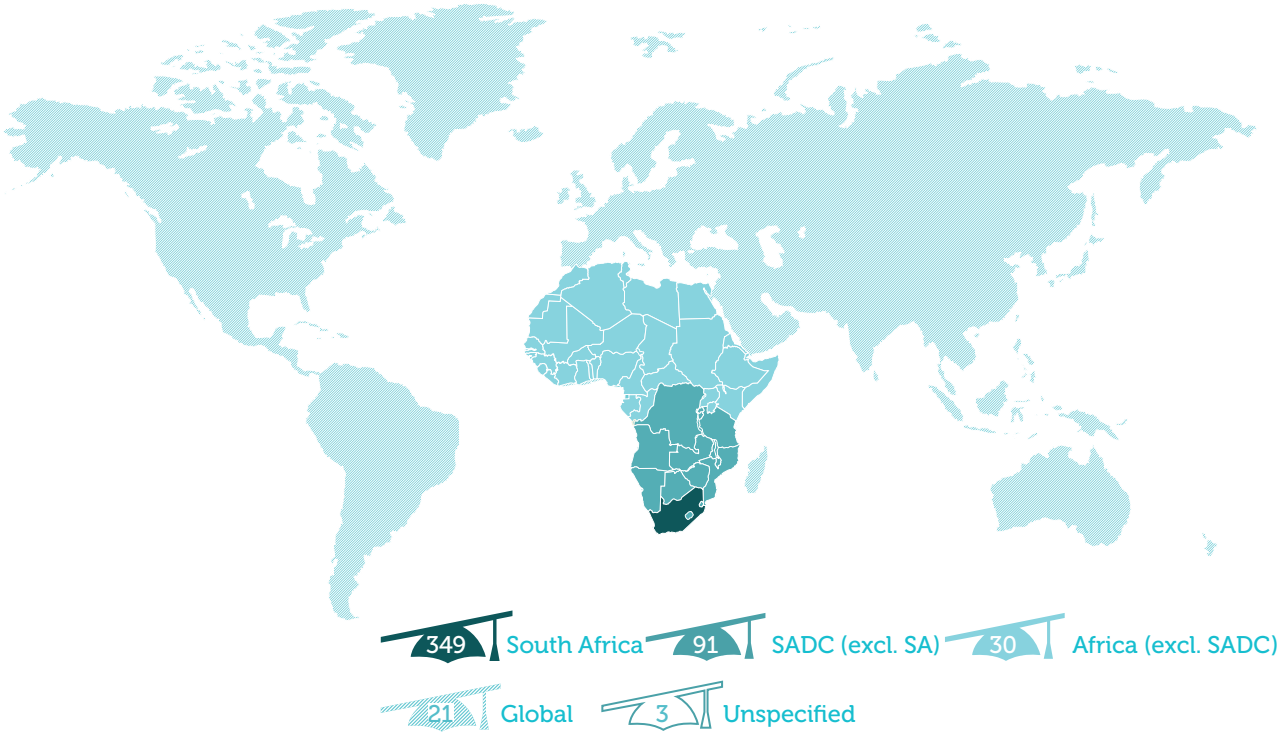
Table 17. Number of previously-disadvantaged students (PDI) involved in WRC-funded projects per lead organisation in 2012/13 (continued)

Institution name	Total PDI
Science councils and state agencies	
Agricultural Research Council	6
Council for Geoscience	3
CSIR	16
National Institute of Occupational Health	1
South African National Parks	5
South African Weather Service	2
Subtotal	33
Non-governmental institutions	
Counterpoint Development	1
Dames	6
Duncan Hay and Associates	4
Eon Consulting	1
Freshwater Research Centre	1
Golder Associates Africa	5
Hlathi Development Services	1
Hydrosoft Institute	2
Institute of Natural Resources	2
Kaleo Consulting	1
Metago Water Geosciences (Pty) Ltd	1
Muondli Consulting and Projects	1
Pegasys Strategy and Development (Pty) Ltd	1
Pegram and Associates (Pty) Ltd	3
Prime Africa Consultants (previously CIC International)	1
Southern Waters Ecological Research and Consulting	1
SSI	4
Umhlaba Consulting Group	5
Virtual Consulting	3
WRP Consulting Engineers (Pty) Ltd	1
Subtotal	45
Total	267

RESEARCH PROJECT ACTIVITY

The final capacity building indicators to report in the 2012/13 financial year includes the country of origin of the students who participated in WRC projects in the year under review (Figure 15). South African students represented 71% of the total number of students, whereas 18% of the students were from other SADC countries. Approximately 95% of the students were from the African continent.

Figure 15. Country of origin of students who participated in WRC-funded projects in 2012/13



Other capacity building initiatives

Exposing girl learners to water science

The WRC 'adopted' four girl learners during the year as part of Government's Techno Girls initiative. The initiative identifies high achieving 15- to 18-year-old school girls from previously disadvantaged communities and places them in corporate mentorship and skills development programmes.

Supporting young professional involvement in water law

The role and importance of water law expertise for effective water governance is well recognised in the South African water sector. The governing of how water is used, who uses it and how much is used is consequently very complex and is the substance of a substantial body of law at local, national and international levels. It is therefore critically important that countries encourage the development of water law expertise amongst water professionals in order to draft sound and implementable legal frameworks. In collaboration with the IWA- WISA, YWPs and kindly sponsored by the DWA, the International Conference on Freshwater Governance for Sustainable Development, held in the Drakensburg, from 4–7 November 2012, provided the opportunity for students of law to engage in public debates on a range of pertinent issues affecting the South African water sector and also addressed in conference sessions. The YWP debates were listed as one of the highlights of the conference.

WRC 101 for project leaders, research and finance offices

Over the past few years, the WRC noted an encouraging trend of proposals being submitted by research groups who have previously not applied to the WRC for funding. Many established research groups also have new project leaders managing WRC projects. The WRC, like any other research funding organisation, has project management and administrative requirements, which are reviewed periodically. The more established project leaders will also have noted that the proposal submission, project management, intellectual property management and financial requirements have changed as the different modules of the WRC FMS have been completed. Additionally, the WRC has sought to improve its interaction and coordination with current and prospective project teams, in order to streamline administrative processes and to render to the research community a better understanding of the WRC's strategic objectives as defined in its five-year Corporate Plan. This involves informing institutions of the WRC's focus areas and direction for the prioritisation of funds in the next financial year, and encouraging WRC staff to gain a better understanding of how various institutions operate.

In this regard, the WRC conducted the informative and increasingly popular one-day WRC 101 Course for aspiring and new project leaders to:

- Understand the WRC research cycle
- Discover the research priorities of the WRC and the fund allocation for each of the priorities
- Prepare a comprehensive proposal (taking note of tips provided to improve the chances of success)
- Manage the technical, administrative and financial aspects of a WRC project
- Understand the contractual and financial audit requirements
- Know what resources are available to enhance the success of the project

Courses were conducted in Gauteng, Western Cape and KwaZulu-Natal provinces.

RESEARCH PROJECT ACTIVITY

Supporting SA's future water engineers

Water distribution systems are important to supply safe and clean drinking water to people. The Aqualibrium Schools Water Competition, hosted by SAICE exposes especially learners from disadvantaged backgrounds to the practical application of water-supply processes. They are made aware of the intricacies involved in the design of water distribution networks and the actual water delivery to households. In the competition schools teams are tasked to design a model water distribution network to distribute three litres of water equally between three points on the grid using two different diameter pipes and connection pieces. The teams are then judged on how well they execute the task – working on a penalty points system. This competition strengthens government's initiatives aimed at encouraging learners to take Mathematics and Science at school and to follow a career as a science or civil engineering professional. During the year under review, the WRC successfully came on board as the main sponsor, a valuable and mutually beneficial arrangement to contribute towards addressing the scarce skills situation in South Africa. Around 100 learners participated in the final of the event.

Enhancing knowledge dissemination

Knowledge dissemination products

The WRC aims to constantly improve its contribution towards knowledge as well as to enhance the sharing and dissemination of WRC-funded research findings. This is also linked to Government Outcomes/Outputs related to building skills, by addressing the building of future research capacity and improving knowledge dissemination. The WRC strives to improve its contribution towards the water-centred knowledge base in South Africa by enhancing the WRC knowledge-sharing activities and positioning.

The Water Wheel

In the year under review, the WRC enhanced public understanding of science through the publication of *the Water Wheel*. The magazine currently serves close to 8 000 subscribers and is published every two months.

The WRC published six issues as well as a special edition of *the Water Wheel*.

Technical and policy briefs

The WRC technical, policy and ministerial briefs are communication tools that aim to communicate, in a clear and brief format, the outcome of various research studies to the water sector, with special emphasis on non-technical professionals, policy- and decision-makers. For finalised research projects, one- to two-page briefing notes are produced, which are short communiques highlighting research outcomes and sharing pertinent messages and recommendations. Another 36 technical and policy briefing notes were produced in 2012/13. (For easy reference, the number in brackets refers to the report or project number; all technical and policy briefs and reports are available electronically on the WRC website: www.wrc.org.za). Table 18 provides a summary of all policy briefs published in 2012/13, while table 19 provides a list of technical briefs published in 2012/13.

Table 18. List of policy briefs published in 2012/13

No.	Policy brief title	Related Project Number
1	Future strategies for water services	1812
2	Can we manage our water better	1972

RESEARCH PROJECT ACTIVITY

Table 19. List of technical briefs published in 2012/13

No.	Technical Brief Title	Related Project Number
1	Evaluating aquatic ecosystem services	1644
2	Influence of irrigation on groundwater	K8-820
3	Oestrogen activity in drinking water	1749
4	Valuation of estuary services	1413
5	Biobase user manual	K8-906
6	Brominated flame retardants	K8-850
7	Biologically enhanced primary settlement (bioflocculants)	K8-886
8	Ecology of the Olifants River	K8-858
9	Evaluation of clinoptilolite	1658
10	South African groundwater governance case study	K8-958
11	Guidance for toxicity tests	2611
12	Knowledge Cafés – A template for learning	K8-874
13	Real-time assessment of ecological Reserve	K8-881
14	Water sector institutional landscape 2025	1841
15	Applicability of water footprints in SA	2099
16	Development of a South African Guide for the Design and Operation of Waterborne Sewerage Systems (Seweraid)	1744
17	Guideline for the selection of toxicity tests	1211
18	Risk-based methodology to assess social vulnerability in the context of water infrastructure	1888
19	Irrigation guidelines for annual ryegrass pasture irrigation	1744
20	Towards passive treatment solutions for the oxidation of sulphide and subsequent sulphur removal from acid mine-water	1834
21	Parasites and related interactions in water resources and rural communities	1910
22	The provision of FBW to backyard dwellers	1987
23	Determining the evaporation rate of brine solutions	1895

Table 19. List of technical briefs published in 2012/13 (continued)

No.	Technical Brief Title	Related Project Number
24	Ethnographic research to understand household water practices	1990
25	Agroforestry systems for improved productivity through the efficient use of water	1480
26	Influence of unpaved access roads on surface runoff, sediment	1807
27	A manual for rural freshwater aquaculture	TT463
28	Development of participatory provincial aquaculture programmes	1580
29	New approach to estuary-based economic empowerment	1705
30	Development of effective ways of extracting information from research	1978
31	Fracking for shale gas exploration in South Africa	K8-896
32	Reducing uncertainties in the estimation of groundwater recharge	1909
33	The establishment and piloting of the technical assistance centre	1896
34	The investigation of unsteady flow conditions at dam bottom outlet works	1914

Ministerial briefs

Ministerial briefs are targeted messages aimed at communicating very specific research findings or knowledge generated from WRC research to Governmental ministers, most particularly, the Minister of Water and Environmental Affairs, the Honourable Ms Edna Molewa (Table 20). These ministerial briefs have contributed substantially to an improvement in communication between the WRC and the Minister of Water and Environmental Affairs and contributed to her interest in the WRC-funded study on non-revenue water, availing herself to be the keynote at a WRC Dialogue on that topic, and emphasising the results at various other high-level forums.

Table 20. List of ministerial briefs published in 2012/13

No.	Ministerial brief title	Related Project Number
1	Assessment of non-revenue water in South Africa	1996
2	State of the art: Fracking for shale gas exploration in South Africa and the impact on water resources	K8-896

RESEARCH PROJECT ACTIVITY

Water SA

Water SA is the WRC's accredited scientific journal which contains original research articles and review articles on all aspects of water science, technology, engineering and policy. *Water SA* has been in publication since 1975 and includes articles by both local and international authors. The electronic journal is issued quarterly (four issues per year). In the year under review, the WRC published five issues (four regular issues and one special edition).

Knowledge-sharing events and workshops

Workshops, events and exhibitions

The WRC held a number of knowledge-sharing events in the year under review, including technical field visits and technical workshops aimed at enhancing knowledge transfer. Many of these were in collaboration with strategic partners in order to enhance research impact and knowledge uptake.

During the year under review the WRC also launched the WRC Dialogues, a series of platforms enabling partners from all spheres of the water sector, including academia, government (all levels), civil society and industry, to come together to share their understanding and experiences of the challenges and problems, in order to build a stronger foundation for developing the solutions and interventions toward a better water scenario for South Africa and its development. The WRC Dialogues are guided by the principles of transparency, openness and honesty; plurality of perspective and inclusivity; mutual respect; a commitment to problem solving and mutual accountability; as well as knowledge sharing. The value of the WRC as convenor of these events lies in its ability to be a neutral knowledge broker as South Africa's premier water knowledge resource.

Celebrating South Africans' water heritage

'Water: Our Heritage and Legacy' was the theme of the WRC Khuluma Sizwe Dialogue held in celebration of Heritage Day on 28 September 2012, at Freedom Park, Pretoria. The Dialogue, with special guest speakers, Prof Mathole Motshekga, Thandi Lujabe-Rankoe, and Prof Johann Tempelhoff, aimed to emphasise water's role in various aspects of South Africa's heritage and culture. The Dialogue unpacked the artistic, historical, socio-cultural and socio-political heritage of water through the eyes and experiences of notable figures in the fields of arts and culture, politics and history. This included reflections on the artistic, cultural, historical and political heritage of water, observations of how people interact with water given its cultural value, and an account of the degree to which the struggle for water is intertwined with the struggle for freedom.



Technical workshops, seminars, dialogues and launches held during the year under review include:

1. Technology Innovation Agency (TIA)/WRC workshop, 5 April 2012
2. Water Footprint Workshop, 7 May 2012
3. Sanitation stakeholder workshop, 19 April 2012
4. Workshop on Applying a Risk-based Approach to Secure ACID funding, 19 April 2012
5. WRC/Water Information Network South Africa (WIN-SA)/ South African Institution of Civil Engineering (SAICE) Workshop to showcase good practice in wastewater treatment, 19 April 2012
6. Chris Swartz Water Utilisation Engineers/WRC workshop on Wastewater Reclamation and Reuse, 8 May 2012
7. Chris Swartz Water Utilization Engineers/WRC workshop on Energy Efficiency in the South African Water sector, 9 May 2012
8. University of Johannesburg/WRC workshop on Organic Compounds in Drinking Water, 9 May 2012
9. Workshop on Practical Application of Research: A tool for sewer pump problems, 9 May 2012
10. NEPAD Workshop, 17 May 2012
11. Workshop to share the draft Strategy Discussion Document on the Integration of Community Based Water Services Provision, 17 May 2012
12. Launch of the coffee-table book, *In the Footsteps of Giants – Exploring the History of South Africa's Large Dams,* 30 May 2012
13. Energy from Conduits workshop, 29 and 30 May 2012
14. WRC-Statistics SA water accounts meeting, 4 September 2012
15. WRC Dialogue Series launch, 14 August 2012
16. Workshop on Gender Mainstreaming in the State Sector, 17 August 2012
17. Wat-Indaba Dialogue on Eutrophication Management, 28 August 2012
18. DWA/WRC Wetlands Monitoring workshop, 6 May 2012
19. Department of Education's Regional Coordinators Workshop specialising in Environmental Education, 30 August 2012
20. Visit by Chinese delegation, 31 August 2012
21. Second Regional African Water Leakage Summit, 29-31 August 2012 in Cape Town and 4-5 September 2012 in Johannesburg
22. WRC-TIA Strategic Workshop, 10 September 2013
23. Establishment of the Society for Ecological Restoration for South Africa workshop, 27 September 2012
24. Dialogue titled 'Our Water: Our Heritage and Legacy', 28 September 2012
25. Workshop on Exploring Water Data Coordination for Water Research in South Africa, 1 October 2012
26. WRC/DST Dialogue on 'Point-of-Use Water Treatment Systems and their Efficiency', 2 October 2012
27. Workshop on the Value of Ecosystems to Society, 18 October 2012
28. WRC/DST Reference Group Workshop on establishment of Water Centre, 26 October 2012
29. Workshop on the Green Village Project, 28 November 2012
30. Khuluma Sizwe Dialogue on The Right To Water, 9 November 2012
31. WRC/WISA/DWA and Energy and Water Sector Education and Training Authority Water Human Capacity Development session, 24 January 2013
32. Workshop on fracking related to groundwater, 6 February 2013
33. Workshop on sanitation technology in partnership with the IWA, University College London, non-governmental organisation, ifak (Institut für Automation und Kommunikation) Magdeburg, the University of KwaZulu-Natal and eThekwini Water and Sanitation, 13 February 2013
34. Workshop to prioritise research on sedimentation, 19 February 2013
35. Workshop in collaboration with the Department of Environmental Affairs and the South African National Biodiversity Institute (SANBI) on Ramsar Wetlands in South Africa, 28 February 2013
36. Workshop on Energy Efficiency in the Water and Wastewater Industry, 13 March 2013
37. Workshop to determine research priorities on agro-forestry, 19 March 2013

RESEARCH PROJECT ACTIVITY

International Conference on Freshwater Governance

Cooperation on shared water resources is critical, especially in water-scarce regions where the upstream and downstream impacts of consumption and pollution are magnified. Shared river basin and aquifer systems continue to present opportunities for cooperation and joint water resource development within as well as between countries. To address this and many others, the WRC, in collaboration with DWA and various international and local water institutions, hosted the International Conference on Freshwater Governance for Sustainable Development, in the Drakensburg, from 4–7 November 2012. The conference, which was attended by more than 500 delegates from 29 countries, covered various topics within the themes of water-related legislation, regulatory environments, human and environmental rights, markers and measures of good governance, and transboundary governance and adaptive management, among others.

Testing the waters for point-of-use systems

Despite Government's efforts, millions of South Africans still lack access to water services. In many instances, these communities are situated in areas where conventional water supply interventions are expensive and difficult to implement. In these cases, point-of-use water treatment might prove the answer to achieving the goal of providing safe water to all.

The efficacy of point-of-use technologies was the centre of attention at a WRC-DST Dialogue held at the CSIR, Pretoria, on 2 October 2012. Minister of Science and Technology, Derek Hanekom, was the keynote speaker along with Roeland van Geer, ambassador for the European Union. Among others, the Dialogue provided an overview of technologies developed with funding by the WRC, while discussions centred on the best solutions to roll out point-of-use systems to needy communities.

Launch of WRC Dialogue series

The South African Government is currently deploying many efforts towards employment creation through massive infrastructure development projects. Employment creation also figures high in water programmes, such as Working for Water and the River Health Programme. However, these programmes are all rather top-down and very specialised. There is a growing realisation that there should be more community-driven projects in collaboration with local government. These challenges and possible solutions were highly debated during the launch of the WRC's Water Currents Policy Series on 14 August 2012, at Leriba Lodge, Centurion. The launch, which attracted over 150 delegates, provided a unique opportunity to bridge the gap between scientists, water users, policy makers, senior programme managers and implementers, particularly on one of the most pertinent topics of today, namely job creation.

National Water Week Dialogue on state of non-revenue water

During National Water Week 2013 a special Dialogue on the state of non-revenue water was convened in Cape Town. Held on 20 March 2013, the Dialogue was addressed by Minister of Water and Environmental Affairs, Edna Molewa, and brought together stakeholders to discuss the findings of the latest State of Non-Revenue Water in South Africa, published by the WRC in collaboration with the DWA. The study, South Africa's most comprehensive undertaken to date, found that the country's present level of non-revenue water is in the order of 37%, of which a quarter is considered to be losses through physical leakage. This percentage translates into a volume of around 1 580 million m^3 of water that is 'lost' each year. This is roughly equal to the annual supply of Africa's largest water utility, Rand Water. At the Dialogue Minister Molewa pointed out that non-revenue water remains a challenge for many municipalities due to factors such as poor planning, limited financial resources to implement the necessary water demand management programmes, poor infrastructure asset maintenance, and lack of necessary skills and capacity. Non-revenue water can potentially have a significant impact on water supply, and in some areas high levels of lost water have already forced the commissioning of new transfer schemes.

RESEARCH PROJECT ACTIVITY

Dialogue on climate change and water

The latest series of water and climate change studies emanating from the WRC was launched as part of a Dialogue on Climate Change and Water, to explore current knowledge on potential impacts of climate on the South African water scene, potential science and technology-related solutions and decision-making support mechanisms. The Dialogue took place on 28 March 2013, at the Alpine Attitude Hotel, Pretoria. The publication, Perspectives on Climate Change and the South African Water Sector, emanated from a University of KwaZulu-Natal-led multi-organisational study undertaken over four years. It forms part of a series of climate change-related reports published in the year under review to strengthen the South African armoury against the onslaught of potential climate change. The Dialogue provided a platform for various stakeholders to express views on what the science and technology response to climate change has been, and should be, going forward. Discussions also provided an opportunity to address key questions around climate change impacts, adaptation and mitigation measures, South Africa's contribution to global climate change initiatives and the country's own resilience to potential change. Speaking at the event, WRC CEO, Dhesigen Naidoo, said that adaptation to climate change is a current reality that water resource managers must adhere to.

