

South African

Water Research Commission

Supporting sustainable development through research funding, knowledge creation and dissemination



Water-Centred Knowledge

The Role of the Water Research Commission

The Role of the WRC



- Water quantity and quality are critical to South Africa's long-term sustainability
- Many decades of research and development have provided the basis for the development of policies and strategies that allow for the sustainability of our water resources
- This emphasises not only the important role that water-centred knowledge has played in the past, but its increasingly important role in providing the country with knowledge which will allow it to successfully deal with the many new challenges that are facing our limited water resources in future years

The Role of the WRC



The WRC leads and coordinates research which, in turn, creates the knowledge that allows us to manage water quantity and quality judiciously and, in so doing, to achieve sustainability



Knowledge is

- a resource (or more than a resource)
- the basis for wealth creation and economic growth
- cumulative - each advance leads incrementally to the next development; forming the base for new applications

Knowledge is probably the only resource that increases with use



Water-Centred Knowledge

- Water-centred knowledge forms the basis for the appropriate management of South Africa's water resources and related water supply and sanitation services
- Knowledge about water can make a great difference in the sustainability of our water resources
- Knowledge, similar to water, can be viewed as a crucial national resource



Water-Centred Knowledge

- The comparison of these two essential resources reveals that
 - whilst **water** is one of South Africa's most scarce resources which diminishes when over-used and is highly sensitive to the practice of reuse, **knowledge** is an unlimited resource that grows and expands with use and reuse



Water-Centred Knowledge

- Water cuts across all aspects of our lives and is central to the healthy functioning of all sectors of our economy
- By utilising its knowledge about water, South Africa will
 - grow its water-centred knowledge pool and improve the sustainability of its water resources
 - will also enhance the rate of its economic growth and improve the livelihood of many of its citizens

MISSION

The WRC is a dynamic hub for water-centred knowledge, innovation and intellectual capital. We provide leadership for research and development through the support of knowledge creation, transfer and application.

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



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Knowledge Management WRC Perspective

- Knowledge generation (develop, acquire)
 - New knowledge
 - Repackaged knowledge
- Knowledge sharing
- Knowledge dissemination
- Knowledge transfer
- Knowledge protection
- The knowledge base (capacity building)

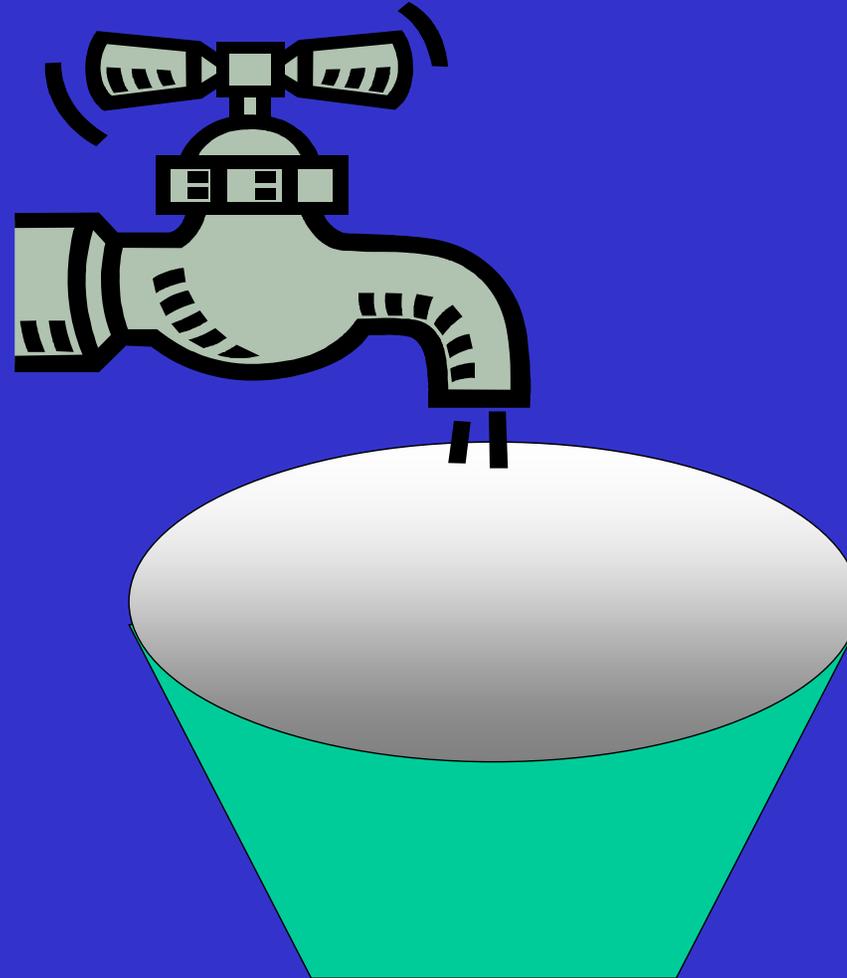
The Role of the WRC



- Functioning as a 'hub' for water-centred knowledge, the WRC linked various players within the water sector by working through local and global partnerships
- The WRC provided novel (whilst practical) ways of packaging knowledge and transforming knowledge into knowledge-based products which form the basis for new water resource and water service management practices for the water sector and the community at large, both locally and globally
- The WRC expanded its role as a global leader in water-centred knowledge, a position toward which it had made great progress, playing increasingly key roles in the SADC region, the African continent and within a number of global networks and initiatives



Knowledge Management – Main Drivers



Capacity Building and Knowledge Dissemination



- **The building, maintenance and renewal of appropriate capacity for the South African water sector continued to be a key challenge during 2005/06**
- **This included both research and other professional capacities**
- **As a knowledge hub, the WRC directed research and assumed overall responsibility for the processes of both creating and disseminating knowledge**
- **Dissemination of knowledge requires an appropriate, sustainable knowledge base (human capital) that is effective in its ability to absorb and manage new knowledge**



Building the knowledge-base

- During 2005/06 the WRC has further improved its support to students, with special emphasis on historically disadvantaged students
- About 581 students were supported by WRC projects, of whom about 69% are from historically disadvantaged backgrounds
- The increase is mainly due to an increase in the numbers of disadvantaged students which grew by 126 students (400 in comparison to 274 in previous year)
- This indicates that the WRC strategy to improve capacity building through its research projects is bearing fruit

Capacity Building



- The WRC hosted its first Youth and Water Short Story Prize during 2005/2006 (for high school learners between grades 10 and 12)
- The competition, launched ahead of National Water Week 2006, was aimed at enhancing learners' awareness of water and sanitation issues within South African society, while allowing them to express creatively how these issues affect them
- The joint winners of the competition and were each awarded a cash prize of R3 000. The top ten short stories were published in a special publication entitled *A Little Gift and Other Short Stories*

Capacity Building



- The WRC's capacity-building activities were widened to provide support for African and global initiatives aimed at building capacity in Africa
- Examples being the involvement of the WRC in building a network of centres of excellence for water research in Africa (a NEPAD initiative) and the role the organisation plays in WARFSA and FETWater
- Another example is the WRC's role in *Streams of Knowledge*, a network of capacity-building organisations, focused on water and sanitation, with most members being from various parts of Africa, including two institutions from South Africa (Mvula Trust and NSCWSTI)



The Role of the WRC

The five key strategic areas

- **Water Resource Management**
- **Water-Linked Ecosystems**
- **Water Use and Waste Management**
- **Water Utilisation in Agriculture**
- **Water-Centred Knowledge**

This KSA supports the implementation of the new Water Act by developing tools and technologies for water resource assessment, and guidelines and decision-support systems to support decision-makers in achieving equitable and efficient allocation of water resources among competing needs.

The research places emphasis on multidisciplinary approaches that provide decision-makers and planners with appropriate tools that enable them to take cognisance of social, environmental and economic factors in the planning of water resource development.