Other knowledge-sharing initiatives

Exhibitions

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

- WISA Biennial Conference, Cape Town, 7–9 May 2012.
- The Conference of the Institute of Municipal Engineers of South Africa, Gateway Hotel, Umhlanga, 9–11 October 2012.
- The 13th Waternet/WARFSA/GWP-SA Symposium, Birchwood, Johannesburg, 30 October to 2 November 2012.

Internal Open Day

On 15 March, 2013, staff of the WRC descended on a Gold Reef City Mine Tour as part of a learning excursion especially aimed at internal staff members who may not have the opportunity to engage with WRC research content or project-related work in the field.

WRC Board visits Sanitation Demonstration Centre

On 7 July, 2012, members of the WRC Board paid a visit to the CSIR Sanitation Technology Demonstration Centre, in Pretoria. The centre was established with partial funding from the WRC and exhibits safe and acceptable sanitation technologies. Since the centre, which has been nicknamed 'toilet city', opened in 2011, it has welcomed around 1 000 visitors, from national and provincial department delegations to local communities and school children. Around 35 technologies are on display, including dry sanitation, urine diversion and waterborne systems. An important educational aspect of the site is the fact that it allows local municipalities and their councillors, especially, to see the acceptable standard specifications of sanitation. Thus the demonstration centre practically demonstrates the standard size of a pit for ventilated improved pit toilets, for example, or what an acceptable superstructure should look like.

RESEARCH PROJECT ACTIVITY

Enhancing leadership and uptake of science

The WRC aims to constantly improve its contribution towards knowledge as well as to enhance the sharing and dissemination of WRC-funded research findings. This is also linked to Government Outcomes/Outputs related to building skills, by addressing the building of future research capacity and improving knowledge dissemination. The WRC strives to improve its contribution towards the water-centred knowledge base in South Africa by enhancing the WRC knowledge-sharing activities and positioning.

National initiatives

WRC/SWA Partnership

The WRC has signed up as a partner to Sanitation and Water for All (SWA). The 2012 partners' meeting was held in Benoni, South Africa, from 12–14 November 2012. The main focus of the WRC was the Research and Learning (R&L) constituency. The following organisations participated: Institute for Sustainable Futures – University of Technology, Sydney (ISF-UTS), United Nations University, Institute for Water, Environment and Health (UNU-INWEH), Stockholm Environment Institute (SEI), Stockholm International Water Institute (SIWI), WRC, International Institute for Water and Sanitation (ONEP-IEA), SWA-secretariat, and IRC. Key outcomes from the discussions were that the R&L role within SWA was to enable and promote evidence-based decision making within the partnership. The group also agreed that due to the different mandates of the R&L constituency that every constituency member contributes to the SWA, via its relevant knowledge base in the sector, through its own regular work, and ensures relevant knowledge and learning is shared with the SWA partners.

Establishing a South African Centre for Water Technologies

The WRC, together with DST hosted a stakeholder consultation workshop to explore the feasibility of establishing a South African Water Centre, on 19 October 2012. The objective of this event was to obtain input from interested parties about the formation of a Centre for Water Technologies in South Africa. The need for and objectives of such a centre were considered. As a result of this workshop the WRC has started two projects: Firstly, a national water research and development innovation roadmap for South Africa (co-funded by DST) and, secondly, a gap analysis of technologies, techniques and capacity for the water and wastewater (domestic and industrial) sectors in South Africa. The latter is co-funded and being carried out by the University of Cape Town.

WRC-TIA Partnership

In 2012/13, the WRC signed a Memorandum of Understanding (MOU) with the Technology Innovation Agency (TIA) to establish a strategic partnership based on water R&D and technology development. Recognising their mutually complimentary competencies, TIA and WRC joined forces in the development of a pipeline of credible water-related technologies and other innovations, utilising their combined resources and expertise in the commercialisation of R&D and technology innovation through funding and technical cooperation. TIA will support the WRC by means of a resource to evaluate the existing WRC R&D portfolio for potential intellectual property that could be supported towards commercialization and other technology transfer interventions; while the WRC will assist TIA in sourcing and developing appropriate water-related innovations through sound research and development projects. Both the WRC and TIA will work together to establish, where appropriate, water-related technology stations and to jointly identify and negotiate access to relevant water-related technical facilities that may be available through external parties.

African initiatives

Hosting WaterAid

The WRC finalised hosting arrangements with WaterAid. This arrangement saw the organisation establishing a regional office in South Africa at the WRC during 2012/13. This provides the opportunity for WaterAid to glean information from the products of the WRC and WIN-SA and to promote these resources to the benefit of the region and its activities.

Bill & Melinda Gates Foundation

During the year under review, the WRC was awarded a grant of R20 million by the Gates Foundation to establish and execute a sanitation research capacity building programme for African research institutions. The fund will ensure that up to 10 institutions from the respective countries in the Eastern and Southern African Region will participate on topics identified.

CLARA (Capacity-linked water supply and sanitation improvement for Africa's peri-urban and rural areas) – EU FP7 Project

The WRC participated in this 18-month project. The management board meeting was held in Arba Minch, Ethiopia, from 26 September to 1 October 2012. The teams met to discuss the progress of the different pilot countries as well as the progress of the planning tool that is being developed by ECSA, Europe.

Global initiatives

International Water Futures and Solutions (project led by International Institute for Applied Systems Analysis)

This initiative brings state-of-the-art science and decision-makers together to develop realistic future scenarios that decision-makers can use to identify and prioritise robust options to meet water-related challenges. The WRC is negotiating the development of a Southern African chapter to the project. Other international partners include UNESCO, the World Water Council, and the International Water Association, among others.

RESEARCH PROJECT ACTIVITY

Stockholm International Water Week 2012

The SIWI World Water Week held in August 2012 focused on water and food security. The WRC involvement at this event showcased the collaborative work of the WRC and the WWF in partnership with the National Agricultural Marketing Council (NAMC) and the University of Pretoria, on the Water-Energy-Food Security Nexus and comprised of a co-authored oral presentation titled: 'Rising prices, rising environmental regions? Constructing a multi-level governance framework for the Water-Energy-Food Security Nexus', presented in the workshop 'Towards a green economy: The water-food-energy nexus' on the 28 August 2012. The second activity in this regard included a WRC-hosted workshop titled: 'Chains that bind? Dialogue on the relationships between water and energy production cycles and the food value chain' (event number: 29202), on 29 August 2012.

IWA World Congress and Exhibition: 16 – 21 September 2012, Busan Korea

The IWA World Water Congress & Exhibition held in Busan was a high-profile event that attracted over 3 400 water professionals, companies and institutions from across the globe. The WRC enjoyed significant exposure and participated in almost all levels of activities including the IWA Board, IWA Strategic Council, and Specialist Group Management Meetings, and as Session Chairs, Workshop conveners, Platform presentations, Workshop presentations and, Panel Discussions.

The list below details the individual contributions:

Presentations:

- 'Groundwater management in South Africa' in the workshop titled: 'Current Status of Groundwater Planning and Management' by S Adams
- 'Knowledge dissemination and flows in the South African water sector' by H Snyman
- 'Biosolids management in developing countries' in the workshop titled 'Charting the Future of Biosolids Management" by H Snyman
- 'Assessing water infrastructure vulnerabilities and risks in South Africa' by U Jack, J Bhagwan and G Mackintosh
- 'O&M of water services infrastructure by social franchising partnerships' by K Wall and J Bhagwan
- 'The growth of young women leaders in the water sector' by I Jacobs in Women in Water workshop
- I Jacobs was a panelist in a one-day workshop on 'The importance of (international) partnering for global water cycle research critical to our future'

Workshops:

- 'Current Status of Groundwater Planning and Management' led by S Adams
- 'Important Processes for Alluvial Groundwater Resources Use and Protection' led by M Dimkic and supported by S Adams
- 'Charting the frontiers of biosolids' led by B Örmeci and supported by HG Snyman
- 'Tomorrow's urban water and sanitation challenges, and the role of tomorrow's leaders in addressing them' chaired by I Jacobs
- J Bhagwan was a panellist in the workshop 'Focus on Africa: Establishing a breakthrough in urban sanitation'
- J Bhagwan was a panellist in the workshop 'Urban sanitation initiative: Effective demonstration cities

SUMMARY OF FINANCIAL INFORMATION

Revenue collection

Table 21. Revenue collection in 2012/13

2012/13			
Sources of revenue	Estimate	Actual amount collected	(Over)/Under collection
	R'000	R'000	R'000
WR Levies	159 637	164 789	(5 152)
Leverage	17 768	19 746	(1 978)
Total	177 405	184 535	(7 130)

2011/12			
Sources of revenue	Estimate	Actual amount collected	(Over)/Under collection
	R'000	R'000	R'000
WR Levies	149 486	151 986	(2 500)
Leverage	19 572	23 557	(3 985)
Total	169 058	175 543	(6 485)

The Water Research Levy (WRL) is the WRC's main source of revenue. It is receivable in terms of the Water Research Act No. 34 of 1971. The WRC receives its WRL from three sources, namely, Rand Water Board, Umgeni Water Board and the DWA. The WRC concluded a MoU with DWA to manage the levy payments. The higher than anticipated WRL is mainly due to the higher than anticipated volumes.

Programme expenditure

Table 22. Programme expenditure

2012/13			
Programme name	Budget	Actual expenditure	Over)/Under expenditure
	R'000	R'000	R'000
Research projects	123 397	116 726	6 671
Total	123 397	116 726	6 671

2011/12			
Programme name	Budget	Actual expenditure	Over)/Under expenditure
	R'000	R'000	R'000
Research projects	119 814	110 485	9 329
Total	119 814	110 485	9 329

The under-expenditure on research projects is mainly due to the delays in a few project deliverables due to various factors, including weather delays, data availability from institutions, and researcher movements. All funds are committed in projects, supported by signed contract.

SUMMARY OF FINANCIAL INFORMATION

Table 23. Summary of payments per KSA

2012/13			
Sub-Programme Name	Budget	Actual expenditure	(Over)/Under collection
	R'000	R'000	R'000
Water Resource Management	32 500	34 085	(1 585)
Water linked- Ecosystems	16 174	21 127	(4 953)
Water Use & Waste Management	39 487	33 808	5 679
Water Utilisation in Agriculture	30 954	26 559	4 395
Total	119 115	115 579	3 536

2011/12			
Sources of revenue	Estimate	Actual amount collected	(Over)/Under collection
	R'000	R'000	R'000
Water Resource Management	30 280	30 573	(293)
Water linked- Ecosystems	16 234	18 288	(2 054)
Water Use & Waste Management	39 764	37 917	1 847
Water Utilisation in Agriculture	32 097	23 327	8 770
Total	118 375	110 105	8 270

CAPITAL INVESTMENT, MAINTENANCE AND ASSET MANAGEMENT PLAN

IT Equipment (desktop and laptop computers) is leased and treated as financial leases and capitalised accordingly.

The fixed asset registers are timeously updated with new acquisitions of assets. An asset verification was done at year-end which included a physical verification, whether the verified assets were in use or not, and the assessment of the condition of each verified asset.

All assets on the asset register are in use and in good condition.

Table 24. Summary of capital asset expenditure

2012/13			
Infrastructure projects	Budget	Actual expenditure	(Over)/Under collection
	R'000	R'000	R'000
IT Equipment & Software	1 768 286	1 854 527	(86 241)
Office furniture	60 695	31 512	29 183
Total	1 828 981	1 886 039	(57 058)

2011/12			
Infrastructure projects	Budget	Actual expenditure	(Over)/Under collection
	R'000	R'000	R'000
IT Equipment & Software	791 224	450 948	340 276
Office furniture	57 805	31 265	26 540
Total	849 029	482 213	366 816

SECTION C: GOVERNANCE

INTRODUCTION

Corporate governance embodies processes and systems by which public entities are directed, controlled and held to account. In addition to legislative requirements based on a public entity's enabling legislation, and the Companies Act, corporate governance with regard to public entities is applied through the precepts of the PFMA, and run in tandem with the principles contained in the King's Report on Corporate Governance.

The WRC Board is the accounting authority of the WRC, and is supported by the Company Secretary. The CEO is the Accounting Officer and is accountable to the WRC Board. The Chief Financial Officer and the Executive Managers of Water Resource Management; Water-Linked Ecosystems; Water Use and Wastewater; Water Utilisation in Agriculture; Business Development, Marketing and Communications; and Human Resources and Administration, Company Secretary report directly to the CEO.

Additionally, both the WRC Board and management are committed to the principles of openness, integrity, efficiency, accountability and compliance with the King Code of Governance Principles 2009 (King III). In keeping with the provisions of King III, the Board had a workshop on the Companies Act and the King Code of Governance Principles during the year under review. The newly appointed Board also underwent an induction on the operational and technical work of the WRC. The WRC had an unqualified financial and performance audit in 2011/12, which was evidence that WRC has excellent governance practice and internal controls in place.

Further, the governance manuals relating to the activities of the Board and Board committees, the rules of procedure, terms of reference and other relevant governance matters were reviewed and updated to ensure its continued relevance and compliance with legislative and governance requirements.

BOARD COMMITTEES

Table 25. WRC Board Committees

Committee	No. of meetings held	Date of meeting	No. of members	Name of members
Research Policy and Strategy	4	24 July 2012 12 September 2012 26 November 2012 6 February 2013	7	Dr B van Koppen (Chairperson) Ms B Schreiner Prof S Hendriks Mr P Mnisi Mr G Mwiinga Mr D Naidoo (CEO) Mr M Sirenya
Human Resources and Information Technology	3	20 May 2012 11 September 2012 6 February 2013	5	Ms D Ndaba (Chairperson) Mr N Mhlongo Ms B Schreiner Dr B van Koppen Mr D Naidoo (CEO)
Remuneration Committee	4	11 May 2012 24 May 2012 11 September 2012 4 February 2013	6	Prof S Hendriks (Chairperson) Ms B Schreiner Mr N Mhlongo Ms D Ndaba Dr B van Koppen Mr D Naidoo (CEO)
Audit Committee	4	24 May 2012 20 July 2012 11 September 2012 4 February 2013	5	Mr N Mhlongo (Chairperson) Mr G Mwiinga Mr P Mnisi Ms D Ndaba Mr D Naidoo (CEO)
Finance Committee	4	24 May 2012 20 July 2012 11 September 2012 4 February 2013	5	Mr N Mhlongo (Chairperson) Mr G Mwiinga Mr P Mnisi Ms D Ndaba Mr D Naidoo (CEO)

EXECUTIVE AUTHORITY

Table 26. Summary of WRC Risk Register

Risk name	Controls (Business process to manage the risk exposure)
Insufficient research capacity	• Developing research training material • Capacity building • Engagement with research partners • Funding research equipment • Support publication and exposure of students to training • Leading implementing agents for national capacity drive
Insufficient funding	• Escalation provision for funding • Diversified levy agencies • Regular interaction with stakeholders • Prioritisation of funds available • Stretching of resources
Decreasing quality and relevance of research portfolio	• Regular project meetings • Stakeholder involvement in research portfolio • Annual strategic review of research portfolio • Periodic institutional review of research portfolio • Engaging performance of researches
Instability of levy funding	• Diversified levy agencies • Adherence to legislation (collection of income) • Regular interaction with funding stakeholder
Negative response to research output/results	• Implemented media policy • Draft code of practice relating to multistakeholder relationship management • Involvement of end users in research • Early warning practice
Inability to attract, retain and develop skills within WRC	• Informal succession planning • Development programme for individuals • Informal head hunting • Salary benchmarking • Attractive Conditions of Employment
Non- adherence to government practices and regulations	• Good internal knowledge of the PFMA and other legislation • On-going training • Compliance as KPI
Business interruption/disaster	• Offsite backup • Disaster recovery plans • Firewall • UPS • Anti-virus software • Insurance • Dedicated first aid officials • Logical and physical access controls

Table 26. Summary of WRC Risk Register (continued)

Risk name	Controls (Business process to manage the risk exposure)
Fraud and theft	• Financial and management • Segregation of duties • Delegation of authority • Fraud prevention plan • Whistle blowing policy

The following reports were submitted to the Executive Authority and approved on the dates provided.

Table 27. Reports submitted to Executive Authority

Reports	Submitted	Approved
WRC revised Conditions of Employment	17 April 2012	Changes recommended by Minister of Water and Environmental Affairs in letter dated 31 July 2012
WRC revised Conditions of Employment dated 4 March 2013	8 March 2013	Approved by Minister on 5 May 2013 and submitted to Minister of Finance for concurrence
Quarter four 2011/12 performance report (January to March 2012)	30 April 2012	29 August 2012
Quarter one 2012/13 performance report (April to June 2012)	30 July 2012	Received letter of acknowledgement from Minister on 30 July 2012
Quarter two 2012/13 performance report (July to September 2012)	31 October 2012	15 December 2012
Quarter three 2012/13 performance report (October to December 2012)	15 February 2013	26 March 2013
Quarter four 2012(13) performance report (January to March 2013)	30 April 2013	Awaiting approval
WRC Draft Corporate Plan 2013/14-2017/18	28 September 2012	Minister recommended changes on the governance landscape and performance tables
WRC Corporate Plan 2013/14-2017/18	28 February 2013	15 April 2013
WRC Annual Report 2011/12	30 August 2012	15 September 2012
Revised budget submission 2012/13 and budget submission 2013/14 dated 27 September 2012	28 September 2012	31 October 2012
Levy increase submission dated 25 February 2013	28 March 2013	Awaiting approval

THE ACCOUNTING AUTHORITY / BOARD

The following section outlines the importance and purpose of the WRC Board as well as the Board's responsibilities.

The role of the board

The Board is the Accounting Authority of the WRC, and in this respect provides oversight, fiduciary duties and responsibilities to the WRC as required by the PFMA, the WRA, Treasury Regulations for Public Entities (2001, amended 2002) and the King Report on Corporate Governance in South Africa (2009).

During the year under review the WRC operated under the leadership of its newly-appointed Board. The Board members, who are appointed by the Minister of Water & Environmental Affairs, are independent, non-executive directors. The CEO and the Director-General of the DWA are ex officio members of the Board. The WRC Board provides leadership and governance to the WRC, overseeing that the WRC is true to its mandate and mission by:

- Promoting the creation, dissemination, sharing and application of water-centred knowledge
- Optimally using available resources (achieving the best return on investment)
- Striving to be financially sustainable and viable
- Promoting the relevance and effectiveness of water-centred knowledge inter alia through feedback from external reviews to be conducted periodically, at least every five years, at the discretion of the Board
- Taking cognisance of the short-, medium- and long-term research needs of the water sector
- Taking into account national and provincial policies, objectives and developments
- Acting in a transparent and fair manner

Board Charter

The Board Charter, which has been developed in alignment with King III, provides a concise overview of the fiduciary duties and responsibilities of the Board of the WRC, as well as the procedures and structures that will govern how the Board is to function in order to discharge its duties.

The Board Charter was last updated on 27 March 2012. The following Board Committees have been established:

- Audit and Risk Committee (A&R)
- Finance Committee (Finance)
- Remuneration Committee (Rem Com)
- Human Resources and Information Technology Committee (HR & IT)
- Executive Committee (Exco)
- Research Policy and Strategy (RPS)

THE BOARD MEMBERS

(left to right): Prof Sheryl Hendriks (Vice Chair); Dr Barbara van Koppen; Mr Godfrey Mwiinga; Ms Barbara Schreiner (Chair); Mr Nala Mhlongo; Ms Dora Ndaba; Mr Dhesigen Naidoo (Ex Officio), Absent: Mr PR Mnisi.

THE EXECUTIVE MEMBERS

(left to right): Ms Eiman Karar; Ms Reshmili Lutchman; Dr Gerhard Backeberg; Mr Dhesigen Naidoo (CEO); Mr Jay Bhagwan; Mr Nareshkumar Patel; Dr Stanley Liphadzi; Dr Inga Jacobs.

The WRC Board

Ms B Schreiner (Chairperson)

Appointed on 29 May 2012
WRC Board and Committee meetings attended: Board (4), RPS (4), HR&IT (2) and Rem Com (2).
Ms Schreiner is a Director at Pegasys. She also serves on the Board of the International Water Management Institute (IWMI).

Prof S Hendriks (Vice-chairperson)

Appointed on 29 May 2012
WRC Board and Committee meetings attended: Board (5), RPS (3), Rem Com (2)
Prof Hendriks is Head of the Institute for Food, Nutrition and Well-being at the University of Pretoria.

Mr D Naidoo (CEO and Ex-officio member)

Appointed on 1 October 2011
WRC Committee meetings attended: Board (5), RPS (3), Audit and Risk (3), Finance (3), HR&IT (2), Rem Com (3). Mr Naidoo is the Chief Executive Officer of the WRC.

THE ACCOUNTING AUTHORITY / BOARD

Dr B van Koppen (Chairperson of RPS Committee)

Appointed on 29 May 2012.
WRC Board and Committee meetings attended: Board (5), RPS (3), Rem Com (2).
Prof van Koppen is a coordinator for Global Multiple Use Water Services and a Principal Researcher for the International Water Management Institute.

Ms D Ndaba (Chairperson of HR Committee)

First appointed on 31 July 2008. Re-appointed on 29 May 2012.
WRC Board and Committee meetings attended: Board (5), HR&IT (2), Rem Com (4), Audit & Risk (4), Finance (4).
Ms Ndaba currently serves on the NEDLAC Development Chamber: Public Transport Task Team, and is a member of the Presidential Working Group on Women.

Mr N Mhlongo (Chairperson of Audit & Risk Committee; Chairperson of Finance Committee)

First appointed on 15 October 2010. Re-appointed on 29 May 2012.
WRC Board and Committee meetings attended: Board (4), Audit and Risk (4), Finance (4), HR+IT (2), Rem Com (4).
Mr Mhlongo heads up his own accountancy and management consulting firm.

Mr G Mwiinga (Board member)

Appointed on 29 May 2012.
WRC Board and Committee meetings attended: Board (5), RPS (4), Audit & Risk (3), Finance (3).
Mr Mwiinga currently works for the Development Bank of Southern Africa.

Mr PR Mnisi (Board member)

Appointed on 29 May 2012.
WRC Board and Committee meetings attended: Board (1), Audit & Risk (2), Finance (2).
Mr Mnisi is the CEO of the Institute of Municipal Finance Officers.

Prof JB Adams (Former Chairperson)

Appointed on 31 July 2008 to 28 May 2012
WRC Committee meetings attended: Rem Com (1) in 2012/13.

THE ACCOUNTING AUTHORITY / BOARD

Ms ZB Mathenjwa (Former Board member)

Appointed on 31 July 2008 to 28 May 2012.
WRC Committee meetings attended: None in 2012/13.

Dr TPE Auf der Heyde (Former Board member)

Appointed on 31 July 2008 to 28 May 2012.
WRC Committee meetings attended: None in 2012/13.

Mr P Cross (Former Board member)

Appointed on 31 July 2008 to 28 May 2012.
WRC Committee meetings attended: None in 2012/13.

Mr T Balzer (Acting DWA DG and Ex-officio Board member)

Appointed in March 2013.
WRC Committee meetings attended: None.

Mr M Sirenya (DWA DG and Ex-officio Board member)

Appointed on 29 May 2012 to February 2013.
WRC Committee meetings attended: None.

Adv. D Block

Co-opted to the HR Committee on 23 June 2010 to 28 May 2012.
WRC Committee meetings attended: Rem Com (1) in 2012/13.

THE ACCOUNTING AUTHORITY / BOARD

Remuneration of board members

Members of the Board are paid an allowance in respect of the performance of their duties. The allowance is determined by the Minister of Water and Environmental Affairs in consultation with the Minister of Finance. Members that are not remunerated are the CEO and the ex-officio member of DWA. Board members are also paid for travel expenses.

Table 28. Remuneration paid to each board member in 2012/13

Name	Total (R)
Ms Barbara Schreiner (Chairperson)	105 138
Prof Sheryl Hendriks (Vice-Chairperson)	43 100
Mr Nala Mhlongo	57 730
Mr Patrick Mnisi	16 310
Mr Godfrey Mwiinga	53 085
Ms Dora Ndaba	69 898
Dr Barbara van Koppen	28 078
Mr Dhesigen Naidoo (CEO)	N/A
DWA DG	N/A

RISK MANAGEMENT

The WRC Board is accountable for the process of risk management, which is reviewed regularly. Risk management at the WRC is an ongoing process. The WRC has established a risk management framework. The WRC (Board and Management) identified nine strategic risks for the 2011/12 year. The risks presented below have each been assessed in terms of impact and likelihood, i.e. inherent risk exposure. The WRC also identified the existing controls (mitigations) which are in place, and assessed the perceived control effectiveness of the identified controls. Each risk was allocated to a risk owner. These risks were also linked to the strategic objectives of the WRC. A risk rating was assigned from both an inherent risk and a residual risk exposure perspective.

The Board and Executive Management undertake the risk assessment annually in November, facilitated by the internal auditing process. The WRC reviews the risk register on a quarterly basis and reports its progress to the Audit and Risk Committee.

The following risks were collectively identified and assessed by the Board and Executive Management:

- Insufficient research capacity (fields, quality and quantity in the country)
- Insufficient funding
- Decreasing quality and relevance of research portfolio
- Instability of levy funding
- Negative response to research outputs/results
- Inability to attract, retain and develop skills within the WRC
- Non-adherence to Government practices and regulations
- Business interruptions/disaster
- Fraud and theft

INTERNAL CONTROL UNIT

To enable the WRC to meet its responsibility to provide reliable financial information, the WRC maintains accounting systems and practices adequately supported by a system of internal controls. These controls are designed to provide reasonable assurance that transactions are concluded in accordance with management authority, and that the assets are adequately safeguarded. The Internal Audit Function monitors the effectiveness and efficiency of the internal control systems, reports their findings and makes recommendations to management and the Audit Committee of the WRC Board, and monitors whether corrective action has been taken.

INTERNAL AUDIT AND AUDIT COMMITTEES

The WRC has an outsourced internal audit function. The WRC has adopted formal terms of reference as its Internal Audit Charter. The internal auditors prepare a rolling three-year audit plan, which on the recommendation of the Audit and Risk Committee is approved by the Board. The internal audit function reports directly to the Audit and Risk Committee.

For the 2012/13 financial year it performed the following audits:

- Performance information review
- Core operations review
- Levy funding review
- Supply-chain management review
- IT risk assessment review

Table 30 discloses relevant information regarding Board members serving on the Audit Committee members.

Table 29. Audit Committee members' details

Name	Qualifications	Internal/ External	Date appointed	No. of meetings attended
Nala Mhlongo (Committee chair)	Chartered Management Accountant, Chartered Global Management Accountant, Chartered Accountant, B.Com (Hons), B.Com	External	15 October 2010. Re-appointed 29 May 2012 for second term.	4
Dora Ndaba	B Tech Transport Logistics, Certificate in Food Processing (Belgium), Certificate in Marketing and Management in Agriculture (USA), Diploma in Transport Economics, Diploma in Nursing	External	31 July 2008. Re-appointed 29 May 2012 for second term.	4
Godfrey Mwiinga	MBA, MIT Engineering (Environmental), Post Graduate Diploma in Sanitary Engineering BA Civil Engineering	External	29 May 2012	4
Patrick Roy Mnisi	LLB, Certificate of Compliance Management	External	29 May 2012	2
Dhesigen Naidoo	CEO and ex-officio	Internal	1 October 2011	4

In terms of compliance with laws and regulations the WRC developed the new positions of Head of Compliance and Compliance Officer, responsible for ensuring that the entities complies with regulations.

COMPLIANCE WITH LAWS AND REGULATIONS

The WRC is governed by the South African Constitution (Act No. 108 of 1996) and the WRA, which outlines the purpose and mandated objectives of the organisation. The WRC also operates and accounts for its activities in accordance with the PFMA and Treasury Regulations.

The mandated objectives of the WRC are also in accordance with the requirements of the policies of the DWA for the WSA and the NWA.

The WRC is regularly audited in terms of its compliance requirements with the above-mentioned legislation.

FRAUD AND CORRUPTION

The WRC has a zero tolerance fraud and corruption policy. All fraud and corruption will be investigated and followed up. The application of all remedies falls within the full extent of the law and the implementation of appropriate prevention and detections controls. The WRC has an approved Fraud Prevention Policy and Whistle Blowing policy to ensure that the Commission's tolerance to fraud and corruption is integrated into the day-to-day activities of the organisation. Further to that the WRC has a 24-hour Ethics Hotline hosted by an external service provider.

ETHICS AND BUSINESS

The integrity of the employees underlies all of the WRC's relationships, including those with customers, suppliers and communities, as well as those between employees. The highest standards of ethical business conduct are required of employees of the WRC in fulfilling their WRC responsibilities, and this has been documented in the WRC's Code of Ethics and Business Conduct policy.

Employees may not engage in any activity that could raise questions as to the WRC's integrity, respect for diversity, impartiality or reputation. Ethical business conduct includes workplace relationships between employees in terms of the Constitution and requires respect for constitutional rights in employment, particularly with regard to human dignity, non-discrimination, and respect for diversity, impartiality and reputation.

HEALTH AND SAFETY

During the year under review the WRC implemented and tested its emergency evacuation plan. The Commission also ensured that employees have been trained in fire fighting, first aid, emergency response and safety, health and the environment.

COMPANY/ BOARD SECRETARY

The Company Secretary is responsible for guiding the Board on the execution of their duties and responsibilities, and how such duties and responsibilities should be properly carried out in the best interests of the WRC. The Company Secretary also provides a central source of guidance and advice on matters of good governance and changes in legislation.

Responsibilities of the Company Secretary include:

- Ensuring that the procedures for appointment of the Board are properly carried out
- Assisting with the proper induction, orientation and on-going training and education of directors
- Assessing specific training needs of directors and executive management regarding fiduciary/governance responsibilities
- Ensuring that the Board Charter and sub-committees Terms of Reference are kept up to date
- The proper compilation and timely circulation of documentation for the Board and committees
- Obtaining appropriate responses and feedback to specific agenda items or matters arising from prior meetings of the Board or committees
- Raising any matters that may warrant Board attention
- The proper recording of minutes of Board and committee meetings and seeing to the approval and timely circulation of the minutes to directors
- Liaising and assisting the Board Chairperson, committee chairs and the CEO with yearly work plans for Board meetings
- Assisting with the annual Board evaluation process (Board, directors and senior management)

SECTION D:
HUMAN RESOURCES MANAGEMENT

INTRODUCTION

In today's dynamic environment it is critical for the WRC to invest in its human capital. The WRC's performance is directly influenced by its most valuable resources, that being the employees of the Commission. Remuneration, benefits, performance management, organisational development, training and employee wellness are managed through robust strategies, policies and procedures.

HUMAN RESOURCE OVERSIGHT STATISTICS

Human resources

Figures 16 and 17 indicate WRC staff composition in 2012/13 by race and gender, respectively. The tables that follow provide a breakdown of total personnel expenditure, including personnel cost by salary band, performance and training costs.

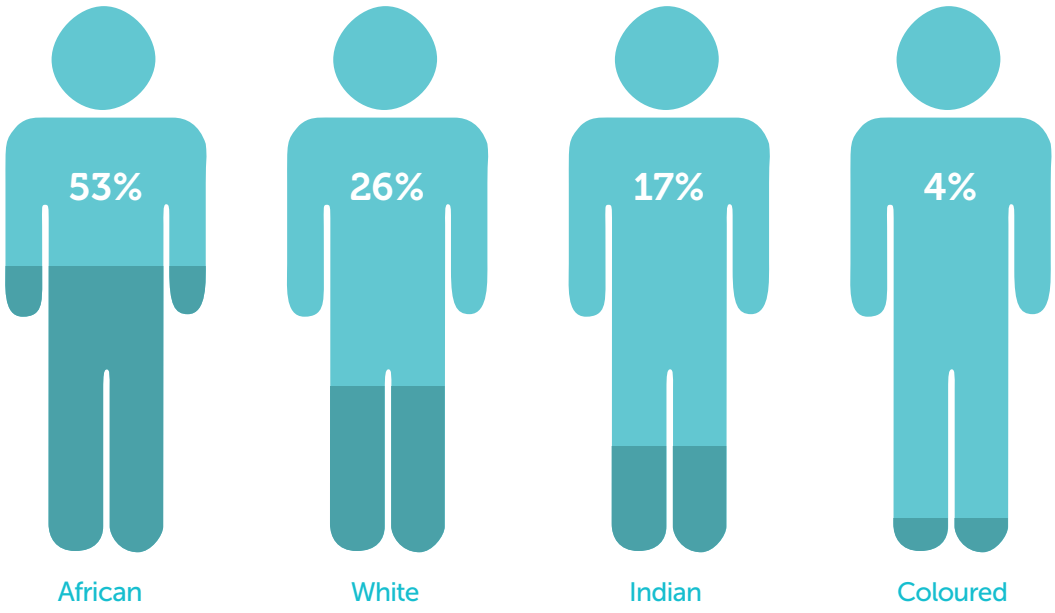
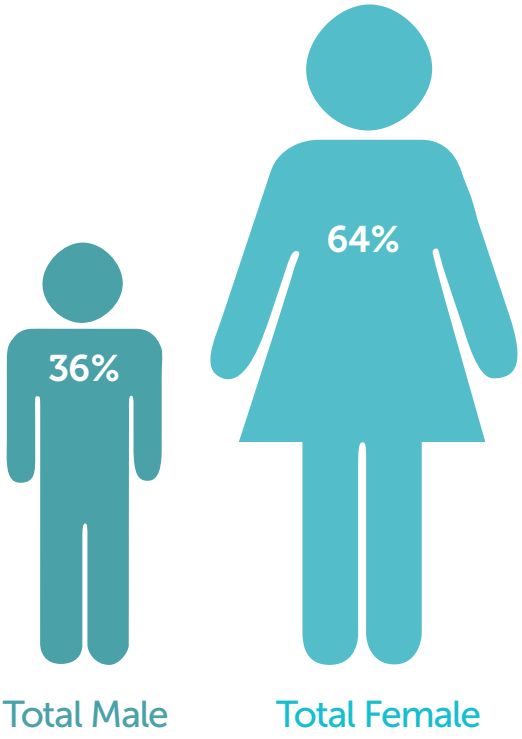


Figure 16: WRC staff demographic profile 2012/13

Figure 17. WRC staff gender profile 2012/13



Personnel cost by salary band

Level	Personnel expenditure (R'000)	% of personnel exp. to total personnel cost (R'000)	No. of employees	Average personnel cost per employee (R'000)
Top Management	10 492 890.00	31%	8.00	1 311 611.25
Senior Management	9 348 571.00	28%	10.00	934 857.10
Professional qualified	10 130 678.00	30.26%	23.00	440 464.26
Skilled	2 587 192.00	7.73%	10.00	258 719.20
Semi-skilled	399 975.00	1.19%	2.00	199 987.50
Unskilled	518 862.00	1.55%	4.00	129 715.50
Total	33 478 168.00	100.00%	57.00	587 336.28

HUMAN RESOURCE OVERSIGHT STATISTICS

Performance rewards

Programme	Performance rewards	Personnel Expenditure (R'000)	% of performance rewards to total personnel cost (R'000)
Senior management	1 102 309.04	18 869 933.87	3.45%
Middle management	245 161.10	4 165 937.13	0.77%
Salary levels 1-10	495 769.83	8 816 969.28	1.55%
Semi-skilled/temporary	0.00	117 271.75	0.00%
Total	1 843 239.97	31 970 112.03	5.77%

Training Costs

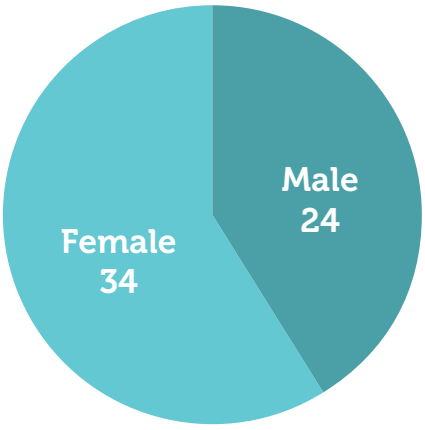
Directorate/ business unit	Personnel expenditure (R'000)	Training expenditure (R'000)	Training expenditure as a percentage of personnel cost	No. of employees trained
KSA 1	48 619 605.00	6 669.00	0.00%	4
KSA 2	29 614 564.00	6 498.00	0.00%	3
KSA 3	45 376 607.00	6 270.00	0.00%	3
KSA 4	35 120 050.00	0.00	0.00%	0
KSA 5	14 041 470.00	30 096.00	0.01%	9
KSA 6	12 978 545.00	22 093.20	0.01%	5
KSA 7	9 936 376.00	59 070.03	0.03%	17
KSA 8	3 612 595.00	150 944.00	0.08%	2
KSA 9	1 560 928.00	0.00	0.00%	0
Total	200 860 740.00	281 640.23	0.14%	43

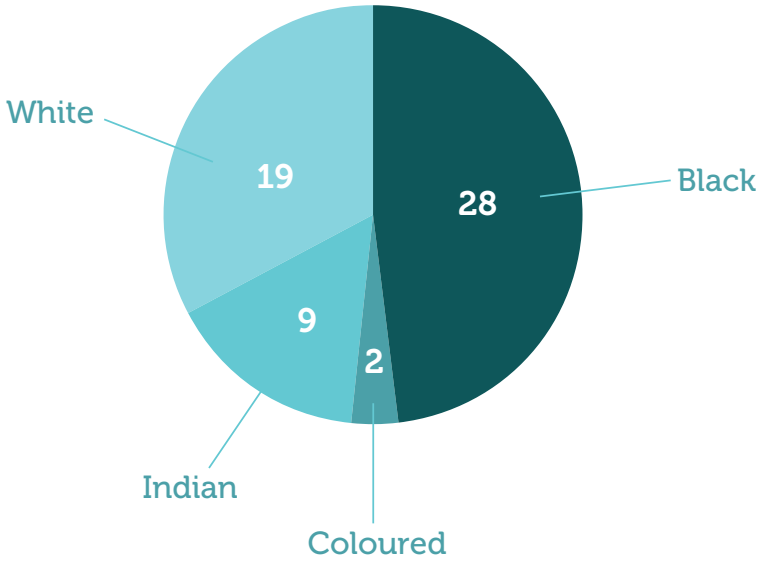
Programme	No. of employees 2012/13	Approved posts 2012/13	No. of employees 2013/14	Vacancies 2013/14	% of vacancies
Top management	8	0	8	0	0
Senior management	10	3	13	1	7.69%
Professional qualified	25	1	25	0	0
Skilled	10	0	10	0	0
Semi-skilled	2	0	2	0	0
Unskilled	4	0	4	0	0
Total	58	4	62	1	7.69%

In the year under review, two members of staff resigned.

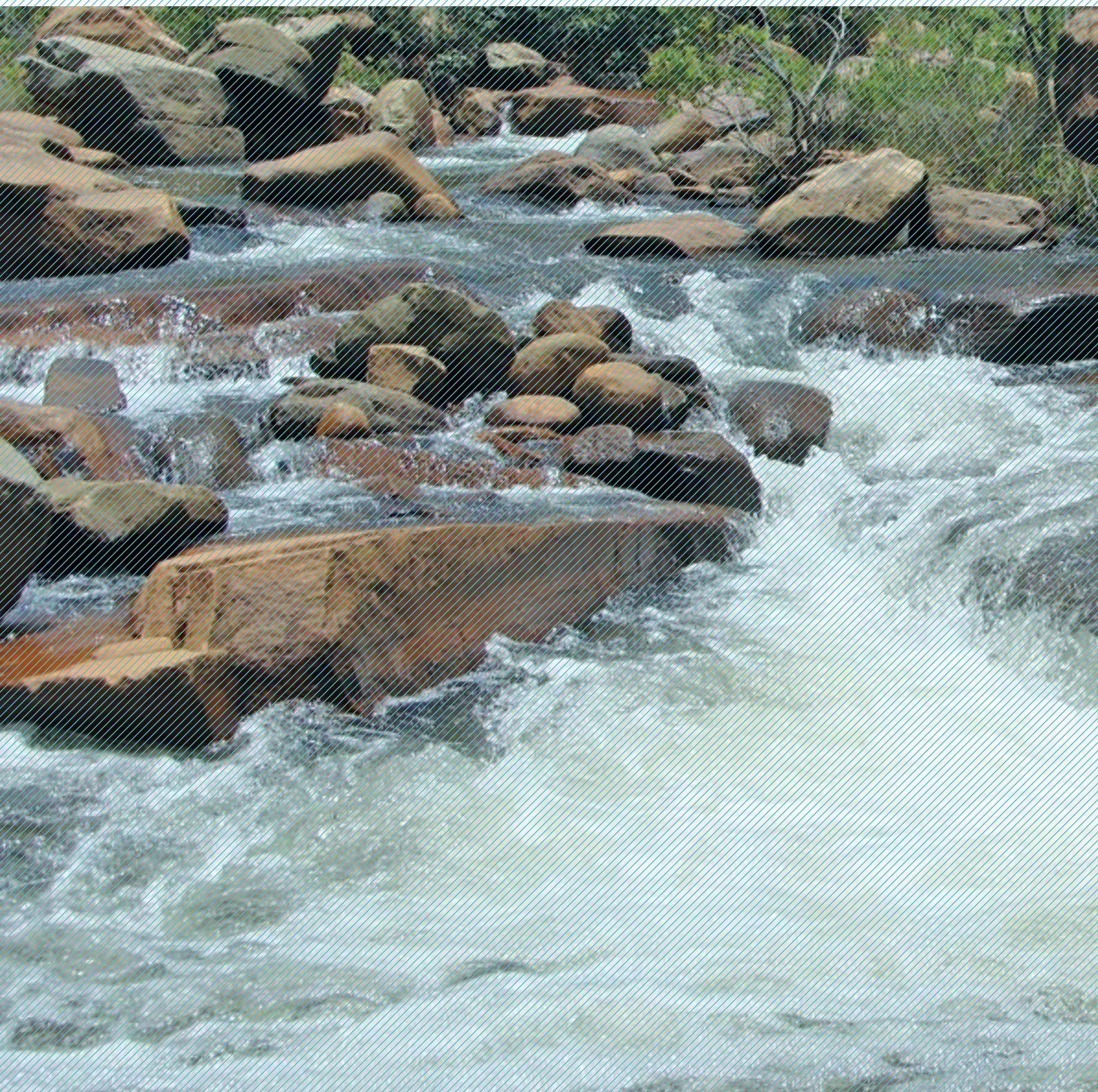
HUMAN RESOURCE OVERSIGHT STATISTICS

Equity target and employment equity status





In the year under review the WRC had no disabled staff members in its employ.



SECTION E:
WRC CONSOLIDATED FINANCIAL STATEMENTS

STATEMENT OF RESPONSIBILITY

Statement of Responsibility for the Annual Financial Statements for the year ended 31 March 2013

The Accounting Authority is responsible for the preparation of the public entity's annual financial statements and for the judgements made in this information.

The Accounting Authority is responsible for establishing, and implementing a system of internal control designed to provide reasonable assurance as to the integrity and reliability of the annual financial statements.