KEY STRATEGIC AREA

Water Resource Management



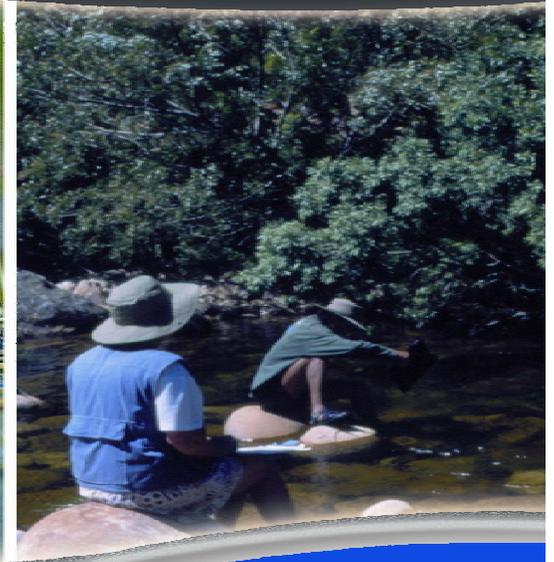
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Research undertaken within this KSA addresses the conservation of aquatic ecosystems in order to provide the knowledge for their sustainable functioning in terms of the national commitment to international conventions and the ongoing provision of goods and services which ecosystems deliver. In addition, the National Water Resource Strategy (NWRS) focuses on resource protection as one of its components. The research undertaken in this KSA provides knowledge for protection of the resource, and is therefore central to this aspect of the NWRS

KEY STRATEGIC AREA



Water-Linked Ecosystems



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This KSA focuses mainly on the domestic, 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

The KSA supports studies on institutional and management issues, with special emphasis on the efficient functioning of water service institutions and their viability

KEY STRATEGIC AREA



Water Use and Waste Management



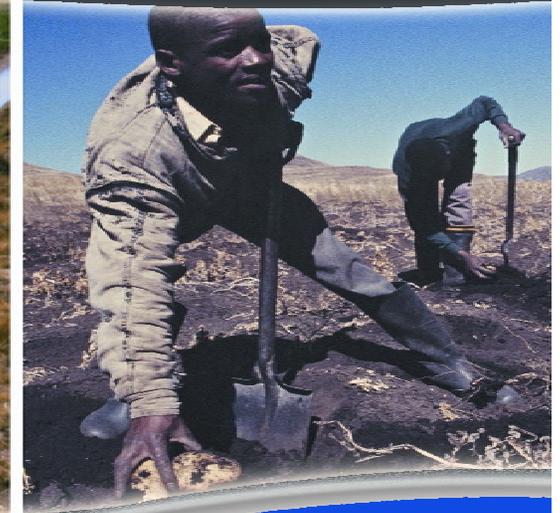
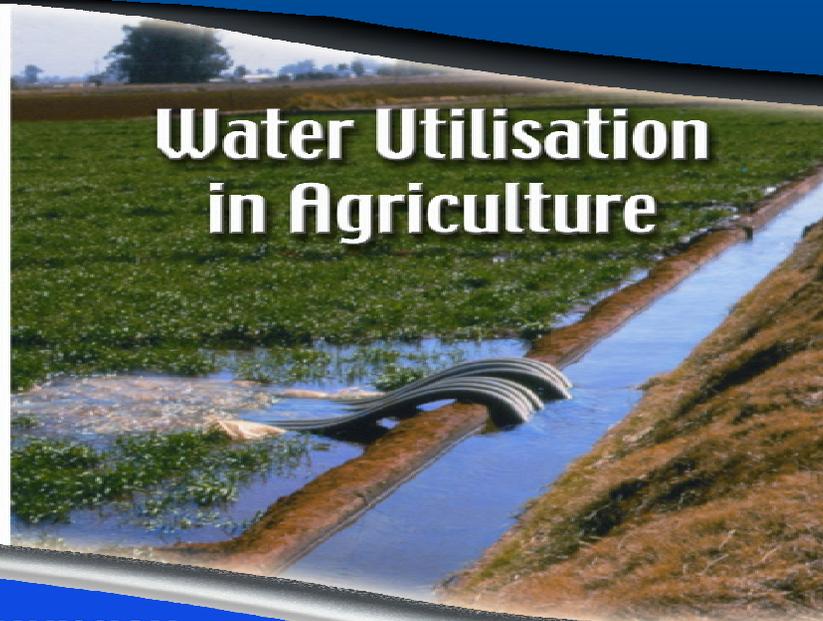
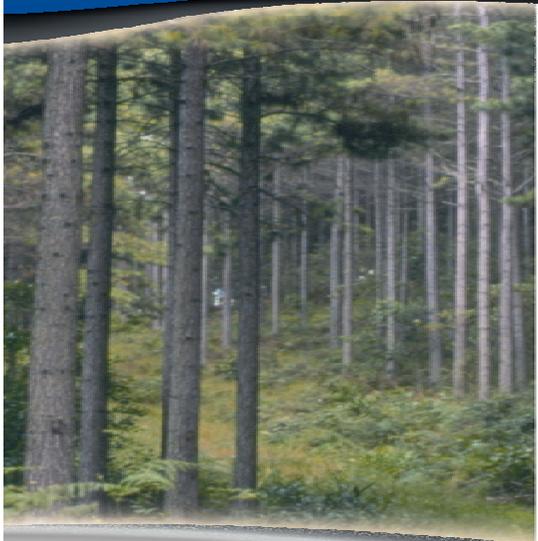
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The strategic focus in this KSA is on increasing the efficient use of water for production of food, fibre, fuelwood and timber - ensuring sustainable water resource use; reducing poverty and increasing wealth of people dependent on water-based agriculture