In my opinion, the financial statements fairly reflect the operations of the public entity for the financial year ended 31 March 2013.

The external auditors are engaged to express an independent opinion on the AFS of the public entity.

The Water Research Commission annual financial statements for the year ended 31 March 2013 have been audited by the external auditors and their report is presented on page 142.

The Annual Financial Statements of the public entity set out on page 147 to page 202 have been approved.

Dhesigen Naidoo

Chief Executive Officer Water Research Commission

Barbara Schreiner

Chairperson of the Board Water Research Commission

REPORT OF THE AUDIT AND RISK COMMITTEE

Report of the Audit and Risk Committee required by treasury regulations 27.1.7 And 27.1.10 Of the Public Finance Management Act, act 1 of 1999, as amended by Act 29 of 1999

The Audit and Risk Committee reports that it has adopted formal terms of reference as its Audit and Risk Committee Charter and that it has discharged all of its responsibilities for the year, in compliance with the charter.

The Audit and Risk Committee is satisfied that an adequate system of internal control is in place to reduce significant risks faced by the organisation to an acceptable level, and that these controls have been effective during the period under review. The system is designed to manage, rather than eliminate the risk of failure and to maximise opportunities to achieve business objectives. This can provide only reasonable but not absolute assurance.

The Audit and Risk Committee is satisfied that the internal audit function has addressed the high risks pertinent to the entity in its audit.

- The Audit and Risk Committee has:
- Reviewed the audited annual financial statements
- Reviewed accounting policies
- Reviewed the Auditor-General's management letter and management's response thereto and is comfortable that management will address the findings adequately
- Reviewed adjustments resulting from the audit.

The Audit and Risk Committee concurs and accepts the Auditor-General's conclusions on the annual financial statements, and is of the opinion that the audited annual financial statements be accepted and read together with the report of the Auditor-General.

The Audit and Risk Committee met with the Auditor-General and were assured that there were no unresolved issues of concern.

Mr N Mhlongo

Chairperson Audit and Risk Committee Water Research Commission

REPORT OF THE AUDITOR-GENERAL TO PARLIAMENT ON THE WATER RESEARCH COMMISSION

REPORT ON THE CONSOLIDATED FINANCIAL STATEMENTS

Introduction

1. I have audited the consolidated and separate financial statements of the Water Research Commission and its subsidiary set out on pages 147 to 201, which comprise the consolidated and separate statement of financial position as at 31 March 2013, the consolidated and separate statement of financial performance, statement of changes in net assets and the cash flow statement for the year then ended, and the notes, comprising a summary of significant accounting policies and other explanatory information.

Accounting authority's responsibility for the consolidated financial statements

2. The accounting authority is responsible for the preparation and fair presentation of these consolidated and separate financial statements in accordance with South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and the requirements of the Public Finance Management Act of South Africa, 1999 (Act No.1 of 1999) (PFMA), the Companies Act of South Africa, 2008 (Act. No 71 of 2008) and for such internal control as the accounting authority determines is necessary to enable the preparation of consolidated and separate financial statements that are free from material misstatement, whether due to fraud or error.

Auditor-General's responsibility

3. My responsibility is to express an opinion on these consolidated and separate financial statements based on my audit. I conducted my audit in accordance with the Public Audit Act of South Africa, 2004 (Act No. 25 of 2004) (PAA), the General Notice issued in terms thereof and International Standards on Auditing. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated and separate financial statements are free from material misstatement.

4. An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated and separate financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the consolidated and separate 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 consolidated and separate financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated and separate financial statements.

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

Opinion

6. In my opinion the consolidated and separate financial statements present fairly, in all material respects, the financial position of the Water Research Commission and its subsidiary as at 31 March 2013, and their financial performance and cash flows for the year then ended in accordance with South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and the requirements of the PFMA and the Companies Act of South Africa, 2008 (Act. No 71 of 2008).

Report on other legal and regulatory requirements

7. In accordance with the PAA and the General Notice issued in terms thereof, I report the following findings relevant to performance against predetermined objectives, compliance with laws and regulations and internal control, but not for the purpose of expressing an opinion.

Predetermined Objectives

8. I performed procedures to obtain evidence about the usefulness and reliability of the information in the annual performance report as set out on pages 45 to 106 of the annual report.

9. The reported performance against predetermined objectives was evaluated against the overall criteria of usefulness and reliability. The usefulness of information in the annual performance report relates to whether it is presented in accordance with the National Treasury's annual reporting principles and whether the reported performance is consistent with the planned objectives. The usefulness of information further relates to whether indicators and targets are measurable (i.e. well defined, verifiable, specific, measurable and time bound) and relevant as required by the National Treasury Framework for managing programme performance information.

   The reliability of the information in respect of the selected objectives is assessed to determine whether it adequately reflects the facts (i.e. whether it is valid, accurate and complete).

10. The material findings are as follows:

REPORT OF THE AUDITOR-GENERAL TO PARLIAMENT ON THE WATER RESEARCH COMMISSION

Reliability of information

11. I was unable to obtain the information and explanations I considered necessary to satisfy myself as to the reliability of information presented with respect to Enhance Research Capacity objective. This was due to limitations placed on the scope of my work due to inadequate information systems.

Compliance with laws and regulations

12. I performed procedures to obtain evidence that the entity has complied with applicable laws and regulations regarding financial matters, financial management and other related matters. My findings on material non-compliance with specific matters in key applicable laws and regulations as set out in the General Notice issued in terms of the PAA are as follows:

Annual financial statements, performance and annual report

13. The financial statements submitted for auditing were not prepared in accordance with the prescribed financial reporting framework as required by section 55(1) (b) of the PFMA.

14. Material misstatements of current assets, available for sale financial asset fair value reserve, accumulated surplus and disclosure items identified by the auditors in the submitted financial statements were subsequently corrected, resulting in the financial statements receiving an unqualified audit opinion.

Expenditure management

15. The accounting authority did not take effective steps to prevent irregular expenditure as required by section 51(1)(b)(ii) of the Public Finance Management Act.

Procurement and contract management

16. The preference point system was not applied in all procurement of goods and services above R30 000 as required by section 2(a) of the Preferential Procurement Policy Framework Act and Treasury Regulations 16A6.3(b).

Internal control

17. I considered internal control relevant to my audit of the financial statements, the annual performance report and compliance with laws and regulations. The matters reported below under the fundamentals of internal control are limited to the significant deficiencies that resulted in the findings on the annual performance report and the findings on compliance with laws and regulations included in this report.

Leadership

18. The accounting authority did not ensure that the procurement and contract management policy is aligned in all material aspects with the SCM regulations.

19. The accounting authority did not retain adequate oversight responsibility to prevent irregular expenditure.

Financial and performance management

20. The accounting authority did not adequately review the financial statements to ensure that they are prepared in all material respects in accordance with the requirements of Generally Recognised Accounting Practice.

21. The accounting authority did not have sufficient standard operating procedures for the accurate recording of actual achievements and monitoring of the completeness of source documentation in support of actual achievements.

Auditor – General

Pretoria
31 July 2013

AUDITOR-GENERAL
SOUTH AFRICA

Auditing to build public confidence

WATER RESEARCH COMMISSION ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2013

GENERAL INFORMATION

COUNTRY OF INCORPORATION AND DOMICILE	South Africa
NATURE OF BUSINESS AND PRINCIPAL ACTIVITIES	Water related research
REGISTERED OFFICE	Marumati Building c/o Frederika and 18th Avenue Rietfontein Pretoria
BUSINESS ADDRESS	Marumati Building c/o Frederika and 18th Avenue Rietfontein Pretoria
POSTAL ADDRESS	Private Bag X03 Gezina 0031
AUDITORS	Auditor General Registered Auditors

SECTION E: WRC ANNUAL FINANCIAL STATEMENTS

The following supplementary information does not form part of the annual financial statements and is unaudited:

STATEMENT OF FINANCIAL POSITION AS AT 31 MARCH 2013

Figures in Rands		Group		WRC	
		2013	2012	2013	2012
	Note(s)	R	R	R	R
ASSETS					
Current Assets					
Loans to economic entities	6	-	-	1,020,000	1,020,000
Operating lease asset		33,659	31,010	-	-
Trade and other receivables	10	36,636,697	32,277,667	36,616,461	32,673,376
Cash and cash equivalents	11	85,338,733	93,039,613	83,092,896	91,134,628
		122,009,089	**125,348,290**	**120,729,357**	**124,828,004**
Non-Current Assets					
Property, plant and equipment	3	11,367,306	11,064,709	2,675,784	2,373,187
Intangible assets	4	2,627,162	2,518,886	2,627,162	2,518,886
Investments in controlled entities	5	-	-	755,939	755,939
Loans to economic entities	6	-	-	19,137,514	17,394,926
Other financial assets	7	9,168,977	7,521,848	9,168,977	7,521,848
		23,163,445	**21,105,443**	**34,365,376**	**30,564,786**
Total Assets		**145,172,534**	**146,453,733**	**155,094,733**	**155,392,790**
LIABILITIES					
Current Liabilities					
Finance lease obligation	12	538,966	382,928	538,966	382,928
Trade and other payables	14	47,401,766	47,162,236	46,801,670	46,986,842
Accruals – leave and bonus	13	3,548,187	3,430,662	3,548,187	3,430,662
Trade and other payables – Non-exchange transactions		38,381	29,266	-	-
		51,527,300	**51,005,092**	**50,888,823**	**50,800,432**
Non-Current Liabilities					
Finance lease obligation	12	660,149	363,981	660,149	363,981
Operating lease liability		32,089	36,938	300,257	300,782
Retirement benefit obligation	9	4,803,741	3,561,176	4,803,741	3,561,176
		5,495,979	**3,962,095**	**5,764,147**	**4,225,939**
Total Liabilities		**57,023,279**	**54,967,187**	**56,652,970**	**55,026,371**
Net Assets		**88,149,255**	**91,486,546**	**98,441,763**	**100,366,419**
NET ASSETS					
Accumulated surplus		88,149,255	91,486,546	98,441,763	100,366,419

STATEMENT OF FINANCIAL PERFORMANCE

Figures in Rands		Group		WRC	
		2013	2012	2013	2012
	Note(s)	R	R	R	R
Revenue	16	185,185,569	176,109,748	184,534,409	175,542,725
Other income		2,941,459	774,606	3,276,354	1,090,452
Operating expenses		(196,249,040)	(184,323,310)	(197,257,817)	(185,306,187)
Operating deficit	17	**(8,122,012)**	**(7,438,956)**	**(9,447,054)**	**(8,673,010)**
Investment revenue	18	3,298,773	3,843,348	6,036,449	6,363,089
Fair value adjustments		1,664,253	942,855	1,664,253	942,855
Finance costs	19	(178,303)	(198,972)	(178,303)	(198,972)
Deficit for the year		**(3,337,289)**	**(2,851,725)**	**(1,924,655)**	**(1,566,038)**
Attributable to:					
Owners of the controlling entity		(3,337,289)	(2,851,725)	(1,924,655)	(1,566,038)

STATEMENT OF CHANGES IN NET ASSETS

Figures in Rands	Available for sale financial asset fair value reserve	Accumulated surplus	Total net assets
	R	R	R
Group			
Opening balance as previously reported	24,403,948	70,131,637	94,535,585
Adjustments			
Prior year adjustments	(24,403,948)	24,206,634	(197,314)
Balance at 01 April 2011 as restated	-	**94,338,271**	**94,338,271**
Changes in net assets			
Deficit for the year	-	(2,851,725)	(2,851,725)
Total changes	-	(2,851,725)	(2,851,725)
Balance at 01 April 2012	-	**91,486,544**	**91,486,544**
Changes in net assets			
Surplus for the year	-	(3,337,289)	(3,337,289)
Total changes	-	(3,337,289)	(3,337,289)
Balance at 31 March 2013	-	**88,149,255**	**88,149,255**
WRC			
Opening balance as previously reported	24,403,948	77,725,823	102,129,771
Adjustments			
Prior year adjustments	(24,403,948)	24,206,634	(197,314)
Balance at 01 April 2011 as restated	-	**101,932,457**	**101,932,457**
Changes in net assets			
Deficit for the year	-	(1,566,038)	(1,566,038)
Total changes	-	(1,566,038)	(1,566,038)
Balance at 01 April 2012	-	**100,366,418**	**100,366,418**
Changes in net assets			
Deficit for the year	-	(1,924,655)	(1,924,655)
Total changes	-	(1,924,655)	(1,924,655)
Balance at 31 March 2013	-	**98,441,763**	**98,441,763**

CASH FLOW STATEMENT

Figures in Rands	Note(s)	Group 2013 R	Group 2012 R	WRC 2013 R	WRC 2012 R
CASH FLOWS FROM OPERATING ACTIVITIES					
Receipts					
Cash receipts from customers		183,429,905	168,043,992	183,946,697	168,029,689
Interest income		3,298,773	3,843,347	6,036,449	6,363,089
		186,728,678	171,887,339	189,983,146	174,392,778
Payments					
Cash paid to suppliers and employees		(193,266,779)	(174,412,762)	(195,119,511)	(175,624,612)
Finance costs		(178,303)	(198,972)	(178,303)	(198,972)
		(193,445,082)	(174,611,734)	(195,297,814)	(175,823,584)
Net cash flows from operating activities	22	**(6,716,404)**	**(2,724,395)**	**(5,314,668)**	**(1,430,806)**
CASH FLOWS FROM INVESTING ACTIVITIES					
Purchase of property, plant and equipment	3	(1,307,019)	(45,755)	(1,307,019)	(45,755)
Purchase of other intangible assets	4	(473,484)	(394,451)	(473,484)	(394,451)
Loans to economic entities repaid		-	-	(1,742,588)	(1,514,924)
Proceeds from other financial assets		17,124	15,115	17,124	15,115
Net cash flows from investing activities		**(1,763,379)**	**(425,091)**	**(3,505,967)**	**(1,940,015)**
CASH FLOWS FROM FINANCING ACTIVITIES					
Proceeds from / (Payments of) finance lease obligations		452,203	(569,102)	452,203	(569,102)
Net increase/(decrease) in cash and cash equivalents		**(8,027,580)**	**(3,718,588)**	**(8,368,432)**	**(3,939,923)**
Cash and cash equivalents at the beginning of the year		93,039,613	96,758,201	91,134,628	95,074,551
Effect of exchange rate movement on cash balances		326,700	-	326,700	-
Cash and cash equivalents at the end of the year	11	**85,338,733**	**93,039,613**	**83,092,896**	**91,134,628**

ACCOUNTING POLICIES

1. Presentation of Annual Financial Statements

The annual financial statements have been prepared in accordance with the Standards of Generally Recognised Accounting Practice (GRAP) including any interpretations, guidelines and directives issued by the Accounting Standards Board.

These annual financial statements have been prepared on an accrual basis of accounting and are in accordance with historical cost convention unless specified otherwise. They are presented in South African Rand.

A summary of the significant accounting policies, which have been consistently applied, are disclosed below.

These accounting policies are consistent with the previous period.

1.1 Consolidation

Basis of consolidation

Consolidated annual financial statements are the annual financial statements of the group presented as those of a single entity.

The consolidated financial statements incorporate the financial statements of the WRC and the controlled entity, including special purpose entities, which are controlled by the WRC.

Control exists when the WRC has the power to govern the financial and operating policies of another entity so as to obtain benefits from its activities.

The results of controlled entities are included in the consolidated financial statements from the effective date of acquisition or date when control commences to the effective date of disposal or date when control ceases. The difference between the proceeds from the disposal of the controlled entity and its carrying amount as of the date of disposal, including the cumulative amount of any exchange differences that relate to the controlled entity recognised in net assets in accordance with the Standard of GRAP on The Effects of Changes in Foreign Exchange Rates, is recognised in the consolidated statement of financial performance as the surplus or deficit on the disposal of the controlled entity.

An investment in an entity is accounted for in accordance with the Standard of GRAP on Financial Instruments: Recognition and Measurement from the date that it ceases to be a controlled entity, unless it becomes an associate or a jointly controlled entity, in which case it is accounted for as such. The carrying amount of the investment at the date that the entity ceases to be a controlled entity is regarded as cost on initial measurement of a financial asset in accordance with the Standard of GRAP on Financial Instruments: Recognition and Measurement.

The financial statements of the WRC and its controlled entities used in the preparation of the consolidated financial statements are prepared as of the same reporting date.

When the reporting dates of the WRC and a controlled entity are different, the controlled entity prepares, for consolidation purposes, additional financial statements as of the same date as the WRC unless it is impracticable to do so. When the financial statements of a controlled entity used in the preparation of consolidated financial statements are prepared as of a reporting date different from that of the WRC, adjustments are made for the effects of significant transactions or events that occur between that date and the date of the WRC's financial statements. In any case, the difference between the reporting date of the controlled entity and that of the WRC shall be no more than three months. The length of the reporting periods and any difference in the reporting dates is the same from period to period.

Adjustments are made when necessary to the financial statements of the controlled entities to bring their accounting policies in line with those of the WRC.

ACCOUNTING POLICIES

1.2 Significant judgements and sources of estimation uncertainty

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:

Trade receivables / Held to maturity investments and/or loans and receivables

The economic entity assesses its trade receivables, held to maturity investments and loans and receivables for impairment at the end of each reporting period. In determining whether an impairment loss should be recorded in surplus or deficit, the surplus makes judgements as to whether there is observable data indicating a measurable decrease in the estimated future cash flows from a financial asset.

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

Available-for-sale financial assets

The determination of the impairment of available-for-sale financial assets require significant judgement. In making this judgment, the economic entity evaluates, among other factors, the duration and extent to which the fair value of an investment is less than its cost; and the financial health of and near-term business outlook for the investee, including factors such as industry and sector performance, changes in technology and operational and financing cash flow.

Fair value estimation

The fair value of financial instruments traded in active markets (such as trading and available-for-sale securities) is based on quoted market prices at the end of the reporting period. The quoted market price used for financial assets held by the economic entity is the current bid price.

The fair value of financial instruments that are not traded in an active market (for example, over-the-counter derivatives) is determined by using valuation techniques. The economic entity uses a variety of methods and makes assumptions that are based on market conditions existing at the end of each reporting period. Quoted market prices or dealer quotes for similar instruments are used for long-term debt. Other techniques, such as estimated discounted cash flows, are used to determine fair value for the remaining financial instruments. The fair value of interest rate swaps is calculated as the present value of the estimated future cash flows. The fair value of forward foreign exchange contracts is determined using quoted forward exchange rates at the end of the reporting period.

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 economic entity for similar financial instruments.

Impairment testing

The recoverable amounts of cash-generating units and individual assets have been determined based on the higher of value-in-use calculations and fair values less costs to sell. These calculations require the use of estimates and assumptions. It is reasonably possible that the assumption may change which may then impact our estimations and may then require a material adjustment to the carrying value of goodwill and tangible assets.

The economic entity reviews and tests the carrying value of assets when events or changes in circumstances suggest that the carrying amount may not be recoverable. In addition, goodwill is tested on an annual basis for impairment. Assets are grouped at the lowest level for which identifiable cash flows are largely independent of cash flows of other assets

ACCOUNTING POLICIES

and liabilities. If there are indications that impairment may have occurred, estimates are prepared of expected future cash flows for each group of assets. Expected future cash flows used to determine the value in use of tangible assets are inherently uncertain and could materially change over time.

Useful lives and residual values

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

Post retirement benefits

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

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

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

Effective interest rate

The economic entity used the prime interest rate to discount future cash flows.

Allowance for doubtful debts

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

1.3 Property, plant and equipment

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

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

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

Where an asset is acquired at no cost, or for a nominal cost, its cost is its fair value as at date of acquisition. Where an item of property, plant and equipment is acquired in exchange for a non-monetary asset or monetary assets, or a combination of monetary and non-monetary assets, the asset acquired is initially measured at fair value (the cost). If the acquired item's fair value was not determinable, it's deemed cost is the carrying amount of the asset(s) given up.

ACCOUNTING POLICIES

When significant components of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

Costs include costs incurred initially to acquire or construct an item of property, plant and equipment and costs incurred subsequently to add to, replace part of, or service it. If a replacement cost is recognised in the carrying amount of an item of property, plant and equipment, the carrying amount of the replaced part is derecognised.

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, where the entity is obligated to incur such expenditure, and where the obligation arises as a result of acquiring the asset or using it for purposes other than the production of inventories.

Recognition of costs in the carrying amount of an item of property, plant and equipment ceases when the item is in the location and condition necessary for it to be capable of operating in the manner intended by management.

Major spare parts and stand-by equipment which are expected to be used for more than one period are included in property, plant and equipment. In addition, spare parts and stand-by equipment which can only be used in connection with an item of property, plant and equipment are accounted for as property, plant and equipment.

Major inspection costs which are a condition of continuing use of an item of property, plant and equipment and which meet the recognition criteria above are included as a replacement in the cost of the item of property, plant and equipment. Any remaining inspection costs from the previous inspection are derecognised.

Property, plant and equipment is carried at cost less accumulated depreciation and any impairment losses. Property, plant and equipment are depreciated on the straight line basis over their expected useful lives to their estimated residual value.

The useful lives of items of property, plant and equipment have been assessed as follows:

Item	Average useful life
Furniture and fixtures	10 - 42 years
Motor vehicles	170,000 km's
Office equipment	3 - 40 years
IT equipment	3 - 12 years
Finance lease assets	Years according to the lease term

The residual value, and the useful life and depreciation method of each asset are reviewed at the end of each reporting date. If the expectations differ from previous estimates, the change is accounted for as a change in accounting estimate.

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 is depreciated separately.

Items of entity are derecognised when the asset is disposed of or when there are no further economic benefits or service potential expected from the use of the asset.

The gain or loss arising from the derecognition of an item of property, plant and equipment is 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.

Buildings are not currently depreciated as the residual value is estimated to be higher that 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 are reviewed at each financial period.

ACCOUNTING POLICIES

1.4 Intangible assets

An asset is identified as an intangible asset when it:

- is capable of being separated or divided from an entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, assets or liability; or
- arises from contractual rights or other legal rights, regardless whether those rights are transferable or separate from the economic entity or from other rights and obligations.

An intangible asset is recognised when:

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

Intangible assets are initially recognised at cost.

An intangible asset is acquired through a non-exchange transaction, where the cost shall be its fair value as at the date of acquisition.

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 or service potential.
- there are available technical, financial and other resources to complete the development and to use or sell the asset.
- the expenditure attributable to the asset during its development can be measured reliably.

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

An intangible asset is regarded as having an indefinite useful life when, based on all relevant factors, there is no foreseeable limit to the period over which the asset is expected to generate net cash inflows or service potential. Amortisation is not provided for these intangible assets, but they are tested for impairment annually and whenever there is an indication that the asset may be impaired. For all other intangible assets amortisation is provided on a straight line basis over their useful life.

The amortisation period and the amortisation method for intangible assets are reviewed at each reporting date. Reassessing the useful life of an intangible asset with a finite useful life after it was classified as indefinite is an indicator that the asset may be impaired. As a result the asset is tested for impairment and the remaining carrying amount is amortised over its useful life.

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

Amortisation is provided to write down the intangible assets, on a straight line basis, to their residual values as follows:

Item	Useful life
Computer software, other	3 - 10 years

Intangible assets are derecognised:

- on disposal; or
- when no future economic benefits or service potential are expected from its use or disposal.

ACCOUNTING POLICIES

1.5 Investments in controlled entities

Group annual financial statements

The economic entity annual financial statements include those of the controlling entity and its controlled entities. The revenue and expenses of the controlled entities are included from the effective date of acquisition.
On acquisition the economic entity recognises the controlled entity'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.

WRC annual financial statements

In the entity's separate annual financial statements, investments in controlled entities are carried at cost less any accumulated impairment.

The cost of an investment in controlled entity 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 controlled entity.

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.

1.6 Financial instruments

Classification

The economic entity classifies financial assets and financial liabilities into the following categories:

- Financial assets at fair value through surplus or deficit - designated
- Loans and receivables
- Financial liabilities at fair value through surplus or deficit - designated

Classification depends on the purpose for which the financial instruments were obtained / incurred and takes place at initial recognition. Classification is re-assessed on an annual basis, except for derivatives and financial assets designated as at fair value through surplus or deficit, which shall not be classified out of the fair value through surplus or deficit category.

Initial recognition and measurement

Financial instruments are recognised initially when the economic entity becomes a party to the contractual provisions of the instruments.

The economic 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 instruments are measured initially at fair value, except for equity investments for which a fair value is not determinable, which are measured at cost and are classified as available-for-sale financial assets.

For financial instruments which are not at fair value through surplus or deficit, transaction costs are included in the initial measurement of the instrument.

Transaction costs on financial instruments at fair value through surplus or deficit are recognised in surplus or deficit.

Subsequent measurement

Financial instruments at fair value through surplus or deficit are subsequently measured at fair value, with gains and losses arising from changes in fair value being included in surplus or deficit for the period.

Net gains or losses on the financial instruments at fair value through surplus or deficit include dividends and interest.

Dividend income is recognised in surplus or deficit as part of other income when the economic entity's right to receive payment is established.

ACCOUNTING POLICIES

Loans and receivables are subsequently measured at amortised cost, using the effective interest method, less accumulated impairment losses.

Fair value determination

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

At each end of the reporting period the economic entity assesses all financial assets, other than those at fair value through surplus or deficit, to determine whether there is objective evidence that a financial asset or group of financial assets has been impaired.

For amounts due to the economic entity, significant financial difficulties of the debtor, probability that the debtor will enter bankruptcy and default of payments are all considered indicators of impairment.

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 an indicator of impairment. If any such evidence exists for available-for-sale financial assets, the cumulative loss – measured as the difference between the acquisition cost and current fair value, less any impairment loss on that financial asset previously recognised in surplus or deficit – is removed from equity as a reclassification adjustment and recognised in surplus or deficit.

Impairment losses are recognised in surplus or deficit.

Impairment losses are reversed when an increase in the financial asset'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 financial asset at the date that the impairment is reversed shall not exceed what the carrying amount would have been had the impairment not been recognised.

Reversals of impairment losses are recognised in surplus or deficit except for equity investments classified as available-for-sale.

Impairment losses are also not subsequently reversed for available-for-sale equity investments which are held at cost because fair value was not determinable.

Where financial assets are impaired through use of an allowance account, the amount of the loss is recognised in surplus or deficit within operating expenses. When such assets are written off, the write off is made against the relevant allowance account. Subsequent recoveries of amounts previously written off are credited against operating expenses.

Financial instruments designated as available-for-sale

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

Investments are recognised and derecognised on a trade date basis where the purchase or sale of an investment is under a contract whose terms require delivery of the investment within the time-frame 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.

Loans to (from) economic entities

These include loans to and from controlling entities, fellow controlled entities, controlled entities, joint ventures and associates and are recognised initially at fair value plus direct transaction costs.

Loans to economic entities are classified as loans and receivables.
Loans from economic entities are classified as financial liabilities measured at amortised cost.

ACCOUNTING POLICIES

Loans to shareholders, directors, managers and employees

These financial assets 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.

The carrying amount of the asset is reduced through the use of an allowance account, and the amount of the deficit is recognised in surplus or deficit within operating expenses. When a trade receivable is uncollectible, it is written off against the allowance account for trade receivables. Subsequent recoveries of amounts previously written off are credited against operating expenses in surplus or deficit.

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.

Derecognition

Financial assets

A financial asset is derecognised where:

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

Where the group has transferred its right to receive cash flows from an asset and has neither transferred nor retained substantially all the risks and rewards of the asset nor transferred control of the asset, the asset is recognised to the extent of the entity's continuing involvement in the asset. Continuing involvement that takes the form of a guarantee over the transferred asset is measured at the lower of original carrying amount of the asset and the maximum amount of consideration that the entity could be required to repay. Where continuing involvement takes the form of a written and/ or purchased option on the transferred asset, the extent of the entity's involvement is the amount of the transferred asset that the entity may repurchase, except that in the case of a written put option on an asset measured at fair value, the extent of the entity's continuing involvement is limited to the lower of the fair value of the transferred asset and the option exercise price.

ACCOUNTING POLICIES

1.7 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.

When a lease includes both land and buildings elements, the entity assesses the classification of each element separately.

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 on debt owing to the lessor.

Minimum 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 on the remaining balance of the liability.

Any contingent rents are expensed in the period in which they are incurred.

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 or liability.

1.8 Impairment of cash-generating assets

Cash-generating assets are those assets held by the economic entity with the primary objective of generating a commercial return. When an asset is deployed in a manner consistent with that adopted by a profit-orientated entity, it generates a commercial return.

Impairment is a loss in the future economic benefits or service potential of an asset, over and above the systematic recognition of the loss of the asset's future economic benefits or service potential through depreciation (amortisation).

Carrying amount is the amount at which an asset is recognised in the statement of financial position after deducting any accumulated depreciation and accumulated impairment losses thereon.

A cash-generating unit is the smallest identifiable group of assets held with the primary objective of generating a commercial return that generates cash inflows from continuing use that are largely independent of the cash inflows from other assets or groups of assets.

Costs of disposal are incremental costs directly attributable to the disposal of an asset, excluding finance costs and income tax expense.

Depreciation (Amortisation) is the systematic allocation of the depreciable amount of an asset over its useful life.

Fair value less costs to sell is the amount obtainable from the sale of an asset in an arm's length transaction between knowledgeable, willing parties, less the costs of disposal.

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

Useful life is either:

(a). the period of time over which an asset is expected to be used by the economic entity; or
(b). the number of production or similar units expected to be obtained from the asset by the economic entity.

Criteria developed by the economic entity to distinguish cash-generating assets from non-cash-generating assets are as follows:

ACCOUNTING POLICIES

1.9 Employee benefits

Short-term employee benefits

The cost of short-term employee benefits, (those payable within 12 months after the service is rendered, such as paid vacation leave and sick leave, bonuses, and non-monetary benefits such as medical care), are recognised in the period in which the service is rendered and are not discounted.
The expected cost of compensated absences is recognised as an expense as the employees render services that increase their entitlement or, in the case of non-accumulating absences, when the absence occurs.

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

Defined contribution plans

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

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

Defined benefit plans

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

Actuarial valuations are conducted on an annual basis by independent actuaries separately for each plan. Consideration is given to any event that could impact the funds up to end of the reporting period 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 surplus or deficit 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 committed 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 surplus or deficit, 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 and past service costs, plus the present value of available refunds and reduction in future contributions to the plan.

1.10 Provisions and contingencies

Provisions are recognised when:

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

The amount of a provision is the best estimate of the expenditure expected to be required to settle the present obligation at the reporting date.

ACCOUNTING POLICIES

Where the effect of time value of money is material, the amount of a provision is the present value of the expenditures expected to be required to settle the obligation.

The discount rate is a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability.

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

Provisions are reviewed at each reporting date and adjusted to reflect the current best estimate. Provisions are reversed if it is no longer probable that an outflow of resources embodying economic benefits or service potential will be required, to settle the obligation.

Where discounting is used, the carrying amount of a provision increases in each period to reflect the passage of time. This increase is recognised as an interest expense.

A provision is used only for expenditures for which the provision was originally recognised.

Provisions are not recognised for future operating deficits.

If an entity has a contract that is onerous, the present obligation (net of recoveries) under the contract is 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 activity/operating unit or part of an activity/ operating unit concerned;
  - the principal locations affected;
  - the location, function, and approximate number of employees who will be compensated for services being terminated;
  - 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.

A restructuring provision includes only the direct expenditures arising from the restructuring, which are those that are both:

- necessarily entailed by the restructuring; and
- not associated with the ongoing activities of the economic entity.

No obligation arises as a consequence of the sale or transfer of an operation until the economic entity is committed to the sale or transfer, that is, there is a binding arrangement.

After their initial recognition contingent liabilities recognised in entity 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. Contingencies are disclosed in note 24.

1.11 Revenue from exchange transactions

Revenue is the gross inflow of economic benefits or service potential during the reporting period when those inflows result in an increase in net assets, other than increases relating to contributions from owners.

An exchange transaction is one in which the entity receives assets or services, or has liabilities extinguished, and directly gives approximately equal value (primarily in the form of goods, services or use of assets) to the other party in exchange.

Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction.

ACCOUNTING POLICIES

Measurement
Revenue is measured at the fair value of the consideration received or receivable, net of trade discounts and volume rebates.

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

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

When services are performed by an indeterminate number of acts over a specified time frame, revenue is recognised on a straight line basis over the specified time frame unless there is evidence that some other method better represents the stage of completion. When a specific act is much more significant than any other acts, the recognition of revenue is postponed until the significant act is executed.

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

Service revenue is recognised by reference to the stage of completion of the transaction at the reporting date. Stage of completion is determined by the proportion that costs incurred to date bear to the total estimated costs of the transaction.

1.12 Revenue from non-exchange transactions

Non-exchange transactions are defined as transactions where the entity receives value from another entity without directly giving approximately equal value in exchange.
Revenue is the gross inflow of economic benefits or service potential during the reporting period when those inflows result in an increase in net assets, other than increases relating to contributions from owners.

Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction.

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

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

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

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

ACCOUNTING POLICIES

1.13 Borrowing costs

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

1.14 Translation of foreign currencies

Foreign currency transactions

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

At each reporting 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.

Investments in controlled entities, joint ventures and associates

The results and financial position of a foreign operation are translated into the functional currency using the following procedures:

- assets and liabilities for each statement of financial position presented are translated at the closing rate at the date of that statement of financial position;
- revenue and expenses for each surplus or deficit item are translated at exchange rates at the dates of the transactions; and
- all resulting exchange differences are recognised as a separate component of net assets.

Exchange differences arising on a monetary item that forms part of a net investment in a foreign operation are recognised initially in a separate component of net assets reserve and recognised in surplus or deficit on disposal of the net investment.

Any goodwill arising on the acquisition of a foreign operation and any fair value adjustments to the carrying amounts of assets and liabilities arising on the acquisition of that foreign operation are treated as assets and liabilities of the foreign operation.

The cash flows of a foreign controlled entity are translated at the exchange rates between the functional currency and the foreign currency at the dates of the cash flows.

1.15 Research and development expenditure

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 that the total contract amount is not exceeded.

ACCOUNTING POLICIES

1.16 Fruitless and wasteful expenditure

Fruitless expenditure means expenditure which was made in vain and would have been avoided had reasonable care been exercised.

All expenditure relating to fruitless and wasteful expenditure is recognised as an expense in the statement of financial performance in the year that the expenditure was incurred. The expenditure is classified in accordance with the nature of the expense, and where recovered, it is subsequently accounted for as revenue in the statement of financial performance.

1.17 Irregular expenditure

Irregular expenditure as defined in section 1 of the PFMA is expenditure other than unauthorised expenditure, incurred in contravention of or that is not in accordance with a requirement of any applicable legislation, including:

(a). this Act; or
(b). the State Tender Board Act, 1968 (Act No. 86 of 1968), or any regulations made in terms of the Act; or
(c). any provincial legislation providing for procurement procedures in that provincial government.

National Treasury practice note no. 4 of 2008/2009 which was issued in terms of sections 76(1) to 76(4) of the PFMA requires the following (effective from 1 April 2008):

Irregular expenditure that was incurred and identified during the current financial year and which was condoned before year end and/or before finalisation of the financial statements must also be recorded appropriately in the irregular expenditure register. In such an instance, no further action is also required with the exception of updating the note to the financial statements.

Irregular expenditure that was incurred and identified during the current financial year and for which condonement is being awaited at year end must be recorded in the irregular expenditure register. No further action is required with the exception of updating the note to the financial statements.

Where irregular expenditure was incurred in the previous financial year and is only condoned in the following financial year, the register and the disclosure note to the financial statements must be updated with the amount condoned.

Irregular expenditure that was incurred and identified during the current financial year and which was not condoned by the National Treasury or the relevant authority must be recorded appropriately in the irregular expenditure register. If liability for the irregular expenditure can be attributed to a person, a debt account must be created if such a person is liable in law. Immediate steps must thereafter be taken to recover the amount from the person concerned. If recovery is not possible, the accounting officer or accounting authority may write off the amount as debt impairment and disclose such in the relevant note to the financial statements. The irregular expenditure register must also be updated accordingly. If the irregular expenditure has not been condoned and no person is liable in law, the expenditure related thereto must remain against the relevant programme/expenditure item, be disclosed as such in the note to the financial statements and updated accordingly in the irregular expenditure register.

1.18 Conditional grants and receipts

Revenue received from conditional grants, donations and funding are recognised as revenue to the extent that the entity has complied with any of the criteria, conditions or obligations embodied in the agreement. To the extent that the criteria, conditions or obligations have not been met a liability is recognised.

1.19 Budget information

The financial statements and the budget are not on the same basis of accounting therefore a reconciliation between the statement of financial performance and the budget have been included in the financial statements. Refer to note 34.

ACCOUNTING POLICIES

1.20 Related parties

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

Management are those persons responsible for planning, directing and controlling the activities of the economic entity, including those charged with the governance of the economic entity in accordance with legislation, in instances where they are required to perform such functions.

Close members of the family of a person are considered to be those family members who may be expected to influence, or be influenced by, that management in their dealings with the economic entity.

Only transactions with related parties not at arm's length or not in the ordinary course of business are disclosed.

NOTES TO THE FINANCIAL STATEMENTS

2. New standards and interpretations

2.1 Standards and interpretations issued, but not yet effective

The economic entity has not applied the following standards and interpretations, which have been published and are mandatory for the economic entity's accounting periods beginning on or after 01 April 2013 or later periods:

Standard/ Interpretation:	Effective date: Years beginning on or after	Expected impact:
• GRAP 18: Segment Reporting	01 April 2013	Unlikely material impact
• GRAP 25: Employee benefits	01 April 2013	Unlikely material impact
• GRAP 105: Transfers of functions between entities under common control	01 April 2014	Unlikely material impact
• GRAP 106: Transfers of functions between entities not under common control	01 April 2014	Unlikely material impact
• GRAP 107: Mergers	01 April 2014	Unlikely material impact
• GRAP 20: Related parties	01 April 2013	Unlikely material impact
• IGRAP 11: Consolidation – Special purpose entities	01 April 2014	Unlikely material impact
• IGRAP 12: Jointly controlled entities – Non-monetary contributions by ventures	01 April 2014	Unlikely material impact
• GRAP 6 (as revised 2010): Consolidated and Separate Financial Statements	01 April 2014	Unlikely material impact
• GRAP 7 (as revised 2010): Investments in Associates	01 April 2014	Unlikely material impact
• GRAP 8 (as revised 2010): Interests in Joint Ventures	01 April 2014	Unlikely material impact
• GRAP 1 (as revised 2012): Presentation of Financial Statements	01 April 2013	Unlikely material impact
• GRAP 3 (as revised 2012): Accounting Policies, Change in Accounting Estimates and Errors	01 April 2013	Unlikely material impact
• GRAP 7 (as revised 2012): Investments in Associates	01 April 2013	Unlikely material impact
• GRAP 9 (as revised 2012): Revenue from Exchange Transactions	01 April 2013	Unlikely material impact
• GRAP 12 (as revised 2012): Inventories	01 April 2013	Unlikely material impact
• GRAP 13 (as revised 2012): Leases	01 April 2013	Unlikely material impact
• GRAP 16 (as revised 2012): Investment Property	01 April 2013	Unlikely material impact
• GRAP 17 (as revised 2012): Property, Plant and Equipment	01 April 2013	Unlikely material impact
• GRAP 27 (as revised 2012): Agriculture (Replaces GRAP 101)	01 April 2013	Unlikely material impact
• GRAP 31 (as revised 2012): Intangible Assets (Replaces GRAP 102)	01 April 2013	Unlikely material impact
• IGRAP16: Intangible assets website costs	01 April 2013	Unlikely material impact
• IGRAP1 (as revised 2012): Applying the probability test on initial recognition of revenue	01 April 2013	Unlikely material impact

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands

3. PROPERTY, PLANT AND EQUIPMENT

Group	Cost	Accumulated depreciation and accumulated impairment	Carrying value	Cost	Accumulated depreciation and accumulated impairment	Carrying value
		2013			2012	
Buildings	8,691,522	-	8,691,522	8,691,522	-	8,691,522
Furniture and fixtures	1,571,968	(448,277)	1,123,691	1,550,664	(412,463)	1,138,201
Motor vehicles	68,975	(53,029)	15,946	68,975	(50,734)	18,241
Office equipment	1,162,822	(429,677)	733,145	808,263	(341,998)	466,265
IT equipment	2,163,454	(1,360,452)	803,002	2,583,268	(1,832,788)	750,480
Total	**13,658,741**	**(2,291,435)**	**11,367,306**	**13,702,692**	**(2,637,983)**	**11,064,709**

WRC	Cost	Accumulated depreciation and accumulated impairment	Carrying value	Cost	Accumulated depreciation and accumulated impairment	Carrying value
		2013			2012	
Furniture and fixtures	1,571,968	(448,277)	1,123,691	1,550,664	(412,463)	1,138,201
Motor vehicles	68,975	(53,029)	15,946	68,975	(50,734)	18,241
Office equipment	1,162,822	(429,677)	733,145	808,263	(341,998)	466,265
IT equipment	2,163,454	(1,360,452)	803,002	2,583,268	(1,832,788)	750,480
Total	**4,967,219**	**(2,291,435)**	**2,675,784**	**5,011,170**	**(2,637,983)**	**2,373,187**

Reconciliation of property, plant and equipment - Group - 2013

	Opening balance	Additions	Scrapping	Depreciation	Total
Buildings	8,691,522	-	-	-	8,691,522
Furniture and fixtures	1,138,201	31,510	(5,494)	(40,526)	1,123,691
Motor vehicles	18,241	-	-	(2,295)	15,946
Office equipment	466,265	646,412	(152,472)	(227,060)	733,145
IT equipment	750,480	629,097	(31,757)	(544,818)	803,002
	11,064,709	**1,307,019**	**(189,723)**	**(814,699)**	**11,367,306**

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands

Reconciliation of property, plant and equipment - Group - 2012

	Opening balance	Additions	Scrapping	Depreciation	Total
Buildings	8,691,522	-	-	-	8,691,522
Furniture and fixtures	1,146,082	31,265	-	(39,146)	1,138,201
Motor vehicles	19,842	-	-	(1,601)	18,241
Office equipment	531,971	14,490	-	(80,196)	466,265
IT equipment	1,447,311	-	(47,024)	(649,807)	750,480
	11,836,728	**45,755**	**(47,024)**	**(770,750)**	**11,064,709**

Reconciliation of property, plant and equipment - WRC - 2013

	Opening balance	Additions	Scrapping	Depreciation	Total
Furniture and fixtures	1,138,201	31,510	(5,494)	(40,526)	1,123,691
Motor vehicles	18,241	-	-	(2,295)	15,946
Office equipment	466,265	646,412	(152,472)	(227,060)	733,145
IT equipment	750,480	629,097	(31,757)	(544,818)	803,002
	2,373,187	**1,307,019**	**(189,723)**	**(814,699)**	**2,675,784**

Reconciliation of property, plant and equipment - WRC - 2012

	Opening balance	Additions	Depreciation	Scrapping	Total
Furniture and fixtures	1,146,082	31,265	(39,146)	-	1,138,201
Motor vehicles	19,842	-	(1,601)	-	18,241
Office equipment	531,971	14,490	(80,196)	-	466,265
IT equipment	1,447,311	-	(649,807)	(47,024)	750,480
	3,145,206	**45,755**	**(770,750)**	**(47,024)**	**2,373,187**

Pledged as security

None of the assets were or are pledged as security.