The aim is to increase national food security and improve the livelihoods of people on a farming, community and regional level through efficient and sustainable utilisation and development of water resources in agriculture

KEY STRATEGIC AREA

Water Utilisation in Agriculture



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Publication of technical reports

The Water Wheel - a journal aimed at improving public understanding of water-centred knowledge

The Knowledge Review – an annual comprehensive review of all research activities funded by the WRC

Water SA – a well-known and globally recognized scientific journal

KEY STRATEGIC AREA

**Water – centred
Knowledge**



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CROSS-CUTTING DOMAINS

CROSS - CUTTING DOMAINS



Inkqubo mayela namanzi

Ukuze kuzalisekisewe le mfuno yezizwe, inkqubo yamkheze wenziswa kophando malunga kuzalethweyo nokuyinkqubo wonike ngokuphathekele kubo bamanzi. Iziphumo zoludwelelophando zidandalazisa ulwazi



- Water and Society
- Water and the Economy
- Water and the Environment
- Water and Health



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Knowledge Creation



- During 2005/06, the WRC supported a total of 336 research projects, of which about 73% (245 projects) were active projects (ongoing and new) and about 27% (91 projects) were finalised
- The active projects comprised 175 ongoing projects and 70 newly initiated projects that commenced during 2005/06
- The various mechanisms of funding included both non-solicited projects, accommodating projects within the broad research strategy of the WRC, and solicited projects, where research projects are developed in accordance with clear terms of reference, aimed at solving specific problems
- The WRC supported 74 solicited projects, which translates to about 30% of active projects. While 44 solicited projects were ongoing, 30 newly solicited projects commenced during 2005/06

Number of projects and their distribution (finalised, ongoing and new)



Financial year	2005/06	2004/05	2003/04
Total No. of projects	336	454	517
No. of active projects	245	356	395
No. of new projects	70	82	54
No. of finalised projects	91	98	122
No. of active solicited projects	74	41	24

**Distribution of research project funds among KSAs
planned vs. utilised (cash paid out) funds
(previous year 2004/05 data is provided in bracket)**



KSA	Planned % allocation of funds (including unpaid committed funds from previous years)	Planned % allocation of funds (not including unpaid committed funds)	% of fund utilised for research projects
Water Resource Management	30 (32)	31 (30)	32 (37)
Water-Linked Ecosystems	13 (13)	13 (15)	14 (17)
Water Use and Waste Management	36 (39)	30 (34)	30 (30)
Water Utilisation in Agriculture	21 (16)	22 (19)	24 (24)

Knowledge Creation



- **The percentage utilisation of research project funds (based on amounts actually paid out) by the WRC during 2005/06 indicated that about 46% was invested in projects that focused on water resources (including water-linked ecosystems) and about 54% in projects that focused on water utilisation (including effluent treatment and management, as well as agriculture)**
- **This is based on actual amount paid out to projects during the financial year**
- **The allocation of about 50% of the fund to issues related to resource management and 50% to water utilisation is ongoing**

VISION

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



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