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands		Group		WRC	
		2013	2012	2013	2012
	Note(s)	R	R	R	R

Assets subject to finance lease (Net carrying amount)

Office equipment	348,927	-	348,927	-
IT equipment	759,831	693,088	759,831	693,088
	1,108,758	**693,088**	**1,108,758**	**693,088**

Details of properties

Erf 706 Rietfontein, Pretoria, Gauteng

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

Fair value of property, plant and equipment

Property	34,500,000	31,500,000	-	-

The property has been valued at R34,500,000 by Reinertsen Valuation Services, as an independent valuer, on the 31st of March 2013.

A register containing the information required by the Public Finance Management Act is available for inspection at the registered office of the entity.

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands

4. INTANGIBLE ASSETS

Group	2013			2012		
	Cost	Accumulated amortisation and accumulated impairment	Carrying value	Cost	Accumulated amortisation and accumulated impairment	Carrying value
Computer software, other	3,872,112	(1,244,950)	2,627,162	3,398,628	(879,742)	2,518,886

WRC	2013			2012		
	Cost	Accumulated amortisation and accumulated impairment	Carrying value	Cost	Accumulated amortisation and accumulated impairment	Carrying value
Computer software, other	3,872,112	(1,244,950)	2,627,162	3,398,628	(879,742)	2,518,886

Reconciliation of intangible assets - Group - 2013

	Opening balance	Additions	Amortisation	Total
Computer software, other	2,518,886	473,484	(365,208)	2,627,162

Reconciliation of intangible assets - Group - 2012

	Opening balance	Additions	Amortisation	Total
Computer software, other	2,437,623	394,451	(313,188)	2,518,886

Reconciliation of intangible assets - WRC - 2013

	Opening balance	Additions	Amortisation	Total
Computer software, other	2,518,886	473,484	(365,208)	2,627,162

Reconciliation of intangible assets - WRC - 2012

	Opening balance	Additions	Amortisation	Total
Computer software, other	2,437,623	394,451	(313,188)	2,518,886

Pledged as security

None of the intangible assets are pledged as security.

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands

5. INVESTMENTS IN CONTROLLED ENTITIES

Name of company	% holding 2013	% holding 2012	Carrying amount 2013	Carrying amount 2012
Erf 706 Rietfontein (Pty) Ltd	100.00%	100.00%	755,939	755,939

The carrying amounts of controlled entities are shown net of impairment losses.

The Commission holds 100% of the shares of Erf 706 Rietfontein (Pty) Ltd, a property company. Erf 706 Rietfontein (Pty) Ltd owns one property which is mainly occupied by the Water Research Commission. As per the valuation performed by Reinertsen Valuation Services, a professional valuer, the open market value of the property is valued at R34,500,000. Management therefore deems the fair value of Erf 706 Rietfontein (Pty) Ltd to be equal to the market value of the property held by Erf 706 Rietfontein (Pty) Ltd less its liabilities.

Controlled entities pledged as security

The investment in subsidiary is not pledged as security.

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

6. LOANS TO (FROM) ECONOMIC ENTITIES

Controlled entities

Erf 706 Rietfontein (Pty) Ltd - Loan 1	-	-	17,546,399	15,781,022
The unsecured loan bears interest at a nominal rate of 15% and is repayable in equal monthly installments of R60,000 by 30 June 2017.				
Erf 706 Rietfontein (Pty) Ltd - Loan 2	-	-	2,611,115	2,633,904
The unsecured loans bears interest at prime plus 2% and is repayable within 60 days from receipt of a written demand.				
	-	**-**	**20,157,514**	**18,414,926**
Non-current assets	-	-	19,137,514	17,394,926
Current assets	-	-	1,020,000	1,020,000
	-	**-**	**20,157,514**	**18,414,926**

Credit quality of loans to economic entities

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

None of the loans to economic entities defaulted during the year under review.

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

Fair value of loans to and from economic entities

The fair value of the loan is determined by calculating the present value of future payments by using a discount rate of 15% and prime rate plus 2%. The entity does not hold any collateral as security for the loans.

Loans to economic entities past due but not impaired

Loans to economic entities were not past due at reporting date.

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

7. OTHER FINANCIAL ASSETS

Designated at fair value				
Old Mutual	2,321,497	1,990,858	2,321,497	1,990,858
Momentum Wealth	6,847,480	5,530,990	6,847,480	5,530,990
	9,168,977	**7,521,848**	**9,168,977**	**7,521,848**
Non-current assets				
Designated at fair value	9,168,977	7,521,848	9,168,977	7,521,848

Financial assets at fair value

The group 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 available for sale financial assets in 2013 and 2012, as all the financial assets were disposed of at their redemption date.

8. FINANCIAL BY CATEGORY

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

Group - 2013

	Loans and receivables	Fair value through surplus or deficit - designated	Total
Other financial assets	-	9,168,977	9,168,977
Trade and other receivables	36,636,697	-	36,636,697
Cash and cash equivalents	85,338,733	-	85,338,733
	121,975,430	**9,168,977**	**131,144,407**

Group - 2012

	Loans and receivables	Fair value through surplus or deficit - designated	Total
Other financial assets	-	7,521,848	7,521,848
Trade and other receivables	32,277,667	-	32,277,667
Cash and cash equivalents	93,039,613	-	93,039,613
	125,317,280	**7,521,848**	**132,839,128**

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands

WRC - 2013

	Loans and receivables	Fair value through surplus or deficit - designated	Total
Loans to economic entities	20,157,514	-	20,157,514
Other financial assets	-	9,168,977	9,168,977
Trade and other receivables	36,616,461	-	36,616,461
Cash and cash equivalents	83,092,896	-	83,092,896
	139,866,871	**9,168,977**	**149,035,848**

WRC - 2012

	Loans and receivables	Fair value through surplus or deficit - designated	Total
Loans to economic entities	18,414,926	-	18,414,926
Other financial assets	-	7,521,848	7,521,848
Trade and other receivables	32,673,376	-	32,673,376
Cash and cash equivalents	91,134,628	-	91,134,628
	142,222,930	**7,521,848**	**149,744,778**

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

9. EMPLOYEE BENEFIT OBLIGATIONS

Pension and provident fund

The Water Research Commission (WRC) has pension and provident fund schemes covering all employees. Until 31 March 2005 all eligible employees were members of the defined benefit funds administered by ABSA Consultants and Actuaries. As at 01 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 the adverse market conditions. However all pensioners remained entitled to their benefits in terms of the old dispensation. (Refer to note 1.9) This afore-mentioned liability was outsourced to Old Mutual during the 2012/13 financial year with the approval of the Minster of Water and Environmental Affairs and the FSB.

Medical aid scheme

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

These funds are actuarially valued at intervals 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 at 31 March 2013. At that time the reporting actuary certified that the vested liability for continuation members will fluctuate depending on mortality rates 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).

The WRC like many other institutions in South Africa, carries the legal and related financial obligation to subsidise (100% subsidy level) the medical aid benefit of certain of its current and its pensioned employees in retirement. As such, the WRC's post retirement medical aid obligation represents a long dated, uncapped and unfunded liability which, if not pro actively managed by the WRC, represents a significant systematic employee benefit and financial risk to the institution. It is on this basis and in terms of prudent practice, that the management of the WRC initiated a formal strategy in 2008 to manage the long dated, uncapped and unfunded costs and risks associated with its post retirement medical aid liability as follows:

The WRC, in line with accepted practice, closed the subsidy/benefit to new recruits to the WRC as of 1st of April 2008.

The WRC, in line with industry and employer trends, employed the professional services of an independent consultant and actuary to value the quantum of the liability fund (i.e. risk ring fencing) and/or buy out (i.e. liability capping) the disclosed liability in order to manage the WRC's exposure to the associated costs and risks. In the 2010/2011 financial year, the WR offered voluntary buy outs to all in service members. Members that did not accept the buy out offer and the pensioners already receiving the benefit have had the liability ring fenced and out sourced to a service provider.

The amounts recognised in the statement of financial position are as follows:

Carrying value

Present value of the defined benefit obligation - partially or wholly funded	(33,198,862)	(34,879,398)	(33,198,862)	(34,879,398)
Fair value of plan assets	28,395,122	31,318,222	28,395,122	31,318,222
	(4,803,740)	**(3,561,176)**	**(4,803,740)**	**(3,561,176)**

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R
Movement for the year - pension fund				
Opening balance	1,682,000	1,556,000	1,682,000	1,556,000
Net expense recognised in the statement of financial performance	(1,682,000)	126,000	(1,682,000)	126,000
	-	**1,682,000**	**-**	**1,682,000**
Net expense recognised in the statement of financial performance - pension fund				
Interest cost	-	382,000	-	382,000
Actuarial (gains) losses	-	14,000	-	14,000
Outsourcing of liability	(1,682,000)	-	(1,682,000)	-
Expected return on plan assets	-	(270,000)	-	(270,000)
	(1,682,000)	**126,000**	**(1,682,000)**	**126,000**
Reconciliation of the obligation:				
Opening balance	4,200,000	4,406,000	4,200,000	4,406,000
Interest cost	-	382,000	-	382,000
Benefits	-	(472,000)	-	(472,000)
Actuarial gain	-	(116,000)	-	(116,000)
Transferred	(4,200,000)	-	(4,200,000)	-
	-	**4,200,000**	**-**	**4,200,000**
Reconciliation of plan assets:				
Opening balance	2,518,000	2,850,000	2,518,000	2,850,000
Expected return	-	270,000	-	270,000
Benefits	-	(472,000)	-	(472,000)
Actuarial loss	-	(130,000)	-	(130,000)
Transferred	(2,518,000)	-	(2,518,000)	-
	-	**2,518,000**	**-**	**2,518,000**
Key assumptions used				
Assumptions used at the reporting date:				
Discount rates used	N/A	8.40%	N/A	8.40%
Expected rate of return on assets	N/A	10.10%	N/A	10.10%
General inflation rates	N/A	6.10%	N/A	6.10%
Expected increase in salaries	N/A	7.10%	N/A	7.10%

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

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R
Movement for the year - provident fund				
	-	-		-
Opening balance	113,000	76,000	113,000	76,000
Net expenses recognised in the statement of financial performance	(113,000)	37,000	(113,000)	37,000
	-	113,000	-	113,000
Net expense recognised in the statement of financial performance - provident fund				
	-	-		
Interest cost	-	233,000	-	233,000
Actuarial (gain) / loss	-	58,000	-	58,000
Expected return	-	(254,000)	-	(254,000)
Outsourcing of liability	(113,000)	-	(113,000)	-
	-	37,000	-	37,000
Reconciliation of the obligation:				
Opening balance	2,584,000	2,667,000	2,584,000	2,667,000
Interest cost	-	233,000	-	233,000
Benefits	-	(252,000)	-	(252,000)
Actuarial gains	-	(64,000)	-	(64,000)
Transferred	(2,584,000)	-	(2,584,000)	-
	-	**2,584,000**	**-**	**2,584,000**
Reconciliation of the plan assets:				
Opening balance	2,471,000	2,591,000	2,471,000	2,591,000
Expected return	-	254,000	-	254,000
Benefits	-	(252,000)	-	(252,000)
Actuarial gains	-	(122,000)	-	(122,000)
Transferred	(2,471,000)	-	(2,471,000)	-
	-	**2,471,000**	**-**	**2,471,000**
Assumptions used on last valuations on 31 March 2013				
Discount rate used	N/A	8.40%	N/A	8.40%
Expected rate of return on assets	N/A	10.10%	N/A	10.10%
General inflation rate	N/A	6.10%	N/A	6.10%
Expected increase in salaries	N/A	7.10%	N/A	7.10%

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R
Movement for the year-medical aid fund				
Opening balance	1,766,176	2,322,648	1,766,176	2,322,648
Benefits Paid	-	-	-	-
Net expense (gain) recognised in the statement of financial performance	3,037,564	(556,472)	3,037,564	(556,472)
	4,803,740	**1,766,176**	**4,803,740**	**1,766,176**
Net expense recognised in the statement of financial performance - medical aid fund				
Current service cost	221,937	204,928	221,937	204,928
Interest cost	2,261,213	2,482,913	2,261,213	2,482,913
Expected return on plan assets	(2,553,835)	(2,358,112)	(2,553,835)	(2,358,112)
Net actuarial (gains) losses	3,108,250	(886,201)	3,108,250	(886,201)
	3,037,565	**(556,472)**	**3,037,565**	**(556,472)**
Reconciliation of the obligation:				
Opening balance	28,095,398	27,053,201	28,095,398	27,053,201
Current service cost	221,937	204,928	221,937	204,928
Interest cost	2,261,213	2,482,913	2,261,213	2,482,913
Contributions	(1,738,389)	(1,620,120)	(1,738,389)	(1,620,120)
Actuarial gains	4,358,703	(25,524)	4,358,703	(25,524)
	33,198,862	**28,095,398**	**33,198,862**	**28,095,398**
Reconciliation of the plan assets:				
Opening balance	26,329,222	24,730,553	26,329,222	24,730,553
Expected return	2,553,835	2,358,112	2,553,835	2,358,112
Contributions	(1,738,389)	(1,620,120)	(1,738,389)	(1,620,120)
Actuarial gains	1,250,453	860,677	1,250,453	560,677
	28,395,121	**26,329,222**	**28,395,121**	**26,029,222**
Assumptions used on last valuation on 31 March 2013				
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 return	6.88%	8.50%	6.88%	8.50%
Medical aid inflation rate	7.05%	7.30%	7.05%	7.30%
Discount rate	6.90%	8.30%	6.90%	8.30%

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

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands

Sensitivity analysis on accrued liability

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

Assumption	Change	In-service (R)	Continuation (R)	Total (R)	% change
Central Assumptions		6,574,000	28,846,000	35,420,000	
Health care inflation	1%	7,484,000	32,127,000	39,611,000	12%
Health care inflation	(1%)	5,807,000	26,056,000	31,863,000	(10%)
Post retirement mortality	(1 year)	6,835,000	30,101,000	36,936,000	4%
Average retirement age	(1 year)	6,964,000	28,846,000	35,810,000	1%

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

Assumption	Change	In-service (R)	Continuation (R)	Total (R)	% change
Central Assumptions		2,261,213	221,937	2,483,150	
Health care inflation	1%	2,523,103	256,001	2,779,104	12%
Health care inflation	(1%)	2,037,659	193,415	2,231,074	(10%)
Post retirement mortality	(1 year)	2,350,023	229,443	2,579,466	4%
Average retirement age	(1 year)	2,284,966	245,724	2,530,690	2%

The analysis above shows that past service liability is most sensitive to a change in the gap between medical inflation and interest rates. The liability is also sensitive to a change in mortality rates, which is most significant at post-retirement ages. A change in withdrawal rates has an insignificant effect on the liability, as the average age for in service members is within the 45-50 age band and withdrawal rates fall to zero after age 50.

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

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

10. TRADE AND OTHER RECEIVABLES

Water research levies - non-exchange transactions	29,532,314	30,146,821	29,532,317	30,143,854
Other receivables - non-exchange transactions	7,084,144	2,120,988	7,084,144	2,529,522
Other receivables - exchange transactions	20,239	9,858	-	-
	36,636,697	**32,277,667**	**36,616,461**	**32,673,376**

Trade and other receivables pledged as security

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

Credit quality of trade and other receivables

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

Trade receivables

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

Trade and other receivables past due but not impaired

Trade and other receivables are all considered for impairment. At 31 March 2013, R 0 (2012: R 0) were past due but not impaired.

Trade and other receivables impaired

Group

As of 31 March 2013, trade and other receivables of R 147,300 (2012: R (113,441)) were (reversed) / impaired and provided for.

The amount of the provision was R 19,041,755 as of 31 March 2013 (2012: R 18,894,455).

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

WRC

As of 31 March 2013, trade and other receivables of R 49,940 (2012: R (171,177)) were (reversed) / impaired and provided for. The amount of the provision was R (18,838,157) as of 31 March 2013 (2012: R 18,788,217).

The ageing of these loans is as follows:

Current – Gross	20,629,921	17,888,575	20,609,682	18,178,046
1 Month past due – Gross	8,094,296	7,083,306	8,062,871	7,083,306
2 Months past due – Gross	7,652,569	7,126,318	7,652,569	7,126,318
3 Months past due – Gross	19,301,666	19,073,923	19,129,496	19,073,923
Current impaired amount	-	-	-	-
1 Month past due – Impaired amount	(47,851)	(13,603)	(16,425)	(13,603)
2 Months past due – Impaired amount	-	(828)	-	(828)
3 Months past due – Impaired amount	(18,993,904)	(18,880,024)	(18,821,732)	(18,773,786)

Reconciliation of provision for impairment of trade and other receivables

Opening balance	18,894,455	19,007,896	18,788,217	18,959,394
Provision for impairment	147,300	-	49,940	-
Unused amounts reversed	-	(113,441)	-	(171,177)
	19,041,755	**18,894,455**	**18,838,157**	**18,788,217**

The creation and release of provision for impaired receivables have been included in operating expenses in surplus or deficit. 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 loan mentioned above. The group does not hold any collateral as security.

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

11. CASH AND CASH EQUIVALENTS

Cash and cash equivalents consist of:

Cash on hand	3,529	1,879	3,529	1,879
Bank balances	74,576,953	51,296,426	72,331,116	49,391,441
Short-term deposits	10,758,251	41,741,308	10,758,251	41,741,308
	85,338,733	**93,039,613**	**83,092,896**	**91,134,628**

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

Management considers that all of the above cash and cash equivalents categories are of good quality. The maximum exposure to credit risk at the reporting date is the fair value of each class of cash and cash equivalents mentioned above. All cash and cash equivalents held by the entity are available for use. The cash and cash equivalents were not pledged as security for financial liabilities.

12. FINANCE LEASE OBLIGATION

Minimum lease payments due				
- within one year	636,233	480,153	636,233	480,153
- in second to fifth year inclusive	789,512	400,689	789,512	400,689
	1,425,745	880,842	1,425,745	880,842
less: future finance charges	(226,630)	(133,933)	(226,630)	(133,933)
Present value of minimum lease payments	**1,199,115**	**746,909**	**1,199,115**	**746,909**
Present value of minimum lease payments due				
- within one year	511,897	382,928	511,897	382,928
- in second to fifth year inclusive	687,218	363,981	687,218	363,981
	1,199,115	**746,909**	**1,199,115**	**746,909**
Non-current liabilities	660,149	363,981	660,149	363,981
Current liabilities	538,966	382,928	538,966	382,928
	1,199,115	**746,909**	**1,199,115**	**746,909**

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

The average lease term was 3 years and the average effective borrowing rate was 13% (2012: 14%).
Interest rates are fixed at the contract date. All leases have fixed repayments and no arrangements have been entered into for contingent rent.

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands

Defaults and breaches

The entity did not default on any interest or capital portions on any of the finance leases. None of the finance leases were re-negotiated during the year under review.

13. ACCRUALS – LEAVE AND BONUS

Reconciliation of accruals – leave and bonus - Group - 2013

	Opening Balance	Additions	Total
Accruals for leave	3,236,790	85,916	3,322,706
Accruals for bonus	193,872	31,609	225,481
	3,430,662	**117,525**	**3,548,187**

Reconciliation of accruals – leave and bonus - Group - 2012

	Opening Balance	Additions	Utilised during the year	Total
Accruals for leave	2,700,484	536,306	-	3,236,790
Accruals for bonus	241,272	-	(47,400)	193,872
	2,941,756	**536,306**	**(47,400)**	**3,430,662**

Reconciliation of accruals – leave and bonus - WRC - 2013

	Opening Balance	Additions	Total
Accruals for leave	3,236,790	85,916	3,322,706
Accruals for bonus	193,872	31,609	225,481
	3,430,662	**117,525**	**3,548,187**

Reconciliation of accruals – leave and bonus - WRC - 2012

	Opening Balance	Additions	Utilised during the year	Total
Accruals for leave	2,700,484	536,306	-	3,236,790
Accruals for bonus	241,272	-	(47,400)	193,872
	2,941,756	**536,306**	**(47,400)**	**3,430,662**

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

14. TRADE AND OTHER PAYABLES

Trade payables - exchange transactions	46,692,301	47,162,236	46,565,004	46,986,842
Accruals	709,465	-	236,666	-
	47,401,766	**47,162,236**	**46,801,670**	**46,986,842**

The entity did not default on interest or capital on any trade and other payables. None of the items attached to the trade and other payables were re-negotiated during the period under review.

15. FINANCIAL LIABILITIES BY CATEGORY

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

Group - 2013

	Financial liabilities at amortised cost	Total
Trade and other payables	47,440,147	47,440,147
Finance lease obligations	1,199,115	1,199,115
Accruals	3,548,187	3,548,187
	52,187,449	**52,187,449**

Group - 2012

	Financial liabilities at amortised cost	Total
Trade and other payables	47,191,502	47,191,502
Finance lease obligations	746,909	746,909
Accruals	3,430,662	3,430,662
	51,369,073	**51,369,073**

WRC - 2013

	Financial liabilities at amortised cost	Total
Trade and other payables	46,801,670	46,801,670
Finance lease obligations	1,199,115	1,199,115
Accruals	3,548,187	3,548,187
	51,548,972	**51,548,972**

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

WRC - 2012

	Financial liabilities at amortised cost	Total
Trade and other payables	46,986,842	46,986,842
Finance lease obligation	746,909	746,909
Accruals	3,430,662	3,430,662
	51,164,413	**51,164,413**

16. REVENUE

Water research levies – non-exchange transactions	164,788,656	151,986,157	164,788,656	151,986,157
Rental of facilities and equipment	647,146	560,086	-	-
Leverage income – non-exchange transactions	19,762,059	23,570,109	19,745,753	23,556,568
Fair value adjustment	(12,292)	(6,604)	-	-
	185,185,569	**176,109,748**	**184,534,409**	**175,542,725**

17. OPERATING DEFICIT

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

Operating lease charges

Premises				
• Contractual amounts	254,731	92,994	2,074,237	1,940,642
Equipment				
• Contractual amounts	433,560	153,255	433,560	153,255
	688,291	**246,249**	**2,507,797**	**2,093,897**

Amortisation on intangible assets	365,208	313,189	365,208	313,189
Depreciation on property, plant and equipment	814,699	770,749	814,699	770,749
Employee costs	37,570,795	33,235,117	37,570,795	33,235,117
Research and development	138,665,127	132,672,184	138,665,127	132,672,184

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

18. INVESTMENT REVENUE

Interest revenue				
Listed financial assets	691,309	628,079	691,309	628,079
Loan to subsidiary (financial asset - loan and receivable)	-	-	2,762,587	2,534,924
Bank (financial asset - held for trading)	2,582,749	3,199,958	2,582,553	3,199,808
Interest charged on trade and other receivables	12,423	8,429	-	-
Interest received relating to extended credit terms provided	12,292	6,604	-	-
Computer loans (financial asset - loan and receivable)	-	278	-	278
	3,298,773	**3,843,348**	**6,036,449**	**6,363,089**

19. FINANCE COSTS

Finance leases	178,303	198,972	178,303	198,972

20. TAXATION

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

21.AUDITORS' REMUNERATION

Fees	1,663,368	1,394,065	1,663,368	1,394,065

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

22. CASH USED IN OPERATIONS

Deficit	(3,337,289)	(2,851,725)	(1,924,655)	(1,566,038)
Adjustments for:				
Depreciation and amortisation	1,179,907	1,083,938	1,179,907	1,083,938
Gain on foreign exchange	(326,700)	-	(326,700)	-
Fair value adjustments	(1,664,253)	(942,855)	(1,664,253)	(942,855)
Loss on scrapping of assets	189,724	47,024	189,724	47,024
Debt impairment	147,300	(113,441)	49,940	(171,177)
Movements in operating lease assets and accruals	(7,498)	(159,327)	(525)	(59,510)
Movements in retirement benefit assets and liabilities	1,242,565	(393,472)	1,242,565	(393,472)
Movements in provisions	117,525	488,906	117,525	488,906
Changes in working capital:				
Trade and other receivables	(4,506,330)	(8,675,644)	(3,993,024)	(8,603,484)
Trade and other payables	248,645	8,792,201	(185,172)	8,685,862
	(6,716,404)	**(2,724,395)**	**(5,314,668)**	**(1,430,806)**

23. COMMITMENTS

Authorised research expenditure not contracted				
• Research	-	-	-	-
Already contracted for but not incurred				
• Research	230,016,026	164,316,579	230,016,026	164,316,579
Operating leases - as lessee (expense)				
Minimum lease payments due				
- within one year	-	-	2,172,773	2,069,308
- in second to fifth year inclusive	-	-	2,281,412	4,454,185
	-	**-**	**4,454,185**	**6,523,493**

Operating lease payments represent rentals payable by the economic entity for its office properties. No contingent rent is payable. WRC entered into a 5 year agreement with Erf 706 (Pty) Ltd for provision of office space. The contract ends on the 31st of March 2015 and escalates by 5% per annum from one year after the date of inception.

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

24. CONTINGENCIES

No contingencies existed at year end of which management were aware.

25. RELATED PARTIES

Relationships

Controlled entities	Refer to note 5			
Related party balances				
Loan accounts - Owing (to) by related parties				
Erf 706 Rietfontein (Pty) Ltd			20,157,514	18,414,926
Related party transactions				
Interest paid to (received from) related parties				
Erf 706 Rietfontein (Pty) Ltd			(2,762,587)	(2,534,924)
Rent paid to (received from) related parties				
Erf 706 Rietfontein (Pty) Ltd			2,074,237	1,847,648
Administration fees paid to (received from) related parties				
Erf 706 Rietfontein (Pty) Ltd			(441,229)	(408,534)
Municipal expenses paid to related parties				
Erf 706 Rietfontein (Pty) Ltd			541,586	489,788

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

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

26. DIRECTORS' EMOLUMENTS

Total Directors' Emoluments

Fees for services as directors	479,918	392,305	479,918	392,305
Salary	9,297,573	8,636,650	9,297,573	8,636,650
Bonuses and performance payments	620,938	631,838	620,938	631,838
Travel allowance	202,504	341,004	202,504	341,004
	10,600,933	**10,001,797**	**10,600,933**	**10,001,797**

Executive

2013

	Emoluments	Bonus and performance payments	Travel allowances	Total
Mr DP Naidoo	1,680,825	-	-	1,680,825
Mr NB Patel – Chief Financial Officer	1,164,925	101,577	62,500	1,329,002
Dr GR Backeberg	992,887	82,879	-	1,075,766
Mr JN Bhagwan	1,213,403	110,548	123,000	1,446,951
Ms E Karar	1,252,403	110,548	84,000	1,446,951
Ms R Lutchman	1,210,709	100,066	-	1,310,775
Dr HG Snyman (Resigned 30/09/2012)	525,521	57,971	6,000	589,492
Dr MS Liphadzi	1,001,651	57,350	50,004	1,109,005
Dr I Jacobs (Appointed 01/01/2013)	255,250	-	-	255,250
	9,297,574	**620,939**	**325,504**	**10,244,017**

2012

	Emoluments	Bonus and performance payments	Travel allowances	Total
Mr DP Naidoo	705,250	-	-	705,250
Dr R Kfir – CEO until 30 September 2011	655,768	125,096	40,002	820,866
Mr NB Patel – Chief Financial Officer	1,053,849	73,306	90,000	1,217,155
Dr GR Backeberg	940,760	66,526	-	1,007,286
Mr JN Bhagwan	1,099,056	73,824	90,000	1,262,880
Ms E Karar	1,099,056	73,824	84,000	1,256,880
Ms R Lutchman	1,046,694	73,113	-	1,119,807
Dr HG Snyman	1,023,591	73,469	12,000	1,109,060
Dr MS Liphadzi	1,012,627	72,682	25,002	1,110,311
	8,636,651	**631,840**	**341,004**	**9,609,495**

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands

Non-executive

2013

	Salary	Fees for services	Total
Prof JB Hiscock (Adams) - Chairperson (Term ended 30/06/2012)	98,579	-	98,579
Mr EPW Cross (Term ended 30/06/2012)	-	4,000	4,000
Ms ZB Mathenjwa (Term ended 30/06/2012)	-	2,000	2,000
Adv D Block (Term ended 30/06/2012)	-	2,000	2,000
Ms BG Schreiner - Chairperson (Appointed 29/05/2012)	-	105,138	105,138
Prof SL Hendriks - Vice Chairperson (Appointed 29/05/2012)	-	43,100	43,100
Mr PR Mnisi (Appointed 29/05/2012)	-	16,310	16,310
Mr G Mwiinga (Appointed 29/05/2012)	-	53,085	53,085
Dr BCM Van Koppen (Appointed 29/05/2012)	-	28,078	28,078
Mrs DN Ndaba	-	69,898	69,898
Mr AN Mhlongo	-	57,730	57,730
	98,579	**381,339**	**479,918**

2012

	Salary	Fees for services	Total
Prof JB Hiscock (Adams) - Chairperson	282,305	-	282,305
Mr EPW Cross	-	16,000	16,000
Ms ZB Mathenjwa	-	16,000	16,000
Mr M Sirenya	-	20,000	20,000
Adv D Block	-	8,000	8,000
Ms RNM Maphumulo	-	4,000	4,000
Mrs DN Ndaba	-	28,000	28,000
Mr AN Mhlongo	-	18,000	18,000
	282,305	**110,000**	**392,305**

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

27. CHANGE IN ESTIMATE

Property, plant and equipment

The useful lives of certain property, plant and equipment were assessed in 2009. In the current period management have revised their estimate. The revised useful lives and effect of this revision are:

Class	Previously assessed useful life	Reassessed assessed useful life	Financial impact on current and future depreciation
IT equipment	5 - 16 years	3 - 12 years	25,103
Office equipment	4 - 37 years	3 - 40 years	12,936
Furniture and fittings	12 - 37 years	10 - 42 years	(1,362)
			36,677

28. PRIOR PERIOD ERRORS

In the prior period, a sale of an available for sale financial asset led to a realisation of the revaluation reserve. This realisation was not accounted for and was corrected in the current period.

Furthermore, an error was made in the accrual for the operating lease liability in periods prior to the comparative figures.

The correction of the error(s) results in adjustments as follows:

Statement of financial position				
Operating lease accrual	-	(197,314)	-	(197,314)
Opening Accumulated Surplus or Deficit	-	197,314	-	197,314

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

29. CHANGE IN ACCOUNTING POLICY

During the financial period certain changes to GRAP 104 were made effective on 01 April 2012. The effective changes require all gains or losses on financial instruments carried at fair value to be recognised through surplus or deficit, instead of directly in net assets. The Transitional Directive 2 requires the effects of the aforementioned changes to be applied retrospectively.

The effects of the reclassification are as follows:

Statement of financial position				
Non-distributable reserve	-	5,692,568	-	5,692,568
Accumulated surplus	-	(4,749,713)	-	(4,749,713)
Statement of Financial Performance				
Fair value adjustment on financial instruments	-	(942,855)	-	(942,855)

30. RISK MANAGEMENT

Liquidity risk

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

The table below analyses the economic entity's financial liabilities and net-settled derivative financial liabilities into relevant maturity groupings based on the remaining period at the statement of financial position to 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.

Group

At 31 March 2013	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Trade and other payables	47,440,147	-	-	-
Finance leases	636,233	789,512	-	-
At 31 March 2012	**Less than 1 year**	**Between 1 and 2 years**	**Between 2 and 5 years**	**Over 5 years**
Trade and other payables	47,191,502	-	-	-
Finance leases	480,153	400,689	-	-

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

WRC

At 31 March 2013	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Trade and other payables	46,801,670	-	-	-
Finance leases	636,233	789,512	-	-

At 31 March 2012	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Trade and other payables	46,986,843	-	-	-
Finance leases	480,153	400,689	-	-

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, derivative financial instruments and trade debtors. The entity only deposits cash with major banks with high quality credit standing and limits exposure to any one counter-party.

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

Financial instrument	Group - 2013	Group - 2012	WRC - 2013	WRC - 2012
Deposits with banks	1,800	1,800	1,800	1,800
Corporation for Public Deposits	10,758,251	41,739,508	10,758,251	41,739,508
Bank balance	74,576,953	51,296,426	72,331,156	49,391,438

These balances represent the maximum exposure to credit risk.

Foreign exchange risk

The group does not have foreign accounts receivables, foreign accounts payables or derivative market instruments.

The group reviews its foreign currency exposure, including commitments on an ongoing basis. The entity expects its foreign exchange contracts to hedge foreign exchange exposure.

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

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.

Post-tax surplus for the year would increase/decrease as a result of gains or losses on equity securities classified as at fair value through surplus or deficit. Other components of equity would increase/decrease as a result of gains or losses on equity securities classified a available-for-sale.

31. GOING CONCERN

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

32. EVENTS AFTER THE REPORTING DATE

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

33. IRREGULAR EXPENDITURE

Opening balance	5,518,819	-	5,518,819	-
Add: Irregular Expenditure - current year	1,721,069	5,518,819	1,721,069	5,518,819
Less: Amounts condoned	(254,503)	-	(254,503)	-
	6,985,385	**5,518,819**	**6,985,385**	**5,518,819**

Analysis of expenditure awaiting condonation per age classification

Current year	1,721,069	5,518,819	1,721,069	5,518,819
Prior years	5,264,316	-	5,264,316	-
	6,985,385	**5,518,819**	**6,985,385**	**5,518,819**

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

Details of irregular expenditure – current year

Goods/services were procured without inviting at least three written price quotations from prospective suppliers and the deviation was not approved by the accounting officer or his delegated official.	-	254,503	-	254,503
Goods/services were procured from suppliers who did not provide tax clearance certificates to confirm that their tax matters are in order. The majority of these outstanding tax clearance certificates relate to research institutions.	-	5,264,316	-	5,264,316
Preference point system was not applied in all procurement of goods and services above R 30,000	1,721,069	-	1,721,069	-
	1,721,069	**5,518,819**	**1,721,069**	**5,518,819**

The irregular expenditure disclosed above is not recoverable and the entity is awaiting condonement from the National Treasury.

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	Group		WRC	
	2013	2012	2013	2012
	R	R	R	R

34. RECONCILIATION BETWEEN BUDGET AND STATEMENT OF FINANCIAL PERFORMANCE

Reconciliation of budget surplus/deficit with the surplus/deficit in the statement of financial performance:

Net deficit per the statement of financial performance	(1,924,655)	(1,566,038)
Adjusted for:		
Depreciation and amortisation	1,179,907	1,088,637
Levies	(5,151,186)	(4,664,609)
Interest received	(1,977,815)	(389,089)
Leverage	(536,230)	(5,384,707)
Miscellaneous	(2,131,049)	10,535
Sub-total	(10,541,028)	(10,905,271)
Rent	45,235	(21,154)
Electricity	(779)	147,840
Telephone & fax	(5,833)	(162,515)
Postal and courier	(2,037)	(77,506)
Building maintenance	76,631	156,011
PC Consumables	(29,838)	(48,861)
PC software, licenses	(398,049)	(493,336)
S&T local	109,478	220,412
S&T International	309,960	(240,087)
WRC Vehicle expense	(6,394)	(6,167)
Consultancies, Professional	(418,096)	(632,075)
Entertainment and refreshments	(1,921)	15,427
Books, educational material	(18,432)	11,990
Membership and subscriptions	(131,039)	(68,359)
Promotions and publicity	(92,658)	37,103
Printing and publishing, stationery and other	(219,175)	341,086
Discretionary fund	(29,171)	(14,331)
Patent registrations	127,037	(135,287)
Employee cost	(314,667)	1,318,571
Recruitment	79,028	252,046
Staff training	(22,792)	(68,662)
Research costs	11,418,870	12,360,901
Insurance	(63,343)	(44,224)
Bank charges	(2,687)	(36,494)
Interest paid	9,120	20,473
Audit fees	88,931	111,620
Other variances	1,862,631	622,153
Net surplus/(deficit) (excluding capital expenditure)	**1,828,982**	**2,661,304**

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands		Group		WRC	
		2013	2012	2013	2012
	Note(s)	R	R	R	R

The budget is approved on a cash basis by nature classification. The approved budget covers the fiscal period from 01 April 2012 to 31 March 2013. The budget detail included is only for the Water Research Commission and not for Erf 706 Rietfontein (Pty) Ltd.

The financial statements differ from the budget, which is approved on the cash basis.

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

A reconciliation between the actual amounts on a comparable basis as presented in the Statement of Budget and Actual Amounts and the actual amounts in the Statement of Financial Performance for the period ended 31 March 2013 is presented above. The Financial Statements and budget documents are prepared for the same period.

35. DEFINED CONTRIBUTION PLANS

Employee contributions	1,331,719	1,294,529	1,331,719	1,294,529
Employer contributions	2,246,401	2,203,964	2,246,401	2,203,964
	3,578,120	**3,498,493**	**3,578,120**	**3,498,493**

The above contributions have been included as part of the personnel cost expense.

DETAILED INCOME STATEMENT

Figures in Rands		Group		WRC	
		2013	2012	2013	2012
	Note(s)	R	R	R	R
Revenue					
Water Research Levies – Non-exchange transactions		164,788,656	151,986,157	164,788,656	151,986,157
Rental of facilities and equipment		647,146	560,086	-	-
Leverage income – non-exchange transactions		19,762,059	23,570,109	19,745,753	23,556,568
Fair value adjustment		(12,292)	(6,604)	-	-
	16	**185,185,569**	**176,109,748**	**184,534,409**	**175,542,725**
Other income					
Administration and management fees received		-	-	441,229	408,534
Other income – Exchange transactions		2,614,759	774,606	2,508,425	681,918
Interest received – investment – non-exchange	18	3,298,773	3,843,348	6,036,449	6,363,089
Profit on exchange differences		326,700	-	326,700	-
Fair value adjustments		1,664,253	942,855	1,664,253	942,855
		7,904,485	**5,560,809**	**10,977,056**	**8,396,396**
Expenses*		**(196,249,040)**	**(184,323,310)**	**(197,257,817)**	**(185,306,187)**
Operating deficit	17	**(3,158,986)**	**(2,652,753)**	**(1,746,352)**	**(1,367,066)**
Finance costs	19	(178,303)	(198,972)	(178,303)	(198,972)
Deficit for the year		**(3,337,289)**	**(2,851,725)**	**(1,924,655)**	**(1,566,038)**

DETAILED INCOME STATEMENT

Figures in Rands		Group		WRC	
		2013	2012	2013	2012
	Note(s)	R	R	R	R
Operating expenses					
Administration and management fees		89,766	75,671	84,486	75,671
Auditors remuneration	21	1,663,368	1,394,065	1,663,368	1,394,065
Bank charges		62,201	53,794	57,479	49,378
Consumables		24,322	11,506	24,322	11,506
Debt impairment		147,300	(113,441)	49,940	(171,177)
Depreciation, amortisation and impairments		1,179,907	1,083,938	1,179,907	1,083,938
Discretionary fund		37,826	46,447	37,826	46,447
Entertainment		238,759	213,245	238,759	213,245
IT expenses		783,784	818,945	783,784	818,945
Insurance		115,979	204,495	73,157	158,615
Lease rentals on operating lease		688,291	246,249	2,507,797	2,093,897
Loss on scrapping of assets		189,724	47,024	189,724	47,024
Motor vehicle expenses		6,912	6,639	6,912	6,639
Patent registrations		677,707	394,713	677,707	394,713
Personnel		37,570,795	33,235,117	37,570,795	33,235,117
Postage		156,388	148,810	156,388	148,810
Printing and stationery		5,476,917	6,113,348	5,476,917	6,113,348
Professional fees		1,046,944	942,460	1,046,944	942,460
Promotions		157,342	219,075	157,342	219,075
Recruitment costs		159,028	327,046	159,028	327,046
Repairs and maintenance		566,236	524,947	471,253	379,318
Research and development costs		138,665,127	132,672,184	138,665,127	132,672,184
Secretarial fees		-	5,964	-	-
Security		338,225	322,994	-	-
Staff welfare		19,128	15,184	19,128	15,184
Subscriptions		389,991	408,151	389,991	408,151
Telephone and fax		557,516	555,058	554,493	550,849
Training		361,660	181,590	361,660	181,590
Travel - local		2,806,304	2,778,780	2,806,304	2,778,780
Travel - overseas		1,225,424	545,830	1,225,424	545,830
Utilities		846,169	843,482	621,855	565,539
		196,249,040	**184,323,310**	**197,257,817**	**185,306,187**

* The supplementary information presented does not form part of the Annual Financial Statements and is unaudited.

SECTION F:
ERF SEWE-NUL-SES RIETFONTEIN (PTY) LTD FINANCIAL STATEMENTS

REPORT OF THE AUDITOR-GENERAL TO PARLIAMENT ON ERF SEWE-NUL-SES RIETFONTEIN (PROPRIETARY) LIMITED

REPORT ON THE FINANCIAL STATEMENTS

Introduction

1. I have audited the financial statements of the Erf Sewe-Nul-Ses Rietfontein (Proprietary) Limited set out on pages 208 to 231, which comprise the statement of financial position as at 31 March 2013, the statement of financial performance, statement of changes in net assets and the statement of cash flows for the year then ended, and the notes, comprising a summary of significant accounting policies and other explanatory information.

Accounting authority's responsibility for the financial statements

2. The board of directors which constitutes the accounting authority is responsible for the preparation and fair presentation of these financial statements in accordance with South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and the requirements of the Public Finance Management Act of South Africa, 1999 (Act No. 1 of 1999) (PFMA), the Companies Act of South Africa, 2008 (Act No. 71 of 2008) and for such internal control as the accounting authority determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor-General's responsibility

3. My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with the Public Audit Act of South Africa, 2004 (Act No. 25 of 2004) (PAA), the General Notice issued in terms thereof and International Standards on Auditing. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

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

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

Opinion

6. In my opinion, the financial statements present fairly, in all material respects, the financial position of the Erf Sewe-Nul-Ses Rietfontein (Pty) Ltd as at 31 March 2013, and its financial performance and cash flows for the year then ended in accordance with South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and the requirements of the PFMA and the Companies Act of South Africa, 2008 (Act No. 71 of 2008).

Auditor – General

Pretoria
31 July 2013

AUDITOR-GENERAL
SOUTH AFRICA

Auditing to build public confidence

DIRECTORS' REPORT FOR ERF

FINANCIAL STATEMENTS

Erf Sewe-Nul-Ses Rietfontein (Pty) Ltd

Approval of Financial Statements

The Directors' Report and Financial Statements set out on pages 208 to 231 were approved by the Board of Directors and were signed on its behalf by:

Ms B Schreiner
Chairperson

Mr DP Naidoo
WRC Chief Executive Officer

General information

Directors:
Mr DP Naidoo
Ms B Schreiner

Registered office:
301 Watko Building
491, 18th Avenue
Rietfontein
Pretoria

Registration number
1984/003566/07

Main business and purpose

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

Director's Report

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 statements of financial position, financial performance, changes in net assets and cash flows attached, where the business of the company, the results and state of affairs are clearly reflected.

(b). The Fourth Schedule to the Companies Act, 1973, requires the Directors to report on any material facts or circumstances which occurred between the accounting date and the date of their report. No such material or circumstances occurred.

Specific matters

(a). The main aim of the company is that of owning immovable property known as Erf 706 Rietfontein, including all permanent improvements, and to use the property for the purpose of promoting the operations of Water Research Commission.
(b). No shares were allotted or issued by the company for the year ending 31 March 2013.
(c). No dividends were paid or declared during the accounting period and we have no recommendation to make in respect of dividends (2012-RNil)
(d). The Directors and certain members of staff of Water Research Commission, for whom an administration fee is paid to the Water Research Commission, managed the business of the company. No third person was involved in managing the company.
(e). The names of Directors are shown below. No changes have taken place in the appointments during the accounting period. The company's secretary is Rene Vorster.
- Mr DP Naidoo
- Ms B Schreiner

The company is wholly owned by the Water Research Commission.

ERF SEWE-NUL-SES RIETFONTEIN (PROPRIETARY) LIMITED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2013

GENERAL INFORMATION

COUNTRY OF INCORPORATION AND DOMICILE	South Africa
NATURE OF BUSINESS AND PRINCIPAL ACTIVITIES	The main business of the company is to own the immovable property known as Erf 706 Rietfontein and supplementary to the aim of the Water Research Commission to place the property at the disposal of the WRC as their main place of business.
REGISTERED OFFICE	301 Watko Building 491, 18th Avenue Rietfontein Pretoria
CONTROLLING ENTITY	Water Research Commission
COMPANY REGISTRATION NUMBER	1984/003566/07

SECTION F: ERF SEWE-NUL-SES RIETFONTEIN (PTY) LTD FINANCIAL STATEMENTS

The following supplementary information does not form part of the annual financial statements and is unaudited:

STATEMENT OF FINANCIAL POSITION AS OF 31 MARCH 2013

Figures in Rands	Note(s)	2013 R	2012 R
Assets			
Current Assets			
Operating lease asset	5	301,827	294,853
Trade and other receivables	6	13,583	2,966
Other receivables – non exchange-transactions	6	20,239	9,858
Cash and cash equivalents	7	2,245,837	1,904,985
		2,581,486	**2,212,662**
Non-Current Assets			
Investment property	3	8,691,522	8,691,522
Total Assets		**11,273,008**	**10,904,184**
Liabilities			
Current Liabilities			
Other financial liabilities	9	1,020,000	1,020,000
Trade and other payables	10	613,683	583,925
Other payables - non-exchange transactions	10	38,381	29,266
		1,672,064	**1,633,191**
Non-Current Liabilities			
Other financial liabilities	9	19,137,513	17,394,927
Total Liabilities		**20,809,577**	**19,028,118**
Net Assets		**(9,536,569)**	**(8,123,934)**
Share capital	8	1	1
Accumulated deficit		(9,536,570)	(8,123,935)
Total Net Liabilities		**(9,536,569)**	**(8,123,934)**

STATEMENT OF FINANCIAL PERFORMANCE

Figures in Rands	Note(s)	2013 R	2012 R
Revenue	12	3,118,586	2,997,147
Operating expenses		(1,793,544)	(1,763,093)
Operating surplus		**1,325,042**	**1,234,054**
Investment revenue	13	24,911	15,183
Finance costs	14	(2,762,587)	(2,534,924)
Deficit for the year		**(1,412,634)**	**(1,285,687)**

STATEMENT OF CHANGES IN NET ASSETS

Figures in Rands	Share capital	Accumulated deficits	Total net liabilities
	R	R	R
Balance at 01 April 2011	1	**(6,838,248)**	**(6,838,247)**
Changes in net liabilities			
Deficit for the year	-	(1,285,687)	(1,285,687)
Total changes	-	(1,285,687)	(1,285,687)
Balance at 01 April 2012	**1**	**(8,123,936)**	**(8,123,935)**
Changes in net liabilities			
Deficit for the year	**-**	(1,412,634)	(1,412,634)
Total changes	-	(1,412,634)	(1,412,634)
Balance at 31 March 2013	**1**	**(9,536,570)**	**(9,536,569)**
Note	8		

STATEMENT OF CASH FLOWS

Figures in Rands	Note(s)	2013 R	2012 R
Cash flows from Operating Activities			
Receipts			
Cash receipts from customers		3,008,852	2,851,056
Interest income		196	150
		3,009,048	2,851,206
Payments			
Cash paid to suppliers		(1,648,196)	(1,609,871)
Net cash flows from operating activities	16	**1,360,852**	**1,241,335**
Cash Flows from Financing Activities			
Repayments of other financial liabilities		(1,020,000)	(1,020,000)
Net cash flows from financing activities		**(1,020,000)**	**(1,020,000)**
Net increase/(decrease) in cash and cash equivalents		**340,852**	**221,335**
Cash and cash equivalents at the beginning of the year		1,904,985	1,683,650
Cash and cash equivalents at the end of the year	7	**2,245,837**	**1,904,985**

ACCOUNTING POLICIES

1. Presentation of Financial Statements

The financial statements have been prepared in accordance with the Standards of Generally Recognised Accounting Practice (GRAP) including any interpretations, guidelines and directives issued by the Accounting Standards Board.

These financial statements have been prepared on an accrual basis of accounting and are in accordance with historical cost convention unless specified otherwise. They are presented in South African Rand.

A summary of the significant accounting policies, which have been consistently applied, are disclosed below. These accounting policies are consistent with the previous period.

1.1 Investment property

Investment property is property (land or a building – or part of a building – or both) held to earn rentals or for capital appreciation or both, rather than for:

- use in the production or supply of goods or services or for
- administrative purposes, or
- sale in the ordinary course of operations.

Owner-occupied property is property held for use in the production or supply of goods or services or for administrative purposes.

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

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

Where investment property is acquired through a non-exchange transaction, its cost is its fair value as at the date of acquisition.

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.

Investment property is subsequently carried at cost less accumulated depreciation and impairment losses. Compensation from third parties for investment property that was impaired, lost or given up is recognised in surplus or deficit when the compensation becomes receivable.

1.2 Financial instruments

Initial recognition and measurement

Financial instruments are recognised initially when the entity becomes a party to the contractual provisions of the instruments.

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 instruments are measured initially at fair value, except for equity investments for which a fair value is not determinable, which are measured at cost and are classified as available-for-sale financial assets.

For financial instruments which are not at fair value through surplus or deficit, transaction costs are included in the initial measurement of the instrument.

Transaction costs on financial instruments at fair value through surplus or deficit are recognised in surplus or deficit.

ACCOUNTING POLICIES

Subsequent measurement

Fair value determination

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

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.

The carrying amount of the asset is reduced through the use of an allowance account, and the amount of the deficit is recognised in surplus or deficit within operating expenses. When a trade receivable is uncollectible, it is written off against the allowance account for trade receivables. Subsequent recoveries of amounts previously written off are credited against operating expenses in surplus or deficit.

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.

1.3 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.

When a lease includes both land and buildings elements, the entity assesses the classification of each element separately.

Operating leases - lessor

Operating lease revenue is recognised as revenue on a straight-line basis over the lease term.

Initial direct costs incurred in negotiating and arranging operating leases are added to the carrying amount of the leased asset and recognised as an expense over the lease term on the same basis as the lease revenue.

The aggregate cost of incentives is recognised as a reduction of rental revenue over the lease term on a straight-line basis.

Income for leases is disclosed under revenue in statement of financial performance.

ACCOUNTING POLICIES

1.4 Impairment of cash-generating assets

Cash-generating assets are those assets held by the entity with the primary objective of generating a commercial return. When an asset is deployed in a manner consistent with that adopted by a profit-orientated entity, it generates a commercial return.

Impairment is a loss in the future economic benefits or service potential of an asset, over and above the systematic recognition of the loss of the asset's future economic benefits or service potential through depreciation (amortisation).

Carrying amount is the amount at which an asset is recognised in the statement of financial position after deducting any accumulated depreciation and accumulated impairment losses thereon.

A cash-generating unit is the smallest identifiable group of assets held with the primary objective of generating a commercial return that generates cash inflows from continuing use that are largely independent of the cash inflows from other assets or groups of assets.

Costs of disposal are incremental costs directly attributable to the disposal of an asset, excluding finance costs and income tax expense.

Depreciation (Amortisation) is the systematic allocation of the depreciable amount of an asset over its useful life.

Fair value less costs to sell is the amount obtainable from the sale of an asset in an arm's length transaction between knowledgeable, willing parties, less the costs of disposal.

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

Useful life is either:

(a). the period of time over which an asset is expected to be used by the entity; or
(b). the number of production or similar units expected to be obtained from the asset by the entity.

1.5 Share capital

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 from exchange transactions

Revenue is the gross inflow of economic benefits or service potential during the reporting period when those inflows result in an increase in net assets, other than increases relating to contributions from owners.

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

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

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

- the amount of revenue can be measured reliably;
- it is probable that the economic benefits associated with the transaction will flow to the company;
- the stage of completion of the transaction at the end of the reporting period can be measured reliably; and
- the costs incurred for the transaction and the costs to complete the transaction can be measured reliably.

ACCOUNTING POLICIES

When the outcome of the transaction involving the rendering of services cannot be estimated reliably, revenue shall be recognised only to the extent of the expenses recognised that are recoverable.
Revenue from exchange transactions refers to revenue that accrued to the entity directly in return for services rendered/ goods sold, the value of which approximates the considerations received or receivable.

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

Measurement

Revenue is measured at the fair value of the consideration received or receivable, net of trade discounts and volume rebates.

Sale of goods

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

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

Interest, rental income, royalties and dividends

Revenue arising from the use by others of entity assets yielding interest, royalties and dividends is recognised when:

- It is probable that the economic benefits or service potential associated with the transaction will flow to the entity, and
- The amount of the revenue can be measured reliably.

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

Rental income is recognised on the accrual basis in accordance with the substance of the relevant agreements.

1.7 Borrowing costs

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

1.8 Related parties

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

NOTES TO THE FINANCIAL STATEMENTS

2. New Standards And Interpretations

2.1 Standards and interpretations issued, but not yet effective

The entity has not applied the following standards and interpretations, which have been published and are mandatory for the entity's accounting periods beginning on or after 01 April 2013 or later periods:

Standard/ Interpretation:	Effective date: Years beginning on or after	Expected impact:
• GRAP 18: Segment Reporting	01 April 2013	Unlikely material impact
• GRAP 25: Employee benefits	01 April 2013	Unlikely material impact
• GRAP 105: Transfers of functions between entities under common control	01 April 2014	Unlikely material impact
• GRAP 106: Transfers of functions between entities not under common control	01 April 2014	Unlikely material impact
• GRAP 107: Mergers	01 April 2014	Unlikely material impact
• GRAP 20: Related parties	01 April 2013	Unlikely material impact
• IGRAP 11: Consolidation – Special purpose entities	01 April 2014	Unlikely material impact
• IGRAP 12: Jointly controlled entities – Non-monetary contributions by ventures	01 April 2014	Unlikely material impact
• GRAP 6 (as revised 2010): Consolidated and Separate Financial Statements	01 April 2014	Unlikely material impact
• GRAP 7 (as revised 2010): Investments in Associates	01 April 2014	Unlikely material impact
• GRAP 8 (as revised 2010): Interests in Joint Ventures	01 April 2014	Unlikely material impact
• GRAP 1 (as revised 2012): Presentation of Financial Statements	01 April 2013	Unlikely material impact
• GRAP 3 (as revised 2012): Accounting Policies Change in Accounting Estimates and Errors	01 April 2013	Unlikely material impact
• GRAP 7 (as revised 2012): Investments in Associates	01 April 2013	Unlikely material impact
• GRAP 9 (as revised 2012): Revenue from Exchange Transactions	01 April 2013	Unlikely material impact
• GRAP 12 (as revised 2012): Inventories	01 April 2013	Unlikely material impact
• GRAP 13 (as revised 2012): Leases	01 April 2013	Unlikely material impact
• GRAP 16 (as revised 2012): Investment Property	01 April 2013	Unlikely material impact
• GRAP 17 (as revised 2012): Property Plant and Equipment	01 April 2013	Unlikely material impact
• GRAP 27 (as revised 2012): Agriculture (Replaces GRAP 101)	01 April 2013	Unlikely material impact
• GRAP 31 (as revised 2012): Intangible Assets (Replaces GRAP 102)	01 April 2013	Unlikely material impact
• IGRAP 16: Intangible assets website costs	01 April 2013	Unlikely material impact
• IGRAP 1 (as revised 2012): Applying the probability test on initial recognition of revenue	01 April 2013	Unlikely material impact

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands

3. Investment property

	2013			2012		
	Cost	Accumulated depreciation and accumulated impairment	Carrying value	Cost	Accumulated depreciation and accumulated impairment	Carrying value
Investment property	8,691,522	-	8,691,522	8,691,522	-	8,691,522

Fair value of investment properties	34,500,000	31,500,000
Details of property		
ERF 706 RIETFONTEIN, PRETORIA		
- Purchase price	615,855	615,855
- Additions since purchase	8,075,667	8,075,667
	8,691,522	**8,691,522**

Details of valuation

The property has been valued at R34,500,000 (2012: R31,500,000) by Reinertsen International Valuation Services, as an independent valuer on 31 March 2013.

Amounts recognised in surplus and deficit for the year.		
Rental revenue from investment property	2,466,652	2,407,734
Direct operating expenses from rental generating property	761,941	763,999

4. Financial assets by category

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

2013

	Loans and receivables	Total
Trade and other receivables	33,822	33,822
Cash and cash equivalents	2,245,837	2,245,837
	2,279,659	**2,279,659**

2012

	Loans and receivables	Total
Trade and other receivables	12,824	12,824
Cash and cash equivalents	1,904,985	1,904,985
	1,917,809	**1,917,809**

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	2013	2012
	R	R

5. Operating lease asset

Balance at year end		
Operating lease asset	301,827	294,853
Minimum lease receipts due		
Within 12 months	2,323,513	2,152,289
Between 12 - 60 months	2,131,048	6,002,256
	4,454,561	**8,154,545**

The company enters into lease agreements between 2 and 5 years. Rentals are payable per month and escalates by between 5 and 11 percent per annum.

No contingent rent is receivable.

6. Trade and other receivables

Trade receivables - exchange transactions	13,583	2,966
Trade receivables - non-exchange transactions	20,239	9,858
	33,822	**12,824**

Trade and other receivables pledged as security

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

Credit quality of trade and other receivables

Management considers that all the above financial assets are of good credit quality. The maximum exposure to credit risk at the reporting date is the fair value of each class of receivables mentioned above.

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

Trade and other receivables past due but not impaired

Trade and other receivables are all considered for impairment. At 31 March 2013, R NIL (2012: R NIL) were past due but not impaired.

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	2013	2012
	R	R

Trade and other receivables impaired

As of 31 March 2013, trade and other receivables of R 97,360 (2012: R 57,736) were impaired and provided for.

The amount of the provision was R (203,597) as of 31 March 2013 (2012: R 106,237).

Reconciliation of provision for impairment of trade and other receivables

Opening balance	106,237	48,501
Provision for impairment	97,360	57,736
	203,597	**106,237**

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

7. Cash and cash equivalents

Cash and cash equivalents consist of:

Bank balances	2,245,837	1,904,985

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

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

Cash and cash equivalents pledged as collateral

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

8. Share capital

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

100% of the shares are owned by the Water Research Commission.

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	2013 R	2012 R

9. Other financial liabilities

At amortised cost		
Loan Nr. 1 - Water Research Commission	17,546,399	15,781,023
The unsecured loan bears interest at 15% (2012 – 15%) and is repayable in equal monthly installments of not less than R60,000 a month over 15 years.		
Loan Nr. 2 - Water Research Commission	2,611,114	2,633,904
The unsecured loan bears interest at prime plus 2% with no fixed terms of repayment.		
	20,157,513	**18,414,927**
Total other financial liabilities	**20,157,513**	**18,414,927**
Non-current liabilities		
At amortised cost	19,137,513	17,394,927
Current liabilities		
At amortised cost	1,020,000	1,020,000

10. Trade and other payables

Trade payables - exchange transactions	140,882	583,929
Trade payables - non-exchange transactions	38,381	29,266
Accrued expenses	472,799	-
	652,062	**613,195**

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

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

11. Financial liabilities by category

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

2013

	Financial liabilities at amortised cost	Total
Loans from shareholders	20,157,513	20,157,513
Trade and other payables	652,062	652,062
	20,809,575	**20,809,575**

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	2013 R	2012 R

2012

	Financial liabilities at amortised cost	Total
Loan from shareholder	18,414,927	18,414,927
Trade and other payables	613,195	613,195
	19,028,122	**19,028,122**

12.Revenue

Municipal expense recoveries – exchange transactions	647,920	582,476
Rental received – exchange transactions	2,466,652	2,407,734
Sundry income – exchange transactions	16,306	13,541
Fair value adjustment	(12,292)	(6,604)
	3,118,586	**2,997,147**

13. Investment revenue

Interest revenue		
Bank	196	150
Interest charged on trade and other receivables	12,423	8,429
Interest received relating to extended credit terms provided	12,292	6,604
	24,911	**15,183**

14. Finance costs

Non-current borrowings	2,762,587	2,534,924

15. Taxation

No provision has been made for 2013 tax as the entity has no taxable income.

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	2013	2012
	R	R

16. CASH GENERATED FROM OPERATIONS

Deficit	(1,412,634)	(1,285,687)
Adjustments for:		
Debt impairment	97,360	57,736
Movements in operating lease assets and accruals	(6,974)	(99,816)
Finance cost	2,762,587	2,534,924
Changes in working capital:		
Trade and other receivables	(20,998)	11,471
Impairment on trade receivables	(97,360)	(57,736)
Trade and other payables	38,871	80,443
	1,360,852	**1,241,335**

17. RELATED PARTIES

Relationships		
Holding company	Water Research Commission	
Related party balances		
Loan accounts - Owing (to) by related parties		
Water Research Commission	(20,157,513)	(18,414,927)
Related party transactions		
Interest paid to (received from) related parties		
Water Research Commission	2,762,587	2,534,924
Municipal expenses paid to (received from) related parties		
Water Research Commission	(541,586)	(489,788)
Rent paid to (received from) related parties		
Water Research Commission	(1,819,506)	(1,847,648)
Administration fees paid to (received from) related parties		
Water Research Commission	441,229	408,534

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands	2013	2012
	R	R

18. Risk management

Liquidity risk

Prudent liquidity risk management implies maintaining sufficient cash and marketable securities, the availability of funding through an adequate amount of committed credit facilities and the ability to close out market positions. Due to the dynamic nature of the underlying businesses, entity treasury maintains flexibility in funding by maintaining availability under committed credit lines.

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.

Cash flow forecasts are prepared and adequate utilised borrowing facilities are monitored.

The table below analyses the entity's financial liabilities and net-settled derivative financial liabilities into relevant maturity groupings based on the remaining period at the statement of financial position to 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.

At 31 March 2013	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Trade and other payables	631,444	-	-	-
Loan no. 1	720,000	720,000	16,106,399	-
Loan no. 2	300,000	300,000	900,000	1,111,114

At 31 March 2012	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Trade and other payables	613,191	-	-	-
Loan no. 1	720,000	720,000	2,160,000	12,181,023
Loan no. 2	300,000	300,000	900,000	1,133,904

Interest rate risk

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

At 31 March 2013, if interest rates on Rand-denominated borrowings had been 2% higher or lower with all other variables held constant, post-tax surplus for the year would have been R 52,222 (2012: R 52,449) lower or higher, mainly as a result of higher/ lower interest expense on floating rate borrowings.

NOTES TO THE FINANCIAL STATEMENTS

Figures in Rands		2013	2012
	Note(s)	R	R

Credit risk

Credit risk consists mainly of cash deposits, cash equivalents, derivative financial instruments and trade debtors. The entity only deposits cash with major banks with high quality credit standing and limits exposure to any one counter-party. Financial assets exposed to credit risk at year end were as follows:

Financial instrument	2013	2012
ABSA Bank	2,245,837	1,904,985

19. Contingencies

Legal costs of R 15,000 may be incurred in a case against one of the previous tenants.

20. Going concern

We draw attention to the fact that at 31 March 2013, the entity had accumulated deficits of R (9,536,570) and that the entity's total liabilities exceed its assets by R (9,536,569), however the entity is a going concern based on the property valuation.

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

21. Events after the reporting date

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

DETAILED INCOME STATEMENT

Figures in Rands	Note(s)	2013 R	2012 R
Revenue			
Municipal expense recoveries – exchange transactions		647,920	582,476
Rental income – exchange transactions		2,466,652	2,407,734
Sundry income – exchange transactions		16,306	13,541
Fair value adjustment		(12,292)	(6,604)
	12	**3,118,586**	**2,997,147**
Other income			
Interest received	13	24,911	15,183
Operating expenses			
Administration and management fees		446,509	408,534
Bad debts		97,360	57,736
Bank charges		4,722	4,416
Insurance		42,822	45,880
Municipal services and levies		761,941	763,999
Rent - meter readings		3,959	3,732
Repairs and maintenance		94,983	145,629
Secretarial fees		-	5,964
Security		338,225	322,994
Telephone and fax		3,023	4,209
		1,793,544	**1,763,093**
Operating surplus		**1,349,953**	**1,249,237**
Finance costs	14	(2,762,587)	(2,534,924)
Deficit for the year		**(1,412,634)**	**(1,285,687)**

WRC 2013


WATER
RESEARCH
COMMISSION